



# CROWLEY MARINE SERVICES, INC.



Sandblast Grit Removal Project  
Pacific Dry Dock Yards I and II  
Oakland, California

February 1998

ENVIRONMENTAL  
PROTECTION  
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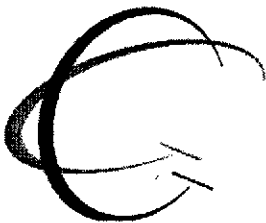
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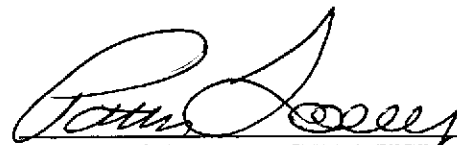
THE GAUNTLETT GROUP, LLC

**Sandblast Grit Removal Project  
Pacific Dry Docks Yards I and II  
Oakland, California**

The material and data in this report were prepared under the supervision and direction of the undersigned.

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# 1. INTRODUCTION

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The Gauntlett Group, LLC (Gauntlett) prepared this removal report on behalf of Crowley Marine Services Inc. (Crowley). The report summarizes spent sandblast grit and debris removal activities completed between February and December 1997 at the former Pacific Dry Dock (PDD) Yards I and II (the Yards) located at 1441 and 321 Embarcadero Road, respectively, in Oakland, California (Figure 1). The purpose of this removal project was to implement a Regional Water Quality Control Board (RWQCB)-approved workplan by recovering surficial grit and debris from specified areas at the Yards. Spent sandblast grit and debris were removed to (1) assure that storm water flowing over the surface material will not carry constituents of the material into the estuary, and (2) to address environmental hygiene issues at the Yards.

## 1.1 OBJECTIVES

The objectives of the removal project were as follows:

- Identify areas where grit and debris removal was necessary. General areas where removal was proposed were described in a RWQCB-approved workplan. Grit removal was to be based on visual identification per the RWQCB-approved workplan.
- Remove loose debris (wood, metal, asphalt, and concrete) which had accumulated in the inter-tidal zones at PDD Yards I and II.
- Remove surficial grit from the inter-tidal and supra-tidal zones in the targeted areas at PDD Yards I and II.
- Recycle or dispose of the removed grit and debris.
- Prepare a removal report summarizing removal activities and documenting final disposition of debris and grit.

This report summarizes the removal activities, and demonstrates that the work has been performed consistent with RWQCB requirements. Surficial grit in the targeted inter- and supra-tidal zones has been removed. Debris which had accumulated in the inter-tidal

zones after Crowley terminated operations at the Yards was also removed. Completion of the grit and debris removal activities at the Yards is described in the following sections.



## 2. BACKGROUND

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Sandblast grit was used at the Yards as part of the vessel maintenance activities. Crowley and its predecessors operated at Yard I from approximately 1911 until 1992, and at Yard II from approximately 1951 until 1992. Before 1951 the United States Navy operated a marine terminal at Yard II. Vessel maintenance activities have ceased at both Yards. Crowley has not operated at Yard I since 1992. The dry dock at Yard II was removed in 1993.

The primary activity at the Yards was the repair and renovation of boats and sea-going vessels. Barnacles, rust, paint, and other debris were removed from the hulls of these vessels by a high-powered stream of water or by sandblasting. Most of the grit and detritus was collected from the areas where the vessels rested during cleaning operations, the marine railway platforms at Yard I, and the dry dock at Yard II. Some of the grit, however, accumulated in the estuary and in the inter-tidal and supra-tidal zones.

Crowley implemented Storm Water Pollution Prevention Plans (EMCON, March 18, 1996) at the Yards during 1996. Water-filled polyethylene tubing was placed at both the Yards to divert storm water runoff away from areas where surficial grit was present. Silt fencing was also trenched along the shorelines at the Yards where grit was present to mitigate erosion of the grit into the inter-tidal zone. The water-filled tubing and silt fencing erosion control devices were maintained at the Yards during the 1996-1997 wet season.

In March 1996, the San Francisco Bay Region RWQCB directed that Crowley remove surficial sandblast grit at Yards I and II. The RWQCB directed that the grit located on the surface in the inter-tidal and supra-tidal zones at the Yards be removed in order to (1) assure that storm water flowing over the surface material will not carry constituents of the material into the estuary, and (2) to address environmental hygiene issues at the Yards. For purposes of the grit removal project, the inter-tidal zone is defined as the area between the mean low-water mark and the mean high-water mark. The supra-tidal zone is the area immediately landside of the mean high water mark.

During June 1996, Crowley prepared a *Workplan for Removal of Sandblast Grit from the Inter-Tidal and Supra-Tidal Zones at Pacific Dry Dock Yards I and II* (Workplan) to address the RWQCB direction. The RWQCB subsequently incorporated the Workplan into an August 2, 1996 Cleanup and Abatement Order for the Yards. A copy of the Cleanup and Abatement Order is included in Appendix A. Permits to remove the grit and debris were obtained by Crowley before the site activities began. Appendix B contains copies of permits from the Bay Conservation and Development Corporation.

Crowley contracted with Zaccor Companies (Zaccor) to remove the marine railways and platforms, piers, and dolphins (improvements), present at Yard I. Zaccor completed improvement removal during February 1997. The demolition of the improvements at Yard I was required to allow the grit removal activities to be completed. None of the improvements at Yard II obstructed grit removal activities. Demolition of improvements at Yard II was therefore not required. In March 1997, grit removal activities at PDD Yards I and II were implemented by Gauntlett and Zaccor, consistent with the Workplan.

### **3. MOBILIZATION AND PREPARATION ACTIVITIES**

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Mobilization and preparation activities completed are described in the following sections.

#### **3.1 SITE PREPARATION**

The following site preparation activities, which supplemented the approved Workplan, were completed before removal activities were initiated.

- Permits to remove the grit and debris were obtained by Crowley before the site activities began.
- A site safety and operations plan was prepared to address chemical and physical hazards associated with implementation of the Workplan and specify control measures.
- A schedule for removal activities was developed to coincide with the March 1997 monthly low tides at each of the two Yards.
- Approximate removal areas were identified using aerial photographs, visual observations, and inter-tidal zone measurements collected during the February 6, 1997 low tide, to estimate areal distribution of grit at the Yards.

#### **3.2 MOBILIZATION OF SUPPLIES AND EQUIPMENT**

Supplies and equipment were mobilized to PDD Yards I and II during March 1997. Construction equipment, including two excavators, a loader, two Bobcats™, a fuel truck, and a dump truck, were transported to the Yards. Emergency response equipment and materials mobilized to the Yards included absorbent pads, booms, and a rescue boat. Air monitoring instruments, sampling equipment, and two-way radios were also assembled for use during the removal project.

#### **3.3 WORK AREA PREPARATION**

Work area preparation activities began at PPD Yards I and II in late February 1997. Before work was initiated, a tailgate safety meeting was conducted to discuss safe work

practices and protection of personnel and property. Emergency contact phone numbers were distributed and hospital routes and locations were discussed. Work area preparation activities performed included:

- installing site control measures, caution tape and construction zone signs
- deploying booms in the estuary around the work zones at both Yards
- launching an emergency rescue boat
- removing the water-filled tubing and silt fencing at both Yards
- lining the designated stockpile areas with plastic sheeting

After preparation activities were completed, and necessary equipment and materials mobilized, removal activities were initiated.

## 4. DEBRIS AND GRIT REMOVAL

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Removal activities began at PDD Yard II on March 3, 1997 and continued through March 5, 1997. Removal activities began at PDD Yard I on March 5, 1997 and were completed by March 9, 1997. Visual observations and measurements collected during the February 6, 1997, monthly low tide (a -1.2 foot mean sea level [msl] tide) were used to estimate the surficial distribution of grit in the targeted areas. Additional removal activities were performed at PDD Yard II on May 16, 1997. Inter-tidal grit removal activities were conducted during the monthly low tides (0.4 to -0.8 foot msl tides) to enable maximum removal of grit from these zones at the Yards. Drawings 1 and 2 depict the areas at Yard I and II, respectively, where debris and grit were removed. Photographs of the removal activities at the Yards are presented in Appendix C.

### 4.1 DEBRIS REMOVAL

Metal, wood, concrete, asphalt, and general debris were removed from both Yards by a track-mounted excavator, a loader, by work crews on a boat, or by ground crews walking along the shoreline. Debris was present at both Yards, in and around the targeted grit removal areas. Much of the general debris on the shorelines at the Yards appeared to have been carried in by the tides. Gauntlett understands that the concrete rubble on the Inner Harbor shoreline at Yard II was placed by the Port of Oakland during a pier demolition project at this Yard.

Concrete, pilings, and wood debris were removed from the supra- and inter-tidal zones at PPD Yard I. Concrete, pilings, wood and metal debris were removed from the northwest shoreline of Lake Merritt Channel, and from the southeast and southwest shorelines at PPD Yard II. Small wood and metal debris protruding from the water during the low tide were removed or cut below the water line at both Yards with a chain-saw by work crews on a boat. Concrete debris along the southwest shoreline in the supra-tidal zone at PPD yard II was removed. Debris was segregated into piles consisting of wood, metal,

## **4.2 GRIT REMOVAL**

After debris removal was completed, grit was recovered from the targeted areas at the Yards. The grit was predominantly black and was visually distinguishable from the underlying material (native sands and bay mud) on the basis of color and textural difference. Procedures and equipment used to remove grit are described below.

General procedures employed during the grit removal phase included starting in the inter-tidal zone at the low water mark during the daily low tide. Track-mounted excavators were used to move the grit from the targeted inter-tidal zones to the supra-tidal zones at the Yards. As the tides came in, grit recovered from the inter-tidal zone was removed along with grit in the supra-tidal zone and transported to the designated stockpile location at the Yards (see Drawings 1 and 2 for grit removal areas and stockpile locations).

The thickness of the grit layers in the designated removal areas varied from one inch to three feet. The excavator bucket was used to remove the thicker grit deposits. A straight-edged scraping tool was attached to the excavator bucket after the majority of grit had been removed from an area or if the grit thickness in the area was less than about six inches. The scraping tool was used to recover the residual grit and expose the underlying material which was predominantly bay mud or sand. The Bobcats™ were used for cleaning the work areas after removal activities were completed. Sweeping tools were attached to the Bobcats and the work areas swept at the end of each day.

### **4.2.1 PDD YARD I GRIT REMOVAL ACTIVITIES**

Targeted grit removal areas at Yard I included the supra- and inter-tidal zones in the former marine railways (Drawing 1, Area 1), and from along the shoreline southeast of the former marine railways (Drawing 1, Area 2). Grit thickness ranged from six inches to three feet in the area surrounding the former marine railways. Grit deposits along the southeast shoreline were primarily limited to surficial and shallow layers less than six inches thick. Grit in both areas was visually and texturally different from the underlying bay mud. Bay muds were exposed in both of these targeted removal areas using the

scraping tool previously described after the excavator bucket was used to recover the thicker grit deposits.

Approximately 3,585 tons of grit were removed from the targeted areas at PDD Yard I. Materials removed from the supra-and inter-tidal zones were temporarily staged in the eastern section and conveyed using a dump truck to the stockpile location on the western section of Yard I (see Drawing 1). The designated stockpile area was lined with polyethylene sheeting before use. The stockpile was covered with polyethylene sheeting at the end of each day and after removal was completed.

#### **4.2.2 PDD YARD II GRIT REMOVAL ACTIVITIES**

Targeted grit removal areas at PDD Yard II included the supra-and inter-tidal zones along the Lake Merritt Channel (Drawing 2, Area 1), the southeast shoreline along the Inner Harbor (Drawing 2, Areas 2), and the northeast shoreline of the Inner Harbor (Drawing 2, Area 3). During site preparation activities, two goose nests were observed within the targeted removal area along the northwest shoreline of Lake Merritt Channel in the supra-tidal zone (Drawing 2, Area 1). Geese were observed nesting in this area during March 1997. Removal of the supra-tidal grit and debris in this area was postponed until May 16, 1997 when the geese had left the area.

Surficial grit and grit layers less than 12 inches thick were observed in the inter-tidal zone along the northwest shoreline of Lake Merritt Channel (Drawing 2, Area 1). Grit was removed and this area scraped to expose the underlying sands or bay mud. Grit in layers from one to three feet thick was also removed from the supra-tidal zone of Area 1. Grit was encountered at the surface and at thicknesses ranging from 6 to 12 inches in the inter-and supra-tidal zone along the southeast shoreline (Drawing 2, Area 2). Grit removal continued in these areas until the underlying sands or bay mud was exposed. A small amount of grit was present on the surface in the supra-tidal zone along the northeast shoreline (Drawing 2, Area 3). This grit in this area was removed by scraping

Approximately 720 tons of grit were removed from the targeted areas and transported to the designated stockpile location on the northern portion of Yard II using the loader (see

Drawing 2). The designated stockpile area was lined with polyethylene sheeting before use. The stockpile was covered with plastic sheeting at the end of each day and after removal activities were completed.

### **4.3 AIR MONITORING**

Ambient air monitoring for oxygen, combustible gases, and hydrogen sulfide was conducted during grit removal activities to address site safety and operations plan requirements. Colorimetric detection tube samples were also collected to monitor potential emissions of petroleum hydrocarbons and phenol from the stockpiled grit.

Oxygen levels were normal (about 21 percent by volume) during grit removal operations. Combustible gases were not detected. Ambient hydrogen sulfide levels were from 0 to 2 parts per million (ppm) during grit removal and stockpiling activities. These levels are less than the 10 ppm California Division of Occupational Safety and Health (Cal-OSHA) permissible exposure limit indicating that occupationally significant concentrations of hydrogen sulfide were not detected during grit removal and stockpiling work. No petroleum hydrocarbons or phenol emissions from the stockpiles were measured with the colorimetric tubes. Colorimetric tube detection limits for petroleum hydrocarbons and phenols were 100 and 1 ppm, respectively.

### **4.4 STOCKPILE OBSERVATIONS**

The grit was stockpiled on asphalt surfaces at each of the Yards. The asphalt surfaces were lined with polyethylene sheeting before any grit was placed. The stockpiles were also covered with polyethylene sheeting to preclude windblown dispersion of the removed grit and prevent storm water run-on or run-off. The stockpiles were periodically observed and the condition of the polyethylene sheeting was noted in field logbooks. The polyethylene sheeting was adjusted or replaced as necessary between March and November 1997 to maintain the cover over the stockpiled grit. The covers on the stockpiles were completely replaced during October 1997 after a wind storm damaged much of the polyethylene sheeting.



#### **4.5 RWQCB INSPECTION**

John Wolfenden with the RWQCB observed the conditions at both Yards on March 17, 1997, after grit removal activities had been completed. Mr. Wolfenden reviewed the work completed at the Yards and observed the removal areas and stockpiles. At the completion of the visit, Mr. Wolfenden indicated that the RWQCB was satisfied with the removal activities conducted by Crowley. Mr. Wolfenden also approved postponing grit and debris removal in the geese nesting area until after the nesting was completed. Mr. Wolfenden indicated that the Cleanup and Abatement Order requirements would be satisfied once the grit and debris in the geese nesting area were removed and the recovered materials transported off site.

## 5. WASTE PROFILING

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Samples of the grit material being removed from the inter-tidal and supra-tidal zones were initially collected in March 1997 for purposes of waste profiling. Supplemental samples from the stockpiles were collected during May and September 1997 to support a waste reclassification petition to the Department of Toxic Substance Control (DTSC). The following sections describe the initial waste sampling and supplemental sampling of the stockpiled material. Analytical results are also presented and discussed. Certified analytical reports for the samples collected during March, May, and September 1997 are included in Appendix D. Sampling and analysis procedures used were consistent with Environmental Protection Agency (EPA) and DTSC guidance.

The laboratories selected to perform the analytical work are certified by the California Department of Health Services to perform environmental testing. Methods used by the laboratories to analyze the samples are referenced in the attached analytical reports. Laboratory quality assurance procedures included those required under the Department of Health Services environmental testing program. Laboratory QA procedures included reporting sample analysis dates, method blank data, matrix spike and matrix spike duplicate recovery results, and surrogate recovery results. The laboratory QA results are included with the analytical data in Appendix D. The laboratory QA results indicate that the analytical data are of acceptable quality. Samples were analyzed within EPA recommended holding times and QA data were within laboratory acceptance criteria.

### 5.1 MARCH 1997 TESTING

Twelve waste profile samples were collected and analyzed during March 1997. Sampling was performed as the grit was being removed from the targeted areas at the Yards. The purpose of the March 1997 testing was to characterize the removed grit for disposal. Sampling frequencies were selected after reviewing waste acceptance guidelines for typical Class II and III solid waste disposal facilities. The waste acceptance guidelines indicated that nine samples from Yard I and three samples from Yard II were necessary.

The guidelines indicated that samples should be collected at frequencies of one sample per 300 cubic yards and one sample per 100 cubic yards of grit removed for Yards I and II, respectively.

#### **5.1.1 SAMPLING**

As the grit was being removed and stockpiled, four-to-one field composites of the removed material were collected using judgmental and simple random sampling methods at the frequencies described above. Samples were collected using disposable plastic scoops. Four discrete aliquots were collected for each sample and homogenized in aluminum pans before being placed into 16-ounce glass sample jars with Teflon-lined lids. Plastic scoops and aluminum pans were used once and disposed of appropriately. Sample containers were labeled immediately after collection. Samples were placed in coolers with ice, and delivered to the laboratory along with chain-of-custody documentation by the field sampling team within 24 hours of collection.

#### **5.1.2 ANALYSIS**

Appropriate waste characteristic tests were selected after reviewing generation information for the sandblast grit and Class II and III solid waste disposal facility testing requirements. The following tests were completed on each of the March 1997 samples:

- Total recoverable petroleum hydrocarbons (TRPH) using EPA method 418.1 to assess potential impacts to the grit from site petroleum sources
- Fish toxicity screening test (acute aquatic 96-hour toxicity test) to assess general toxicity characteristics of the waste
- Benzene, toluene, ethyl benzene, and xylenes (BTEX) using EPA method 8020A to assess potential impacts to the grit from site gasoline and diesel sources
- Title 22, California Code of Regulations (CCR) total threshold limit concentration (TTLC) metals using United States Environmental Protection Agency (EPA) methods 3050, 6010, 7060, 7471, and 7841 to assess toxicity characteristics

### 5.1.3 RESULTS

Analytical results for the Yard I and II samples are summarized in Tables 1 and 2, respectively. TRPH levels ranged from 310 to 1,600 milligrams per kilogram (mg/kg) in the twelve samples analyzed. BTEX compounds were not detected. None of the samples failed the 96-hour fish bioassay test specified in Title 22, CCR, indicating that the grit is not acutely toxic to fish.

Several metals were detected at concentrations exceeding 10 times the California soluble threshold limit concentrations (STLC) criteria listed in Title 22, CCR, Section 66261. The STLC criteria is used to determine whether a solid waste is hazardous for disposal in California. If the total concentration of a metal in a sample exceeds the STLC by a factor of 10 or greater, additional waste extraction testing (WET) is needed to determine if the solid waste contains hazardous concentrations of soluble metals. Waste extraction testing was performed on samples where the total metal concentration exceeded its respective STLC criteria by a factor of 10 or more.

The waste extraction results for Yards I and II are summarized in Tables 3 and 4. Except for copper and lead, results did not exceed the STLC criteria. Two of the 12 samples tested had soluble copper levels above the 25 milligram per liter (mg/l) STLC criteria. The average concentration of soluble copper in the grit samples was, however, significantly less than the 25 mg/l STLC criteria. Nine of the 12 samples tested had soluble lead levels above the 5 mg/l STLC criteria. The average soluble lead level for the samples tested was also above the 5 mg/l STLC criteria.

With the exception of the WET-soluble lead data, the initial analytical results supported management of the recovered grit as nonhazardous waste. The WET-soluble lead test results indicated that the removed grit would be considered hazardous for disposal in California. Certain California hazardous wastes are eligible, however, for reclassification to nonhazardous per the provisions of Title 22, CCR Section 66260.200(f). Wastes that contain WET-soluble lead levels above the STLC may be classified as nonhazardous, upon approval from the DTSC, if the wastes can be shown to possess mitigating physical

and/or chemical characteristics which render it insignificant as a hazard to human health and safety, livestock, and wildlife.

Additional samples from the stockpiles were collected during May and September 1997 to provide data for the waste reclassification petition. Results are discussed below.

## **5.2 MAY 1997 TESTING**

Thirteen samples were collected from the Yard I and II stockpiles during May 1997 and analyzed for the parameters suggested by the DTSC in its February 1997 reclassification guidance. A copy of the reclassification guidance is included in Appendix E. Specified tests were performed to demonstrate that the grit was not corrosive, would not be considered a federal hazardous waste, and would be an insignificant threat if allowed to contact a drinking water supply.

### **5.2.1 SAMPLING**

The 13 samples (10 from Yard I and 3 from Yard II) were collected on May 16, 1997 using a three-dimensional grid sampling strategy consistent with the requirements of *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods* (EPA SW-846, 3<sup>rd</sup> edition, November 1986 with current updates). Stainless steel hand augers were used to advance borings into the stockpiles and collect samples from designated sampling depths. The samples were homogenized in aluminum pans using disposable scoops before being placed into 16-ounce glass sample jars with Teflon-lined lids. Sample labeling, preservation, custody, and transport procedures were similar to those used for the March 1997 samples. Stainless steel hand augers were cleaned before each sample location using a detergent and water wash followed by two distilled water rinses. A wire brush was used to remove adhering particles from the augers during cleaning.

### **5.2.2 ANALYSIS**

The samples were analyzed for total lead using EPA method 6010A, soluble lead using the federal toxicity characteristic leaching procedure (TCLP) test, and pH using EPA method 9045. The samples were analyzed for total lead to provide data to compare with the March 1997 results. TCLP-soluble lead testing was performed to determine whether

the grit exceeded federal hazardous waste criteria. Testing for pH was completed to evaluate the corrosivity of the removed grit.

### **5.2.3 RESULTS**

Analytical results for the Yard I and II samples are summarized in Tables 5 and 6, respectively. Total lead levels in the May 1997 stockpile samples were similar to the concentrations reported in the March 1997 samples. TCLP-soluble lead testing results ranged from less than 0.2 to 2.12 mg/l. All of the TCLP-soluble lead testing results were therefore well below the 5.0 mg/l TCLP criteria indicating that the grit did not exceed federal hazardous waste criteria. The pH of the samples were in neutral ranges indicating that the grit would not be considered a corrosive hazardous waste.

Statistical evaluation of the data was also completed to facilitate comparison with the DTSC February 1997 guidance. The DTSC considers a waste an insignificant threat to drinking water if it does not leach lead at levels 100 times greater than the action level for lead in drinking water when subjected to TCLP testing. The federal lead in drinking water action level is 1.5 micrograms per liter ( $\mu\text{g/l}$ ). TCLP-soluble lead was detected at an 80 percent upper confidence limit (UCL) of 0.23 mg/l at Yard I and 1.20 mg/l at Yard II. Because the 80 percent UCL TCLP-soluble lead results for the Yards were less than 100 times the federal lead in drinking water action level, the grit is considered an insignificant threat to drinking water.

### **5.3 SEPTEMBER 1997 TESTING**

Eight samples (four from each Yard) were collected during September 1997 and analyzed for the remaining parameters suggested by the DTSC in its February 1997 reclassification guidance. Fresh and artificial sea water lead solubility testing was performed to demonstrate that the grit would not release lead at levels greater than the federal ambient water quality criteria for fresh or marine environments. Total lead testing of the samples was also completed to facilitate comparison with the previous total lead data sets.

### 5.3.1 SAMPLING

The 8 samples were collected on September 11, 1997 using the three-dimensional grid sampling strategy previously described. Stainless steel hand augers were used to advance borings into the stockpiles and collect samples from designated sampling depths. Sampling, documentation, and equipment cleaning procedures were similar to those used during May 1997.

### 5.3.2 ANALYSIS

The samples were analyzed for total lead using EPA method 6010A. Lead solubility in fresh and artificial sea water was evaluated using a modified multiple extraction procedure described in EPA method 1320. The resulting extract was analyzed for lead using EPA method 7421, a graphite furnace method, to achieve the lowest possible method reporting limits.

### 5.3.3 RESULTS

Analytical results for the Yard I fresh and artificial sea water solubility tests are summarized in Tables 7 and 8. The Yard II fresh and artificial sea water solubility data are presented in Tables 9 and 10. The total lead levels in the September 1997 stockpile samples were similar to the concentration ranges reported in previous samples. Multiple extractions of the grit samples were required to determine the maximum solubility of lead in the fresh water tests. After the multiple extraction procedures were completed, lead levels in the fresh water solubility tests ranged from less than 5 to 8  $\mu\text{g/l}$ . These maximum lead solubility levels are significantly less than the 83  $\mu\text{g/l}$  federal ambient water quality criteria indicating that the grit would pose an insignificant aquatic threat in a fresh water environment. Lead levels in the artificial sea water solubility tests were all less than 50  $\mu\text{g/l}$  indicating that the grit would pose an insignificant aquatic threat in a marine environment. The federal ambient water quality criteria for lead in marine environments is 140  $\mu\text{g/l}$ .

#### 5.4 DTSC CONFIRMATION TESTING AND APPROVAL

Crowley submitted a petition to the DTSC on July 31, 1997 requesting permission to manage the grit as nonhazardous waste. Data from the March and May 1997 sampling events were included in the submittal. The September 1997 data were submitted to the DTSC under separate cover as a supplement to the original petition.

DTSC reviewed the petition and requested that it be allowed to collect confirmation samples from the stockpiles. Christopher Marxen with the DTSC Human and Ecological Risk Division collected 8 samples (four from each Yard) on October 29, 1997. Samples were collected adjacent to the September 1997 sampling locations. Gauntlett understands that the samples were processed by the DTSC hazardous materials laboratory in Berkeley, California.

A formal administrative decision from the DTSC accepting the reclassification petition and enabling management of the grit and debris as nonhazardous waste pursuant to Section 662600.200(f) 22 CCR, was provided to Crowley in a November 17, 1997 letter. A copy of the DTSC letter is included in Appendix F. In its letter, the DTSC indicated that the grit possessed mitigating physical and/or chemical characteristics which rendered it insignificant as a hazard to human health or the environment.



## 6. TRANSPORTATION AND DISPOSAL

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Grit and debris transportation was provided by Lutrel Trucking and Environmental Services, Inc. (Lutrel). The waste was transported under bill of lading to Waste Management of Northern California's Altamont Resource Recovery Facility in Livermore, California. Waste Management operates Class II and Class III solid waste disposal facilities at the Altamont location. Altamont assigned profile numbers 509162 and 509167 to the waste profile applications received for the grit. Separate waste profile applications were prepared for each of the Yards. Transportation of the grit and debris began on December 1, 1997 and was substantially completed by December 5, 1997. Temporary scales were set-up at PDD Yard II to confirm that the loaded weights were within legal limits. Loads were covered before departure from the Yards was authorized.

Zaccor demolished the concrete pads and foundations at Yard I after the grit was removed. A total of 26 loads of concrete from the pad and foundation demolition were disposed at Altamont on December 8 and 9, 1997. A load of debris generated during final cleanup activities at the Yards was transported to Altamont on December 13, 1997.

Excavated grit, debris and concrete were loaded directly into end-dump trucks for transportation to the disposal facility. A copy of Altamont's Waste Acceptance Form accompanied each truck load. A total of 178 truck loads of grit, 14 loads of debris, and 31 loads of concrete were transported from PDD Yards I and II to Altamont. The grit was recycled at Altamont and used as daily cover in the Class II landfill cell to cover municipal solid waste. Debris was placed in the Class II landfill. Concrete was stockpiled at Altamont for subsequent use as a foundation layer at the landfill. The total quantities of grit removed and disposed of at Yards I and II are 3,585 and 720 tons, respectively. Disposal documentation including copies of the executed waste profile applications, waste acceptance forms, and disposition summaries are included in Appendix G.

## 7. CONCLUSIONS

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Sandblast grit and debris removal at PDD Yards I and II has been completed. The work was executed in compliance with the RWCQB-approved Workplan and the requirements of the Cleanup and Abatement Order. Exposed sandblast grit in the inter-tidal and supra-tidal zones at the Yards was removed during March and May 1997. Conclusions related to the completion of the work are:

- the grit located on the surface in the inter-tidal and supra-tidal zones at the targeted areas has been removed, thereby eliminating the source for potential impacts from storm water; and
- potential threats to public health or safety or the environment from the grit have been eliminated

Extensive testing was performed after grit removal was completed to support preparation of a petition to manage the grit as nonhazardous waste. The results of this extensive testing showed that the recovered grit would not pose a significant threat to drinking water supplies and would not leach lead at levels that would pose a significant threat to aquatic life in fresh water or marine environments. The DTSC reviewed the data obtained, collected and tested confirmation samples, concurred that the grit posed an insignificant threat to human health or the environment, and allowed the removed grit to be managed as nonhazardous waste.

Approximately 3,585 tons of grit from Yard I and 720 tons of grit from Yard II were recovered and disposed at Altamont landfill during December 1997. Altamont recycled the grit by using it as interim cover at its Class II landfill.

## REFERENCES

- California Code of Regulations. Title 8.
- California Code of Regulations. Title 22.
- California Regional Water Quality Control Board San Francisco Bay Region. August 2, 1996. Cleanup and Abatement Order for Crowley Marine Services, Pacific Dry Dock Yards I and II, Oakland Inner Harbor.
- Crowley Marine Services. June 1996. Workplan for Removal of Sandblast Grit form the Inter-Tidal and Supra-Tidal Zones at Pacific Dry Dock Yards I and II.
- Department of Toxic Substances Control. February 1997. Waste Classification Petition Checklist.
- Department of Toxic Substances Control. November 17, 1997. Request to Manage Hazardous Waste as Nonhazardous - Former Pacific Dry Dock Company Sites (Waste Evaluation Unit File #F-165).
- EMCON. March 18, 1996. Storm Water Pollution Prevention Plan and Monitoring Plan, Pacific Dry Dock and Repair Company Yard I.
- EMCON. March 18, 1996. Storm Water Pollution Prevention Plan and Monitoring Plan, Pacific Dry Dock and Repair Company Yard II.
- U.S. Environmental Protection Agency. November 1986 with Current Updates. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.

**Table 1**  
**MARCH 1997 ANALYTICAL RESULTS**  
**Pacific Dry Dock Yard I**  
**Oakland, California**

Analyte	SANDBLAST GRIT STOCKPILE SAMPLE IDENTIFICATIONS									REGULATORY LEVELS		
	WP1-1 (mg/kg) <sup>4</sup>	WP1-2 (mg/kg)	WP1-3 (mg/kg)	WP1-4 (mg/kg)	WP1-5 (mg/kg)	WP1-6 (mg/kg)	WP1-7 (mg/kg)	WP1-8 (mg/kg)	WP1-9 (mg/kg)	TCLP <sup>1</sup> (mg/l) <sup>5</sup>	STLC <sup>2</sup> (mg/l)	TTL <sup>3</sup> (mg/kg)
Antimony	<5	<5	<5	<5	<5	<5	<5	8	<5	NA <sup>6</sup>	15	500
Arsenic	16	17	14	<5	<5	35	<5	18	<5	5.0	5.0	500
Barium	200	250	220	150	150	150	100	38	95	100	100	10,000
Beryllium	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	0.75	75
Cadmium	1.5	1.8	1.7	1.0	1.0	1.8	0.7	0.9	0.6	1.0	1.0	100
Chromium	76 <sup>7</sup>	110 <sup>7</sup>	100 <sup>7</sup>	71 <sup>7</sup>	73 <sup>7</sup>	71 <sup>7</sup>	38	81 <sup>7</sup>	46	5.0	5.0	2,500
Cobalt	22	30	25	20	20	19	10	4	8	NA	80	8,000
Copper	1700 <sup>7</sup>	3100 <sup>7</sup>	2700 <sup>7</sup>	1900 <sup>7</sup>	1900 <sup>7</sup>	2000 <sup>7</sup>	1000 <sup>7</sup>	1500 <sup>7</sup>	750 <sup>7</sup>	NA	25	2,500
Lead	230 <sup>7</sup>	350 <sup>7</sup>	370 <sup>7</sup>	290 <sup>7</sup>	170 <sup>7</sup>	270 <sup>7</sup>	240 <sup>7</sup>	360 <sup>7</sup>	210 <sup>7</sup>	5.0	5.0	1,000
Mercury	3.1 <sup>7</sup>	5.6 <sup>7</sup>	4.3 <sup>7</sup>	1.8	<0.4	0.6	5.7 <sup>7</sup>	14 <sup>7</sup>	1.8	0.2	0.2	20
Molybdenum	89	120	89	34	39	50	24	3	6	NA	350	3,500
Nickel	75	54	58	82	59	63	38	78	49	NA	20	2,000
Selenium	7	16 <sup>7</sup>	25 <sup>7</sup>	15 <sup>7</sup>	16 <sup>7</sup>	12 <sup>7</sup>	<5	<5	<5	1.0	1.0	100
Silver	<2	<2	<2	<2	<2	<2	<2	<2	<2	5	5	500
Thallium	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	7.0	700
Vanadium	41	52	47	42	46	37	24	17	23	NA	24	2,400
Zinc	610	1100	970	720	830	1000	440	700	390	NA	250	5,000

**Table 1**  
**MARCH 1997 ANALYTICAL RESULTS**  
**Pacific Dry Dock Yard I**  
**Oakland, California**  
**(cont)**

Analyte	SANDBLAST GRIT STOCKPILE SAMPLE IDENTIFICATIONS								
	WP1-1 (mg/kg)	WP1-2 (mg/kg)	WP1-3 (mg/kg)	WP1-4 (mg/kg)	WP1-5 (mg/kg)	WP1-6 (mg/kg)	WP1-7 (mg/kg)	WP1-8 (mg/kg)	WP1-9 (mg/kg)
TRPH <sup>8</sup> 418.1	940	1500	1400	1100	620	1600	800	880	770
BTEX <sup>9</sup> 8020A	ND <sup>10</sup>	ND	ND	ND	ND	ND	ND	ND	ND
Fish Toxicity (Percent Survival) <sup>11</sup>	100%	90%	100%	90%	100%	100%	100%	100%	100%

1. TCLP = Toxicity Characteristic Leaching Procedure, Code of Federal Regulations, Title 40, Part 261
2. STLC = Soluble Threshold Limit Concentration, California Code of Regulations, Title 22, Section 66261
3. TTLC = Total Threshold Limit Concentration, California Code of Regulations, Title 22, Section 66261
4. mg/kg = milligrams per kilogram
5. mg/l = milligrams per liter
6. NA = not applicable
7. California Waste Extraction Test (WET) performed on sample. Results are summarized on Table 3.
8. TRPH = total recoverable petroleum hydrocarbons using EPA method 418.1
9. BTEX = benzene, toluene, ethylbenzene total xylenes using EPA method 8020A
10. ND = not detected
11. Hazardous waste 96-hour fish toxicity screening test following the procedures described in California Code of Regulations, Title 22, Section 66261.

**Table 2**  
**MARCH 1997 ANALYTICAL RESULTS**  
**Pacific Dry Dock Yard II**  
**Oakland, California**

Analyte	SANDBLAST GRIT STOCKPILE SAMPLE IDENTIFICATIONS			REGULATORY LEVELS		
	WP2-1 (mg/kg) <sup>4</sup>	WP2-2 (mg/kg)	WP2-3 (mg/kg)	TCLP <sup>1</sup> (mg/l) <sup>5</sup>	STLC <sup>2</sup> (mg/l)	TTLC <sup>3</sup> (mg/kg)
Antimony	320 <sup>6</sup>	<5	7	NA <sup>7</sup>	15	500
Arsenic	<5	<5	<5	5.0	5.0	500
Barium	53	1200 <sup>6</sup>	730	100	100	10,000
Beryllium	<0.5	<0.5	<0.5	NA	0.75	75
Cadmium	0.6	0.6	1.4	1.0	1.0	100
Chromium	78 <sup>6</sup>	210 <sup>6</sup>	91 <sup>6</sup>	5.0	5.0	2,500
Cobalt	7	16	7	NA	80	8,000
Copper	510 <sup>6</sup>	640 <sup>6</sup>	620 <sup>6</sup>	NA	25	2,500
Lead	240 <sup>6</sup>	340 <sup>6</sup>	210 <sup>6</sup>	5.0	5.0	1,000
Mercury	4.0 <sup>6</sup>	3.6 <sup>6</sup>	3.7 <sup>6</sup>	0.2	0.2	20
Molybdenum	<1	<1	<1	NA	350	3,500
Nickel	29	180	38	NA	20	2,000
Selenium	<5	9	<5	1.0	1.0	100
Silver	<2	<2	<2	5	5	500
Thallium	<5	<5	<5	NA	7.0	700
Vanadium	25	48	21	NA	24	2,400
Zinc	480	450	450	NA	250	5,000

**Table 2**  
**MARCH 1997 ANALYTICAL RESULTS**  
**Pacific Dry Dock Yard II**  
**Oakland, California**  
**(cont)**

Analyte	SANDBLAST GRIT STOCKPILE SAMPLE IDENTIFICATIONS		
	WP2-1 (mg/kg)	WP2-2 (mg/kg)	WP2-3 (mg/kg)
TRPH <sup>8</sup> 418.1	310	850	430
BTEX <sup>9</sup> 8020A	ND <sup>10</sup>	ND	ND
Fish Toxicity (Percent Survival) <sup>11</sup>	100%	100%	100%

1. TCLP = Toxicity Characteristic Leaching Procedure, Code of Federal Regulations, Title 40, Part 261
2. STLC = Soluble Threshold Limit Concentration, California Code of Regulations, Title 22, Section 66261
3. TTLC = Total Threshold Limit Concentration, California Code of Regulations, Title 22, Section 66261
4. mg/kg = milligrams per kilogram
5. mg/l = milligrams per liter
6. California Waste Extraction Test (WET) performed on sample. Results are summarized on Table 4.
7. NA = not applicable
8. TRPH = total recoverable petroleum hydrocarbons using EPA method 418.1
9. BTEX = benzene, toluene, ethylbenzene total xylenes using EPA method 8020A
10. ND = not detected
11. Hazardous waste 96-hour fish toxicity screening test following the procedures described in California Code of Regulations, Title 22, Section 66261.

**Table 3**  
**MARCH 1997 WASTE EXTRACTION TEST**  
**ANALYTICAL RESULTS**  
**Pacific Dry Dock Yard I**  
**Oakland, California**

Analyte	SANDBLAST GRIT STOCKPILE SAMPLE IDENTIFICATIONS									REGULATORY LEVELS
	WP1-1 (mg/l) <sup>2</sup>	WP1-2 (mg/l)	WP1-3 (mg/l)	WP1-4 (mg/l)	WP1-5 (mg/l)	WP1-6 (mg/l)	WP1-7 (mg/l)	WP1-8 (mg/l)	WP1-9 (mg/l)	STLC <sup>1</sup> (mg/l)
<b>WET<sup>3</sup></b>										
Chromium	1.1	1.7	2.0	1.3	1.0	1.4	NA <sup>4</sup>	2.9	NA	5.0
Copper	10	<0.1	<0.1	1.6	0.6	0.6	13	56	21	25
Lead	12	4.6	4.5	14	3.7	6.6	9.3	25	12	5.0
Mercury	<0.004	<0.004	<0.004	NA	NA	NA	<0.004	<0.004	NA	0.2
Selenium	NA	<0.5	<0.5	NA	NA	NA	NA	NA	NA	1.0

1. STLC = Soluble Threshold Limit Concentration, California Code of Regulations, Title 22, Section 66261
2. mg/l = milligrams per liter
3. WET = Waste Extraction Test (WET), California Code of Regulations, Title 22, Section 66261 performed on metals listed
4. NA = not applicable



**Table 4**  
**MARCH 1997 WASTE EXTRACTION TEST**  
**ANALYTICAL RESULTS**  
**Pacific Dry Dock Yard II**  
**Oakland, California**

Analyte	SANDBLAST GRIT STOCKPILE SAMPLE IDENTIFICATIONS			REGULATORY LEVELS
	WP2-1 (mg/l) <sup>2</sup>	WP2-2 (mg/l)	WP2-3 (mg/l)	STLC <sup>1</sup> (mg/l)
<b>WET<sup>3</sup></b>				
Antimony	<0.5	NA <sup>4</sup>	NA	15
Barium	NA	14	NA	100
Chromium	2.2	3.9	3.5	5.0
Copper	18	18	41	25
Lead	12	23	20	5.0
Mercury	<0.004	<0.004	0.008	0.2

1. STLC = Soluble Threshold Limit Concentration, California Code of Regulations, Title 22, Section 66261
2. mg/l = milligrams per liter
3. WET = Waste Extraction Test (WET), California Code of Regulations, Title 22, Section 66261 performed on metals listed
4. NA = not applicable

**Table 5**  
**MAY 1997 ANALYTICAL RESULTS**  
**Pacific Dry Dock Yard I**  
**Oakland, California**

	<b>SANDBLAST GRIT STOCKPILE SAMPLE IDENTIFICATIONS</b>									
<b>Analyte</b>	<b>1-1-0.8</b>	<b>2-8-1.3</b>	<b>3-13-2.5</b>	<b>4-18-2.2</b>	<b>5-22-1.7</b>	<b>6-26-1.0</b>	<b>7-32-2.5</b>	<b>7-33-2.0</b>	<b>8-36-0.7</b>	<b>8-40-2.0</b>
<b>pH (std. units)</b>	8.6	8.0	8.0	8.4	8.5	8.2	8.4	8.1	8.4	8.1
<b>Total Lead (mg/kg<sup>1</sup>)</b>	331	383	674	3,010	340	405	507	409	427	672
<b>TCLP Lead<sup>2</sup> (mg/l<sup>3</sup>)</b>	<0.2	<0.2	0.482	0.384	<0.2	0.435	<0.2	<0.2	<0.2	<0.2

1. mg/kg = milligrams per kilogram
2. Toxicity Characteristic Leaching Procedure (TCLP), Code of Federal Regulations, Title 40, Part 261, test performed on sample.
3. mg/l = milligrams per liter

**Table 6**  
**MAY 1997 ANALYTICAL RESULTS**  
**Pacific Dry Dock Yard II**  
**Oakland, California**

	<b>SANDBLAST GRIT STOCKPILE SAMPLE IDENTIFICATIONS</b>		
<b>Analyte</b>	<b>1-5-1.5</b>	<b>3-13-2.6</b>	<b>2-9-4.1</b>
<b>pH (std.units)</b>	8.3	7.8	7.8
<b>Total Lead (mg/kg<sup>1</sup>)</b>	404	333	236
<b>TCLP Lead<sup>2</sup> (mg/l<sup>3</sup>)</b>	0.408	<0.2	2.12

1. mg/kg = milligrams per kilogram
2. Toxicity Characteristic Leaching Procedure (TCLP), Code of Federal Regulations, Title 40, Part 261, test performed on sample.
3. mg/l = milligrams per liter

**Table 7**  
**SEPTEMBER 1997 LEAD SOLUBILITY IN FRESH WATER**  
**ANALYTICAL RESULTS**  
**Pacific Dry Dock Yard I**  
**Oakland, California**

Analyte	SANDBLAST GRIT STOCKPILE SAMPLE IDENTIFICATIONS				DTSC REGULATORY LEVEL
	WP1-1-9-1.0 ( $\mu\text{g/l}$ ) <sup>2</sup>	WP1-2-20-2.0 ( $\mu\text{g/l}$ )	WP1-3-29-3.1 ( $\mu\text{g/l}$ )	WP1-4-37-1.4 ( $\mu\text{g/l}$ )	Guidance Level <sup>1</sup> ( $\mu\text{g/l}$ )
Soluble Lead (EPA Method 1320, Modified)	<5	<5	15	<5	83

1. Department of Toxic Substances Control Regulatory Guidance for Reclassification, February 1997
2.  $\mu\text{g/l}$  = micrograms per liter

**Table 8**  
**SEPTEMBER 1997 LEAD SOLUBILITY IN ARTIFICIAL SEA WATER**  
**ANALYTICAL RESULTS**  
**Pacific Dry Dock Yard I**  
**Oakland, California**

Analyte	SANDBLAST GRIT STOCKPILE SAMPLE IDENTIFICATIONS				DTSC REGULATORY LEVEL
	WP1-1-9-1.0 ( $\mu\text{g/l}$ ) <sup>2</sup>	WP1-2-20-2.0 ( $\mu\text{g/l}$ )	WP1-3-29-3.1 ( $\mu\text{g/l}$ )	WP1-4-37-1.4 ( $\mu\text{g/l}$ )	Guidance Level <sup>1</sup> ( $\mu\text{g/l}$ )
Soluble Lead (EPA Method 1320, Modified)	<50	<50	<50	<50	140

1. Department of Toxic Substances Control Regulatory Guidance for Reclassification, February 1997
2.  $\mu\text{g/l}$  = micrograms per liter

**Table 9**  
**SEPTEMBER 1997 LEAD SOLUBILITY IN FRESH WATER**  
**ANALYTICAL RESULTS**  
**Pacific Dry Dock Yard II**  
**Oakland, California**

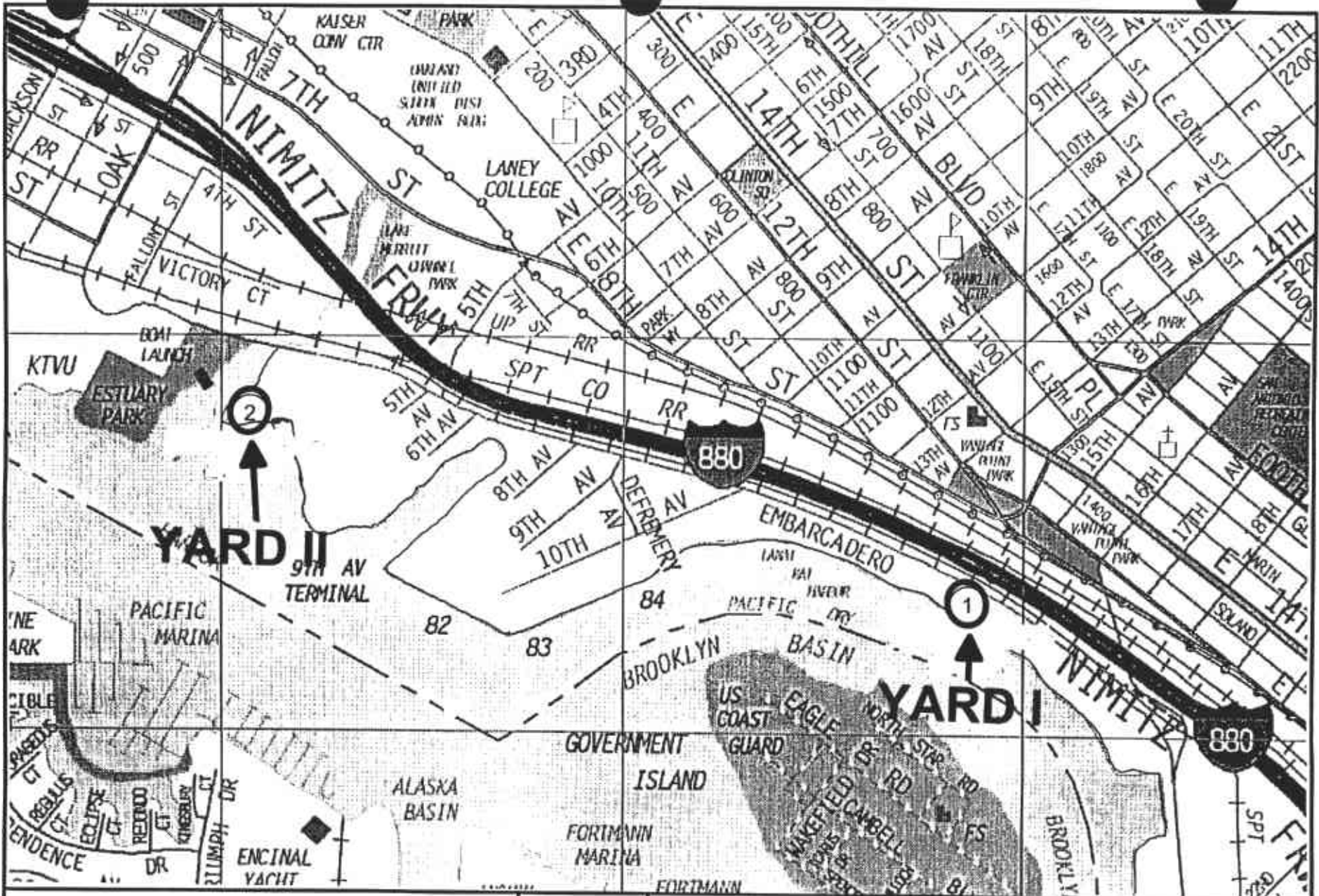
Analyte	SANDBLAST GRIT STOCKPILE SAMPLE IDENTIFICATIONS				DTSC REGULATORY LEVEL
	WP2-1-4-1.1 ( $\mu\text{g/l}$ ) <sup>2</sup>	WP2-2-8-1.5 ( $\mu\text{g/l}$ )	WP2-3-10-2.0 ( $\mu\text{g/l}$ )	WP2-4-11-1.5 ( $\mu\text{g/l}$ )	Guidance Level <sup>1</sup> ( $\mu\text{g/l}$ )
Soluble Lead (EPA Method 1320, Modified)	<5	8	10	<5	83

1. Department of Toxic Substances Control Regulatory Guidance for Reclassification, February 1997
2.  $\mu\text{g/l}$  = micrograms per liter

**Table 10**  
**SEPTEMBER 1997 LEAD SOLUBILITY IN ARTIFICIAL SEA WATER**  
**ANALYTICAL RESULTS**  
**Pacific Dry Dock Yard II**  
**Oakland, California**

Analyte	SANDBLAST GRIT STOCKPILE SAMPLE IDENTIFICATIONS				DTSC REGULATORY LEVEL
	WP2-1-4-1.1 ( $\mu\text{g/l}$ ) <sup>2</sup>	WP2-2-8-1.5 ( $\mu\text{g/l}$ )	WP2-3-10-2.0 ( $\mu\text{g/l}$ )	WP2-4-11-1.5 ( $\mu\text{g/l}$ )	Guidance Level <sup>1</sup> ( $\mu\text{g/l}$ )
Soluble Lead (EPA Method 1320, Modified)	<50	<50	<50	<50	140

1. Department of Toxic Substances Control Regulatory Guidance for Reclassification, February 1997
2.  $\mu\text{g/l}$  = micrograms per liter



Pacific Dry Dock Yards I and II  
 Crowley Marine Services, Inc.  
 1441 and 321 Embarcadero  
 Port of Oakland, California

Figure  
 1



THE GAUNTLETT GROUP, LLC



**LARGE  
MAP  
REMOVED**

**APPENDIX A**

**AUGUST 2, 1996, CLEANUP AND ABATEMENT ORDER**

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD****SAN FRANCISCO BAY REGION**

2101 WEBSTER STREET, Suite 500

OAKLAND, CA 94612

Tel: (510) 286-1255

FAX: (510) 286-1380



AUG 05 1996

VIA CERTIFIED MAIL

2199.9174 (SMM)

2199.9218 (SMM)

R. Stephen Wilson  
Manager, Environmental Compliance  
Crowley Marine Services, Inc.  
P.O. Box 2287  
Seattle, WA 98111-2287

**RECEIVED**

AUG 12 1996

ENVIRONMENT / SAFETY / QA

**Subject: Transmittal of Cleanup and Abatement Order for Crowley Marine Services,  
Pacific Drydock Yards I and II, Oakland Inner Harbor**

Dear Mr. Wilson:

Transmitted herewith is the Cleanup and Abatement Order and accompanying staff report for the sites located at 321 Embarcadero and 1441 Embarcadero in the City of Oakland. The order was drafted in cooperation with Ms. Beth Hamilton, representing Crowley, and is based on discussions during the meeting of May 24, 1996. Please call Steve Moore, staff engineer, with any questions at (510) 286-1262.

Sincerely,

A handwritten signature in cursive script that reads "Loretta K. Barsamian".

Loretta K. Barsamian  
Executive Officer

cc: Dan Schoenholz, Port of Oakland  
Paul Smith, Alameda County  
Steve MacAdam, BCDC

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

STAFF REPORT

To: Loretta K. Barsamian  
Executive Officer

Date: July 15, 1996  
File Nos. 2199.9174 (SMM)  
2199.9218 (SMM)

From: *John D. Wolfenden* FOR  
Steven M. Moore  
Associate Engineer

Subject: Crowley Marine Services, Pacific Drydock Yards I and II, Cleanup and Abatement Order

---

Pacific Drydock Yards I and II are located at 1441 Embarcadero and 321 Embarcadero, respectively, along the east side of Oakland Inner Harbor on property owned by the Port of Oakland. Crowley Marine Services (Crowley) and its predecessors performed vessel maintenance activities at Yard I from 1911 until 1992, and at Yard II from approximately 1951 until 1992. Before 1951, the United States Navy operated a marine terminal at Yard II. Vessel maintenance activities have ceased at both sites; the drydock at Yard II was removed in 1993 and the marine railways at Yard I are in a state of disrepair.

Sandblast grit was used by the tenants at both Yard I and Yard II as part of the tenants' vessel maintenance activities. Wastewater and stormwater discharges resulting from activities at the sites were permitted under two separate NPDES permits, which both expired in March 1996. During site inspections in 1987, 1988, and 1990, Board staff observed and documented evidence of storm runoff washing spent sandblast grit into waters of the State. Regional Board files contain notices of violation that were sent to Crowley at these times. The specific violations were related to discharge prohibitions and receiving water limitations in the permits.

In response to being notified of these violations, Crowley initiated environmental investigations to determine whether the discharges were a threat to human health or aquatic life. In 1990 and 1991, Crowley conducted an investigation at both yards which included collection of seawater and sediment samples (1990) and collection of surface sediment, sediment cores, and seawater samples (1991). Crowley concluded on the basis of those studies that seawater close to the two yards was not adversely affected by underlying sediments containing spent sandblast grit or other substances.


At the request of the Regional Board, in 1993 Crowley designed, and in 1994 implemented, a Supplemental Inshore Sediment Impairment Study. The purpose of that Study was to determine whether elevated concentrations of chemicals or sandblast material in the sediments were of biological concern. Crowley reported in June, 1994 that based on the results of the Study, no

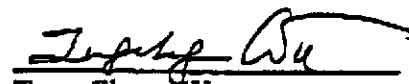
active remedial action was warranted at Yard I or Yard II. Board staff responded that the toxicity data did not rule out the possibility of environmental impairment at the sites. As part of the 1995-96 Bay Protection and Toxic Cleanup Program screening study, Board staff performed sediment toxicity bioassays on sediments at the two sites, and did not observe significant toxicity in the context of multiple bioassays performed throughout the San Francisco Estuary.

In March 1996 the Executive Officer acknowledged that "data from [Crowley's] 1994 study and the 1995-96 Bay Protection and Toxic Cleanup Program screening study indicate that the sediments of the subtidal areas on and near the sites do not represent a significant threat to aquatic life and human health." Notwithstanding the Regional Board's determination that the sediments in the subtidal areas do not represent a significant threat to aquatic life or human health, Regional Board staff has requested that the spent sandblast grit located on the surface in the inter-tidal and sub-tidal zones be removed (1) to assure that storm water flowing over that surface material will not carry constituents of the material into the estuary, and (2) to address past permit violations related to environmental hygiene.

Crowley has responded cooperatively to the request of Board staff by presenting a workplan that addresses cleanup of grit materials in visible portions of the upland, inter-tidal and sub-tidal zones on the two sites. This workplan has been incorporated into a Cleanup and Abatement Order to ensure completion of the tasks. Board staff believe that implementation of the workplan will adequately address past permit violations, and will qualify Crowley to withdraw its Notice of Intent (NOI) to comply with the Statewide General NPDES Stormwater Permit for Industrial Activities. Such withdrawal will be based on the fact that the facilities are no longer operational, and the source for any potential impact from stormwater will have been removed.

Concur:

  
John D. Wolfenden  
Section Leader

  
Teng-Chung Wu  
Division Chief

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

CLEANUP AND ABATEMENT ORDER NO. 96- 111

FOR CROWLEY MARINE SERVICES, INC.

for the property located at

1441 Embarcadero (Yard I) and  
321 Embarcadero (Yard II)  
Oakland, California  
Alameda County

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the "Board"), finds that:

SITE DESCRIPTION

1. Spent sandblast grit (Grit) is present in the inter-tidal<sup>1</sup> and supra-tidal<sup>2</sup> zones on the property at 1441 Embarcadero (Yard I) and at 321 Embarcadero (Yard II) in the City of Oakland in Alameda County (collectively the "Sites"). Crowley Marine Services, Inc. (Crowley) is the lessee of the property at Yard I and Yard II which is owned by the Port of Oakland and is located at the Port of Oakland.
2. Crowley is named in this Order as a discharger at Yards I and II because Crowley and its predecessors operated a boat and vessel repair business at Yard I since the early 1900s, and at Yard II since approximately 1951. Other tenants, including the United States of America, operated similar businesses at Yard II prior to 1951. The primary activity at both yards was the repair and renovation of boats and sea-going vessels. Barnacles, rust, paint, and other debris were removed from the hulls of these vessels by a high-pressure stream of water or by sandblasting. Most of the Grit and detritus was collected from the railway platform (at Yard I) or the dry dock (at Yard II) that the vessels rested on during cleaning operations. Some Grit accumulated, however, in the estuary and in the inter-tidal zone.
3. The discharge of Grit into the estuary was a violation of the NPDES permits for the two Sites, which both expired in March 1996. Board staff documented the violations during

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<sup>1</sup> The inter-tidal zone is defined as the area between the mean low-water mark and the mean high water mark.

<sup>2</sup> The supra-tidal zone is the area immediately landside of the inter-tidal zone.

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inspections in 1987, 1988, and 1990. In response to being notified of these violations, Crowley initiated environmental investigations, noted under Findings 8 and 9, below.

4. The Sites are located at the Port of Oakland, and the land in the vicinity of the Sites is devoted to Port uses.

Specifically, Yard I consists of 6.56 acres of shoreline property bounded by the Brooklyn Basin on the southwest, the Embarcadero on the northeast, and other industrial property on the southeast and the northwest. Yard I has been vacant since 1992 when Crowley ceased operations at the Site.

Yard II consists of 8.296 acres of shoreline property bounded by the Embarcadero on the north, the Lake Merritt Channel on the west, the Oakland Inner Harbor on the south, and other industrial property on the east. Yard II has been vacant since 1993 when Crowley ceased operations at the Site.

5. This Order relates only to removal of the loose Grit from the inter-tidal zone and the supra-tidal zone at the Sites, and does not relate to any soil and/or groundwater contamination that may be present at the Sites. The Alameda County Health Care Service Agency is currently supervising Crowley's efforts to investigate if such soil and groundwater contamination is present at the Sites.

#### SITE GEOLOGY

6. The Sites are located in the Coast Ranges geomorphic province, between the Hayward Fault (to the east) and the San Andreas Fault (to the west). The underlying bedrock consists of Mesozoic volcanic and metavolcanic rocks similar to those found throughout the Coast Ranges. Overlying the bedrock are Quaternary marine and nonmarine alluvial sediments consisting of clays and silts. The Sites are nearly level at elevations between five and eight feet above mean seal level (National Geodetic Vertical Datum of 1929). The shallow soils have been characterized as gravel, sand, silt, and clay fill material extending from the surface to the bay muds. The depth of bay muds is between 7 and 15 feet below ground surface (bgs). The bay muds consist of silty clays, clays with shell fragments, and thin water-saturated layers of sands or gravels.

#### SITE HYDROGEOLOGY

7. Groundwater occurs beneath the Sites at depths ranging from approximately two to five feet bgs. Because the Sites are on the waterfront, the depth and movement at groundwater is expected to be tidally influenced.

SITE INVESTIGATIONS OF SEDIMENTS CONTAINING SPENT SANDBLAST GRIT

8. In 1990 and 1991, Crowley conducted an investigation at both yards which included collection of seawater and sediment samples (1990) and collection of surface sediment, sediment cores, and seawater samples (1991). Crowley concluded on the basis of those studies that seawater close to the two yards was not adversely affected by underlying sediments containing Grit or other substances.
9. At the request of the Regional Board, in 1993 Crowley designed, and in 1994 implemented, a Supplemental Inshore Sediment Impairment Study. The purpose of that Study was to determine whether elevated concentrations of chemicals or sandblast material in the sediments were of biological concern. Crowley reported in June 1994 that based on the results of the Study, no active remedial action was warranted at Yard I or Yard II.
10. In March 1996 the Executive Officer acknowledged that "data from [Crowley's] 1994 study and the 1995-96 Bay Protection and Toxic Cleanup Program screening study indicate that the sediments of the subtidal areas on and near the Sites do not represent a significant threat to aquatic life and human health."
11. Notwithstanding the Regional Board's determination that the sediments in the subtidal areas do not represent a significant threat to aquatic life or human health, Regional Board staff has requested that the Grit located on the surface in the inter-tidal and sub-tidal zones be removed, (1) to assure that storm water flowing over that surface material will not carry constituents of the material into the estuary, and (2) to address past permit violations related to environmental hygiene.

INTERIM REMEDIAL ACTIONS

12. In 1995, at the Regional Board staff's request, Crowley vacuumed and swept the two Sites, removing approximately 80 tons of Grit.

FINAL REMEDIATION PLAN

13. In response to Regional Board staff's direction, Crowley has submitted a Workplan for Removal of Spent Sandblast Grit from the Inter-tidal and Supra-tidal Zones at Pacific Dry Dock Yards I and II, a copy of which is attached as Appendix A.
14. Regional Board staff has reviewed and approved the proposal described in the Workplan.



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**BASIN PLAN**

15. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20 and November 13, respectively, of 1995. A summary of regulatory provisions is contained in Title 23 of the California Code of Regulations at Section 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.
16. The existing and potential beneficial uses of the groundwater underlying and adjacent to the property include:
  - a. Industrial process water supply
  - b. Industrial service supply
  - c. Municipal and domestic supply
  - d. Agricultural supply
17. The existing and potential beneficial uses of Oakland Inner Harbor include:
  - a. Ocean, commercial, and sport fishing
  - b. Estuarine habitat
  - c. Industrial service supply
  - d. Fish migration
  - e. Navigation
  - f. Preservation of rare and endangered species
  - g. Water contact recreation
  - h. Non-contact water recreation
  - i. Shellfish harvesting
  - j. Wildlife habitat

**CEQA**

18. The Discharger has caused or permitted, and threatened to cause or permit, waste to be discharged or deposited where it is or probably will be discharged to waters of the State and create or threaten to create a condition of pollution or nuisance.
19. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.

**APPENDIX B**

**BAY CONSERVATION AND DEVELOPMENT COMMISSION  
PERMITS**

**SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION**

THIRTY VAN NESS AVENUE, SUITE 2011  
SAN FRANCISCO, CALIFORNIA 94102-6080  
PHONE: (415) 557-3888

**BCDC Original**

REGIONWIDE PERMIT NO. RWP-10  
NOTICE OF INTENT TO PROCEED NO. NOI-96-11

January 8, 1997

Crowley Marine Services, Inc.  
P.O. Box 2287  
Seattle, Washington 98111-2287

ATTENTION: Stephen Wilson, Manager, Environmental Compliance

Ladies and Gentlemen:

On April 18, 1996, the San Francisco Bay Conservation and Development Commission, by a vote of 17 affirmative, 0 negative, and 0 abstentions, approved the issuance of this regionwide permit upon which your authorization is based:

I. Authorization

A. Subject to the conditions stated below, the permittee is hereby authorized to do the following:

- Location:** Anywhere in the Bay and in certain waterways.
- Description:** Routine maintenance dredging of existing navigation channels and berthing areas of no more than 100,000 cubic yards of bottom material and the disposal of the dredged material so long as: (1) the disposal of the dredged material is at an approved upland disposal site or at the designated ocean disposal site and there are no significant adverse environmental impacts; or (2) the disposal of the dredged material is at a designated in-Bay disposal site and the disposal would meet the target volumes of the particular disposal site, there are no feasible upland or ocean disposal alternative, and there is no significant adverse environmental impacts.

B. This authority is generally pursuant to and limited by your notice of intent to proceed under a regionwide permit dated May 29, 1996, as revised and resubmitted on November 13, 1996, including its accompanying exhibits, any subsequent additions or modifications, and all conditions of this regionwide permit.

C. Work authorized herein must commence within one year of the date of the transmittal of this regionwide permit by the Executive Director to you or the authorization of your work will lapse and become null and void. Such work must also be diligently pursued to completion and must be completed within thirty months of commencement, or within thirty months of the date of transmittal of this regionwide permit to you, whichever is earlier, unless an extension of time is granted by the Executive Director.

## II. Special Conditions

The authorization made herein shall be subject to the following special conditions, in addition to the standard conditions in Part IV:

**A. Water Quality.** At least 20 days prior to the commencement of any disposal episode authorized herein, the permittee shall submit to the Executive Director water quality certification or waiver of water quality certification from the California Regional Water Quality Control Board, San Francisco Bay Region, for that episode. Failure to obtain such certification or waiver of certification prior to the commencement of the dredging episode shall terminate the Commission's authorization for that dredging episode.

**B. Limits on Dredging.** This regionwide permit authorizes maintenance dredging only. No new dredging is authorized. The regionwide permit authorizes dredging within area(s) as shown on the exhibits submitted with the permittee's notice of intent to proceed under this regionwide permit. No dredging in other areas is authorized.

### C. Dredging Report

- 1. Prior Notice of Episode.** The permittee shall notify the staff by telephone or in writing at least seven (7) days prior to undertaking any dredging episode. The permittee shall permit the Commission staff or representatives of other state or federal agencies to come aboard the dredge or barge associated with the dredging or disposal episode and observe the operation to ensure that the dredging or disposal activity is consistent with the dredging report required herein and the other terms and conditions of this regionwide permit.
- 2. Dredging Report.** Within thirty (30) days of completion of each dredging episode of the maintenance dredging authorized by this regionwide permit, the permittee shall submit to the Commission a report which contains: (1) a bathymetric map showing (a) the location of all areas authorized to be dredged and to what depth based on Mean Lower Low Water (MLLW); and (b) the actual areas dredged and to what depth based on MLLW, and any dredging that occurred outside the area authorized to be dredged or below the authorized depths; (2) a vicinity map showing the disposal site; and (3) the actual volume of the material dredged and disposed. The Commission reserves the right to have such report inspected by a reliable third party familiar with bathymetric mapping in order to verify the contents of the report. If a third party selected by or on behalf of the Commission indicates that the report is inaccurate, the Commission reserves the right to require the permittee to submit a revised report that meets the requirements of this condition. If the Commission determines that the contents of the dredging report indicate that work has occurred beyond that authorized by the regionwide permit, such violation may result in the initiation of enforcement action by or on behalf of the Commission.

**D. Timing.** No dredging shall occur pursuant to this regionwide permit in areas of San Francisco Bay that have been identified by the California Department of Fish and Game as necessary to protect important fisheries or migrating anadromous fish species between December 1 and March 1 of any year during the duration of this regionwide permit unless written approval of dredging during this period is provided by or on behalf of the Commission prior to the commencement of the dredging during the closure period. Approval of any dredging activities between December 1 and March 1 of any year shall be made by or on behalf of the Commission

only upon the finding that: (1) a dredging or disposal operation which was begun prior to December 1 of any year could not be completed by the December 1 deadline due to unforeseen delays; (2) a professional biologist, or other individual sufficiently competent to identify herring spawning activity, is at the project site during all dredging operations; and (3) if herring spawning is detected at or within 200 meters of the dredging operations by the permittee's on-site biologist or qualified staff person, Department of Fish and Game personnel, or the Commission staff, all dredging will cease for a minimum of 14 days or until it can be determined that the herring hatch has been completed and larval herring concentrations have left the site. To facilitate rapid and efficient communication under these circumstances, the permittee shall provide the Commission staff and Department of Fish and Game personnel with all necessary telephone, FAX, and pager numbers. Dredging may be resumed thereafter at the sole discretion of the permittee and the Commission staff, but shall be terminated no later than December 31 of that year, or if further spawning takes place at the site.

**E. Barge Overflow Sampling and Testing.** Results of any effluent water quality or other testing required by the San Francisco Bay Regional Water Quality Control Board shall be submitted in writing to the Commission's office at the same time that such testing is submitted to the Regional Board.

**F. In-Bay Disposal.** As part of the notice of intent to proceed under this regionwide permit for the initial dredging and disposal episode, and at least 45 days prior to the commencement of any subsequent in-Bay disposal episode authorized herein, the permittee shall submit a written statement to the Executive Director that contains all of the following: (1) the dates within which the dredging and disposal episode is proposed; (2) the total volume of material proposed to be dredged and location of the proposed disposal in the Bay; (3) an explanation as to why ocean or upland disposal of the material is infeasible; and (4) results of chemical and biological testing of material proposed for dredging and disposal. The authorization for the dredging and disposal episode shall become effective only when either: (1) the Executive Director informs the permittee in writing that he or she has determined that the episode is consistent with the authorization provided herein, that there is no feasible upland alternative available for the dredged material, that sufficient capacity exists at the disposal site consistent with the long-term management of the disposal site, and that the material is suitable for in-Bay disposal; or (2) the Executive Director does not respond to the permittee's written statement within 30 days of its receipt. If the Executive Director: (1) determines that ocean or upland disposal of the material is feasible; (2) determines that the material is unsuitable for in-Bay disposal; or (3) is informed by the U.S. Army Corps of Engineers that the proposed disposal would unacceptably reduce disposal site capacity, then such determination shall terminate the Commission's authorization for in-Bay disposal as part of that dredging episode.

**G. Marsh Protection.** The work authorized by this regionwide permit shall be performed so as to prevent any significant adverse impact on any tidal marsh or other sensitive wetland resources. If any unforeseen adverse impacts occur to any such area as a result of the activities authorized herein, the permittee shall restore the area to or improve the area above its previous condition, including returning the disturbed area to its original elevation and soil composition and, if the area does not revegetate to its former condition within one year, seeding all disturbed areas with appropriate marsh vegetation.

### III. Findings and Declarations

The Commission hereby finds, declares, and certifies that:

A. The projects authorized by this regionwide permit involve routine maintenance dredging and disposal activities, as defined in Regulation Sections 10602(a), 10602 (c) and 10602(e), or activities similar to those described above, as defined in Regulation Section 10601(e)(2), and thus are equivalent to a "minor repair and improvement" and qualify for authorization under a regionwide permit that may be issued by the Commission and approved by the Executive Director, pursuant to Government Code Section 66632(f) and Regulation Sections 11700 and 11713.

B. The project authorized by this regionwide permit is consistent with the McAteer-Petris Act and with the San Francisco Bay Plan in that it will not adversely affect the Bay nor public access to and enjoyment of the Bay.

C. The activities authorized herein are consistent with the Commission's Amended Management Program for San Francisco Bay, as approved by the Department of Commerce under the Federal Coastal Zone Management Act of 1972, as amended.

D. California Public Resources Code Section 21084 provides that the California Environmental Quality Act (CEQA) guidelines shall include a list of classes of projects that have been determined not to have a substantial adverse impact on the environment and are therefore exempt from the requirements of CEQA. This list of "categorical exemptions" is located at 14 Cal. Admin. Code Sections 15300 through 15329. Section 15304 (Class 4), subsection (g), exempts maintenance dredging where the spoil is deposited in a spoil area authorized by all applicable state and federal regulatory agencies. The Commission's own regulations provide that the Commission need not prepare an environmental assessment before it issues a permit for a project that falls within the list of categorically exempt activities (14 Cal. Admin. Code Section 11501). This permit is therefore categorically exempt because it authorizes only routine maintenance dredging of existing navigation channels and berthing areas of no more than 100,000 cubic yards of material, and the disposal of that material, provided the disposal occurs at a designated upland or ocean disposal site, or at a designated in-Bay disposal site where the disposal meets the target volumes of that site, and where there are no significant adverse environmental impacts.

E. The Commission staff will prepare a description and indicate the location of any project authorized under this regionwide permit, along with the name and address of the permittee, and attach such information to the listing of administrative permits, marsh development permits, and federal consistency actions that is sent to the Commission, immediately following the Executive Director's approval of the project under this regionwide permit.

### IV. Standard Conditions

A. All required permissions from governmental bodies must be obtained before the commencement of work; these bodies include, but are not limited to, the U. S. Army Corps of Engineers, the State Lands Commission, the Regional Water Quality Control Board, and the city and/or county in which the work is to be performed, whenever any of these may be required. This regionwide permit does not relieve the permittee of any obligations imposed by State or Federal law, either statutory or otherwise.

B. Work must be performed in the precise manner and at the precise locations indicated in your notice of intent to proceed under a regionwide permit, as such may have been modified by the terms of the regionwide permit, and any plans approved in writing by the Executive Director.

C. Work must be performed in a manner so as to minimize muddying of waters, and if diking is involved, dikes shall be waterproof. If any seepage returns to the Bay, the permittee will be subject to the regulations of the Regional Water Quality Control Board in that region.

D. The rights, duties, and obligations contained in this regionwide permit are assignable. When the permittee transfers any interest in any property either on which the authorized activity will occur or which is necessary to the full compliance of one or more conditions to this regionwide permit, the permittee/transferor and the transferee shall execute and submit to the Commission a permit assignment form acceptable to the Executive Director. An assignment shall not be effective until the assignee executes and the Executive Director receives an acknowledgment that the assignee has read and understands the regionwide permit and agrees to be bound by the terms and conditions of the regionwide permit, and the assignee is accepted by the Executive Director as being reasonably capable of complying with the terms and conditions of the regionwide permit.

E. Unless otherwise provided in this regionwide permit, all the terms and conditions of this regionwide permit shall remain effective for so long as the regionwide permit remains in effect or for so long as any use or construction authorized by this regionwide permit exists, whichever is longer.

F. Unless otherwise provided in this regionwide permit, the terms and conditions of this regionwide permit shall bind all future owners and future possessors of any legal interest in the land and shall run with the land.

G. Unless otherwise provided in this regionwide permit, any work authorized herein shall be completed within the time limits specified in the regionwide permit, or, if no time limits are specified in the regionwide permit, within three years of the date of transmittal of the regionwide permit by the Executive Director to you. If the work is not completed by the date specified in the regionwide permit, or, if no date is specified, within three years from the date of the transmittal of the regionwide permit by the Executive Director to you, the authorization provided to you by this regionwide permit becomes null and void. If an authorization under this regionwide permit becomes null and void for a failure to comply with these time limitations, any fill placed in reliance on the authorization of this regionwide permit shall be removed by the permittee or its assignee upon receiving written notification by or on behalf of the Commission to remove the fill.

H. Except as otherwise noted, violation of any of the terms of this regionwide permit shall be grounds for revocation of the authorization provided to you by this regionwide permit. The Commission may revoke any authorization of this regionwide permit for such violation after a public hearing held on reasonable notice to the permittee or its assignee if the regionwide permit has been effectively assigned. If an authorization under this regionwide permit is revoked, the Commission may determine, if it deems appropriate, that all or part of any fill or structures placed pursuant to the authorization under this regionwide permit shall be removed by the permittee or its assignee if the regionwide permit has been assigned.

I. The authorization under this regionwide permit shall not take effect unless the permittee executes the original of this regionwide permit and returns it to the Commission within fourteen days after the transmittal of the regional permit by the Executive Director to you. No work shall be done until the acknowledgment is duly executed and returned to the Commission.

J. Any area subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission under the McAteer-Petris Act at the time the authorization of the regionwide permit is granted or thereafter shall remain subject to that jurisdiction notwithstanding the placement of any fill or the implementation of any substantial change in use authorized by this regionwide permit.

K. Any area not subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission that becomes, as a result of any work or project authorized in this regionwide permit, subject to tidal action shall become subject to the Commission's "bay" or "certain waterway" jurisdictions.

L. Unless the Commission directs otherwise, the authorization provided by this regionwide permit shall become null and void if any term, standard condition, or special condition of this regionwide permit shall be found illegal or unenforceable through the application of statute, administrative ruling, or court determination. If the authorization provided by this regionwide permit becomes null and void, any fill or structures placed in reliance on the authorization provided by this regionwide permit shall be subject to removal by the permittee or its assignee if the removal is appropriate. Any uses authorized shall be terminated to the extent that the Commission determines that such uses should be terminated.

Executed at San Francisco, California, on behalf of the San Francisco Bay Conservation and Development Commission on the date first above written.

  
\_\_\_\_\_  
WILL TRAVIS  
Executive Director  
San Francisco Bay Conservation and  
Development Commission

WT/NS/vm

cc: U. S. Army Corps of Engineers, Attn: Regulatory Functions Branch  
San Francisco Bay Regional Water Quality Control Board,  
Attn: Certification Section  
Environmental Protection Agency, Attn: Mike Monroe-W-3-3  
Port of Oakland, Attn.: Richard Sinkoff



REGIONWIDE PERMIT NO. 9-10  
NOTICE OF INTENT TO PROCEED NO. NOI-96-11  
Crowley Marine Services, Inc.  
January 8, 1997  
Page 7

\* \* \* \* \*

Receipt acknowledged, contents understood and agreed to:

Executed at SEATTLE, WA

CROWLEY MARINE SERVICES, Inc.

On January 17, 1997

By: R. Stephen [Signature]

Applicant  
Manager, Environmental Affairs.  
Title

**SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION**

THIRTY VAN NESS AVENUE, SUITE 2011  
SAN FRANCISCO, CALIFORNIA 94102-6080  
PHONE: (415) 557-3888

**BCDC Original**

REGIONWIDE PERMIT NO. RWP-4  
NOTICE OF INTENT TO PROCEED NO. NOI-96-11

January 8, 1997

Crowley Marine Services, Inc.  
P.O. Box 2287  
Seattle, Washington 98111-2287

ATTENTION: Stephen Wilson, Manager, Environmental Compliance

Ladies and Gentlemen:

On March 19, 1992, the San Francisco Bay Conservation and Development Commission, by a vote of 17 affirmative, 0 negative, and 0 abstentions, approved the issuance of this regionwide permit upon which your authorization is based:

I. Authorization

A. Subject to the conditions stated below, the permittee is hereby authorized to do the following:

**Location:** Anywhere in the Bay, in certain waterways, within managed wetlands, and within the 100-foot shoreline band.

**Description:** Removal of structures or improvements so long as the removal will not adversely affect present or possible future public access to the Bay, or will not involve a structure or improvement of historical, archeological, or architectural significance.

B. This authority is generally pursuant to and limited by your notice of intent to proceed under a regionwide permit dated May 29, 1996, as revised and resubmitted on November 13, 1996, including its accompanying exhibits, any subsequent additions or modifications, and all conditions of this regionwide permit.

C. Work authorized herein must commence within one year of the date of the transmittal of this regionwide permit by the Executive Director to you or the authorization of your work will lapse and become null and void. Such work must also be diligently pursued to completion and must be completed within two years of commencement, or within two years of the date of transmittal of this regionwide permit to you, whichever is earlier, unless an extension of time is granted by the Executive Director.

## II. Special Conditions

The authorization made herein shall be subject to the following special conditions, in addition to the standard conditions in Part IV:

**A. Construction Operations and Debris Removal.** All construction operations shall be performed so as to minimize turbidity and the roiling of waters, and to prevent timbers, floats, or other construction materials from drifting and presenting a navigation or pollution hazard. In the event that any such material is placed or escapes into any area subject to tidal action of the Bay, the permittee, its assigns or successors in interest, or the owner of the improvements shall immediately retrieve and remove such material at its expense. All construction debris shall be removed to a location outside the Commission's jurisdiction.

**B. Marsh Protection.** The work authorized by this regionwide permit shall be performed so as to prevent any significant adverse impact on any tidal marsh or other sensitive wetland resources. If any unforeseen adverse impacts occur to any such area as a result of the activities authorized herein, the permittee shall restore the area to or improve the area above its previous condition, including returning the disturbed area to its original elevation and soil composition and, if the area does not revegetate to its former condition within one year, seeding all disturbed areas with appropriate marsh vegetation.

**C. Notice to Contractor.** The permittee shall provide a copy of this regionwide permit to any contractor or person working in concert with the permittee to carry out the activities authorized herein and shall point out the special conditions contained herein.

**D. Diked Wetlands Protection.** No work authorized herein on any structure or facility shall significantly alter water management, circulation or drainage patterns or otherwise adversely affect any salt pond or other sensitive diked wetland resources.

## III. Findings and Declarations

The Commission hereby finds, declares, and certifies that:

**A.** The projects authorized by this regionwide permit involve removal of deteriorated structures and facilities, as defined in Regulation Sections 10601(a)(6), 10601(b)(1), and 10601(c)(2), or activities similar to those described above, as defined in Regulation Section 10601(e)(2), and thus are equivalent to a "minor repair and improvement" and qualify for authorization under a regionwide permit that may be issued by the Commission and approved by the Executive Director, pursuant to Government Code Section 66632(f) and Regulation Sections 11700 and 11713.

**B.** The project authorized by this regionwide permit is consistent with the McAteer-Petris Act and with the San Francisco Bay Plan in that it will not adversely affect the Bay nor public access to and enjoyment of the Bay.

**C.** The activities authorized herein are consistent with the Commission's Amended Management Program for San Francisco Bay, as approved by the Department of Commerce under the Federal Coastal Zone Management Act of 1972, as amended.

D. The California Environmental Quality Act (CEQA) generally requires that before an agency can issue a permit for a project that is neither statutorily exempt nor categorically exempt, it must either certify a "negative declaration" that the project will have no substantial adverse impact on the environment or it must prepare an environmental impact report (EIR). Pursuant to CEQA Section 21080.5, the Secretary for Resources has certified the Commission's permit regulations as functionally equivalent to the CEQA review process. Commission Regulation Section 11511 requires the Executive Director to determine either that a project will have no substantial adverse environmental impact or to prepare an "environmental assessment," which functions as a Commission equivalent to an EIR. This regionwide permit authorizes only the removal of structures or improvements from the Commission's jurisdiction. This regionwide permit also requires that the removal will not adversely affect present or future public access to the Bay, will not affect a structure or improvement of historical, archeological, or architectural significance, will be performed to minimize turbidity and the roiling of waters and to prevent the drifting of construction materials, will not adversely affect any tidal marsh, managed wetland, or other sensitive wetland resource, and will not result in any disposal within any wetland. Therefore, the Commission finds that the removal authorized by this regionwide permit will have no substantial adverse impact on the environment.

E. The Commission staff will prepare a description and indicate the location of any project authorized under this regionwide permit, along with the name and address of the permittee, and attach such information to the listing of administrative permits, marsh development permits, and federal consistency actions that is sent to the Commission, immediately following the Executive Director's approval of the project under this regionwide permit.

#### IV. Standard Conditions

A. All required permissions from governmental bodies must be obtained before the commencement of work; these bodies include, but are not limited to, the U. S. Army Corps of Engineers, the State Lands Commission, the Regional Water Quality Control Board, and the city and/or county in which the work is to be performed, whenever any of these may be required. This regionwide permit does not relieve the permittee of any obligations imposed by State or Federal law, either statutory or otherwise.

B. Work must be performed in the precise manner and at the precise locations indicated in your notice of intent to proceed under a regionwide permit, as such may have been modified by the terms of the regionwide permit, and any plans approved in writing by the Executive Director.

C. Work must be performed in a manner so as to minimize muddying of waters, and if diking is involved, dikes shall be waterproof. If any seepage returns to the Bay, the permittee will be subject to the regulations of the Regional Water Quality Control Board in that region.

D. The rights derived from this regionwide permit are assignable as provided herein. An assignment shall not be effective until the assignee shall have executed and the Commission shall have received an acknowledgment that the assignee has read and understood the notice of intent to proceed under this regionwide permit and the regionwide permit itself and agrees to be bound by the terms and conditions of the regionwide permit, and the assignee is accepted by the Executive Director as being reasonably capable of complying with the terms of the regionwide permit.

L. Unless the Commission directs otherwise, the authorization provided by this regionwide permit shall become null and void if any term, standard condition, or special condition of this regionwide permit shall be found illegal or unenforceable through the application of statute, administrative ruling, or court determination. If the authorization provided by this regionwide permit becomes null and void, any fill or structures placed in reliance on the authorization provided by this regionwide permit shall be subject to removal by the permittee or its assignee if the regionwide permit has been assigned to the extent that the Commission determines that such removal is appropriate. Any uses authorized shall be terminated to the extent that the Commission determines that such uses should be terminated.

Executed at San Francisco, California, on behalf of the San Francisco Bay Conservation and Development Commission on the date first above written.



---

WILL TRAVIS  
Executive Director  
San Francisco Bay Conservation and  
Development Commission

WT/NS/vm

cc: U. S. Army Corps of Engineers, Attn.: Regulatory Functions Branch  
San Francisco Bay Regional Water Quality Control Board,  
Attn.: Certification Section  
Environmental Protection Agency, Attn.: Mike Monroe-W-3-3  
Port of Oakland, Attn.: Richard Sinkoff

\* \* \* \* \*

Receipt acknowledged, contents understood and agreed to:

Executed at SEATTLE, WA

CROWLEY MARINE SERVICES, Inc.

On January 17, 1997

By: R. Stephen [Signature]  
Applicant  
Manager, Environmental Affairs  
Title

E. Unless otherwise provided in this regionwide permit, all the terms and conditions of this regionwide permit shall remain effective for so long as the regionwide permit remains in effect or for so long as any use or construction authorized by this regionwide permit exists, whichever is longer.

F. Unless otherwise provided in this regionwide permit, the terms and conditions of this regionwide permit shall bind all future owners and future possessors of any legal interest in the land and shall run with the land.

G. Unless otherwise provided in this regionwide permit, any work authorized herein shall be completed within the time limits specified in the regionwide permit, or, if no time limits are specified in the regionwide permit, within three years of the date of transmittal of the regionwide permit by the Executive Director to you. If the work is not completed by the date specified in the regionwide permit, or, if no date is specified, within three years from the date of the transmittal of the regionwide permit by the Executive Director to you, the authorization provided to you by this regionwide permit becomes null and void. If an authorization under this regionwide permit becomes null and void for a failure to comply with these time limitations, any fill placed in reliance on the authorization of this regionwide permit shall be removed by the permittee or its assignee upon receiving written notification by or on behalf of the Commission to remove the fill.

H. Except as otherwise noted, violation of any of the terms of this regionwide permit shall be grounds for revocation of the authorization provided to you by this regionwide permit. The Commission may revoke any authorization of this regionwide permit for such violation after a public hearing held on reasonable notice to the permittee or its assignee if the regionwide permit has been effectively assigned. If an authorization under this regionwide permit is revoked, the Commission may determine, if it deems appropriate, that all or part of any fill or structures placed pursuant to the authorization under this regionwide permit shall be removed by the permittee or its assignee if the regionwide permit has been assigned.

I. The authorization under this regionwide permit shall not take effect unless the permittee executes the original of this regionwide permit and returns it to the Commission within fourteen days after the transmittal of the regional permit by the Executive Director to you. No work shall be done until the acknowledgment is duly executed and returned to the Commission.

J. Any area subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission under the McAtteer-Petris Act at the time the authorization of the regionwide permit is granted or thereafter shall remain subject to that jurisdiction notwithstanding the placement of any fill or the implementation of any substantial change in use authorized by this regionwide permit.

K. Any area not subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission that becomes, as a result of any work or project authorized in this regionwide permit, subject to tidal action shall become subject to the Commission's "bay" or "certain waterway" jurisdictions up to the line of highest tidal action.

**APPENDIX C**

**PHOTOGRAPHS OF REMOVAL ACTIVITIES**

# YARD I PHOTOGRAPHS



1. Photograph of the inter- and supra-tidal zones before sandblast grit and debris removal activities were initiated.



2. Photograph of inter- and supra-tidal zones after removal activities were completed.





3. Photograph showing sandblast grit being removed exposing the bay mud in the inter-tidal zone removal area.



4. Photograph showing sandblast grit being removed exposing the bay mud in the supra-tidal zone removal area.



5. Photograph showing sandblast grit and debris supra-tidal zone area before removal activities.



6. Photograph showing sandblast grit and debris supra-tidal zone area after removal activities



7. Photograph showing supra-tidal zone during removal activities, sandblast grit can be seen along the right bank of the supra-tidal zone.



8. Photograph showing supra-tidal zone during removal activities, sandblast grit has been removed along the right bank of the supra-tidal zone, exposing the bay mud.



9. Air emissions monitoring of the stockpile during trans-loading activities.



10. Photograph showing trans-loading activities.



11. Photograph showing debris and sandblast grit stockpiles in foreground, trans-loading activities in background



12. Photograph of containment boom in place during removal activities.

## YARD II PHOTOGRAPHS



1. Sandblast grit and debris being removed from the northwest inter-tidal zone.



2. Photograph showing sandblast grit being removed from the northwest inter-tidal zone, exposing the bay mud.



3. Photograph of debris removed from the northwest inter-tidal zone.



4. Photograph of the northwest inter-tidal zone after removal activities.



5. Photograph showing northwest supra-tidal zone sandblast grit and debris removal area.



6. Photograph of area where grit was removed south of the northwest supra-tidal zone removal area.





7. Sandblast grit and debris removal activities in the southwest inter-tidal zone.



8. Photograph of the southwest inter-tidal zone after removal activities.



9. Sandblast grit and debris removal activities in the southwest supra-tidal zone.



10. Photograph of the southwest supra-tidal zone after removal activities.



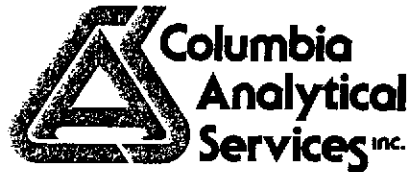
11. Sandblast grit and debris removal activities in the southeast supra-tidal zone.



12. Photograph of covered stockpile.

**APPENDIX D**

**ANALYTICAL REPORTS**



March 6, 1997

Service Request No.: S9700370

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: 50604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 4, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 7, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", is written over a large, faint, stylized graphic that resembles a signature or a large letter 'S'.

Steven L. Green  
Project Chemist

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLIC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

**COLUMBIA ANALYTICAL SERVICES, INC.**

**Analytical Report**

**Client:** The Gauntlett Group  
**Project:** #50604.01.01  
**Sample Matrix:** Soil

**Service Request:** L9700768  
**Date Collected:** 3/4/97  
**Date Received:** 3/4/97  
**Date Extracted:** 3/6/97  
**Date Analyzed:** 3/6/97

Total Recoverable Petroleum Hydrocarbons (TRPH)  
EPA Method 418.1  
Units: mg/Kg (ppm)

<b>Sample Name</b>	<b>Lab Code</b>	<b>MRL</b>	<b>Result</b>
WP2-3	L9700768-001	10	430
WP1-1	L9700768-002	10	940
Method Blank	L970306-MB	10	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: THE GAUNTLETT GROUP, LLC  
Project: 50604.01.01  
Sample Matrix: Soil

Service Request: S9700370  
Date Collected: 3/4/97  
Date Received: 3/4/97  
Date Extracted: 3/5/97

BTEX  
EPA Method 8020  
Units: mg/kg (ppm)

Sample Name:	WP2-3	WP1-1	Method Blank
Lab Code:	S9700370-001	S9700370-002	S970305-SB1
Date Analyzed:	3/5/97	3/5/97	3/5/97

Analyte	MRL			
Benzene	0.5	ND	ND	ND
Toluene	1	ND	ND	ND
Ethylbenzene	1	ND	ND	ND
Total Xylenes	1	ND	ND	ND



**COLUMBIA ANALYTICAL SERVICES, INC.**

**Analytical Report**

**Client:** THE GAUNTLETT GROUP, LLC  
**Project:** 50604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700370  
**Date Collected:** 3/4/97  
**Date Received:** 3/4/97  
**Date Digested:** 3/5/97

**Metals**

Units: mg/Kg (ppm)

Sample Name:	<b>WP2-3</b>	<b>WP1-1</b>	<b>Method Blank</b>
Lab Code:	S9700370-001	S9700370-002	S9700370-SMB
Date Analyzed:	3/5/97	3/5/97	3/5/97

Analyte	EPA	MRL			
	Method				
Antimony	3050BM/6010A	5	7	ND	ND
Arsenic	3050BM/6010A	5	ND	16	ND
Barium	3050BM/6010A	1	730	200	ND
Beryllium	3050BM/6010A	0.5	ND	ND	ND
Cadmium	3050BM/6010A	0.5	1.4	1.5	ND
Chromium	3050BM/6010A	1	91	76	ND
Cobalt	3050BM/6010A	1	7	22	ND
Copper	3050BM/6010A	1	620	1700	ND
Lead	3050BM/6010A	5	210	230	ND
Mercury	7470	0.4	3.7	3.1	ND
Molybdenum	3050BM/6010A	1	ND	89	ND
Nickel	3050BM/6010A	2	38	75	ND
Selenium	3050BM/6010A	5	ND	7	ND
Silver	3050BM/6010A	2	ND	ND	ND
Thallium	3050BM/6010A	5	ND	ND	ND
Vanadium	3050BM/6010A	1	21	41	ND
Zinc	3050BM/6010A	2	450	610	ND

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

**Client:** THE GAUNTLETT GROUP, LLC  
**Project:** 50604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700370  
**Date Collected:** 3/4/97  
**Date Received:** 3/4/97  
**Date Extracted:** NA  
**Date Analyzed:** NA

Surrogate Recovery Summary  
BTEX  
EPA Method 8020

Sample Name	Lab Code	Percent Recovery 1,4-Difluorobenzene
WP2-3	S9700370-001	101
WP1-1	S9700370-002	85
Method Blank	S970305-SB1	103

CAS Acceptance Limits:

80-120



2059 Junction Avenue • San Jose, CA 95131 • (408) 437-2400 • FAX (408) 437-9356

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SERVICE REQUEST NO. 59700370 P.O.# \_\_\_\_\_ PAGE 1 OF 1

PROJECT NAME: #SUG04.01.01  
 PROJECT MGR: P. Lacey  
 COMPANY: The Gaultlett Group, LLC  
 ADDRESS: 111. W. Evelyn Suite 305  
Sunnyvale CA 94086 PHONE: 328-0814  
 FAX: 774-6757  
 SAMPLER'S SIGNATURE: [Signature]

					NUMBER OF CONTAINERS	ANALYSIS REQUESTED														REMARKS
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX		PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH		
WP2-3	3/4/97	1515		9011	2	Base/Neu/Acid Organics GC/MS 625/8270														
WP1-1	3/4/97	1620		Soil	2	Volatiles Organics GC/MS 624/8240/8260		X										X		
						Halogenated or Aromatic Volatiles 601/8010.7												X		
						TPH as Gas (REX) DHS LUFT (8020)												X		
						TPH as Diesel/HBHC DHS LUFT												X		
						TPH (418.1) Oil and Grease Method												X		
						Metals (Total or dissolved) List Below												X		
						PH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS												X		
						NH <sub>3</sub> -N, COD, Total-P, TKN, NO <sub>3</sub> / NO <sub>2</sub> (circle)												X		
						Total Organic Carbon TOC												X		
						Total Phenols Method Cyanide												X		
<u>96 HOUR FISH TOXICITY SCREEN</u>																				
<u>59700370</u>																				

<b>RELINQUISHED BY:</b> <u>[Signature]</u> Signature <u>JGG</u> Printed Name <u>3/4/97 1730</u> Date/Time		<b>RECEIVED BY:</b> <u>[Signature]</u> Signature <u>Russell Platt</u> Printed Name <u>CAS</u> Firm <u>3/4/97 1730</u> Date/Time		<b>RELINQUISHED BY:</b> Signature Printed Name Firm Date/Time		<b>RECEIVED BY:</b> Signature Printed Name Firm Date/Time		<b>TURNAROUND REQUIREMENTS</b> 1 day <input checked="" type="checkbox"/> 2 day _____ 3 day _____ 5 day _____ Other _____ Standard (10 working days) Provide Preliminary Results Date Due <u>3/6/97 pm.</u>		<b>REPORT REQUIREMENTS</b> <input checked="" type="checkbox"/> I. Routine Report II. Report (includes DUP.MAS MSD, as required, may be charged as samples) III. Data Validation Report (includes All Raw Data) RWOCB (MDLs/PQLs/TRACE#)	
<b>RELINQUISHED BY:</b> Signature Printed Name Firm Date/Time		<b>RECEIVED BY:</b> Signature Printed Name Firm Date/Time		<b>SPECIAL INSTRUCTIONS/COMMENTS:</b> <u>Please Voice Mail results ASAP.</u> <b>Circle which metals are to be analyzed:</b> Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn As Pb Se Ti Hg <u>TOTAL Title 22 Metals</u> <u>Fish Toxicity Title 22 screen (Std TAT)</u> <u>please hold remaining sample volume for possible further analysis.</u>							



March 14, 1997

Service Request No.: S9700371

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: S0604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 4, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", written in a cursive style. The signature is positioned above the typed name and title.

Steven L. Green  
Project Chemist

**COLUMBIA ANALYTICAL SERVICES, Inc.**

**Acronyms**

<b>A2LA</b>	American Association for Laboratory Accreditation
<b>ASTM</b>	American Society for Testing and Materials
<b>BOD</b>	Biochemical Oxygen Demand
<b>BTEX</b>	Benzene, Toluene, Ethylbenzene, Xylenes
<b>CAM</b>	California Assessment Metals
<b>CARB</b>	California Air Resources Board
<b>CAS Number</b>	Chemical Abstract Service registry Number
<b>CFC</b>	Chlorofluorocarbon
<b>CFU</b>	Colony-Forming Unit
<b>COD</b>	Chemical Oxygen Demand
<b>DEC</b>	Department of Environmental Conservation
<b>DEQ</b>	Department of Environmental Quality
<b>DHS</b>	Department of Health Services
<b>DLCS</b>	Duplicate Laboratory Control Sample
<b>DMS</b>	Duplicate Matrix Spike
<b>DOE</b>	Department of Ecology
<b>DOH</b>	Department of Health
<b>EPA</b>	U. S. Environmental Protection Agency
<b>ELAP</b>	Environmental Laboratory Accreditation Program
<b>GC</b>	Gas Chromatography
<b>GC/MS</b>	Gas Chromatography/Mass Spectrometry
<b>IC</b>	Ion Chromatography
<b>ICB</b>	Initial Calibration Blank sample
<b>ICP</b>	Inductively Coupled Plasma atomic emission spectrometry
<b>ICV</b>	Initial Calibration Verification sample
<b>J</b>	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
<b>LCS</b>	Laboratory Control Sample
<b>LUFT</b>	Leaking Underground Fuel Tank
<b>M</b>	Modified
<b>MBAS</b>	Methylene Blue Active Substances
<b>MCL</b>	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
<b>MDL</b>	Method Detection Limit
<b>MPN</b>	Most Probable Number
<b>MRL</b>	Method Reporting Limit
<b>MS</b>	Matrix Spike
<b>MTBE</b>	Methyl tert-Butyl Ether
<b>NA</b>	Not Applicable
<b>NAN</b>	Not Analyzed
<b>NC</b>	Not Calculated
<b>NCASI</b>	National Council of the paper industry for Air and Stream Improvement
<b>ND</b>	Not Detected at or above the method reporting/detection limit (MRL/MDL)
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppb</b>	Parts Per Billion
<b>ppm</b>	Parts Per Million
<b>PQL</b>	Practical Quantitation Limit
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RPD</b>	Relative Percent Difference
<b>SIM</b>	Selected Ion Monitoring
<b>SM</b>	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
<b>STLC</b>	Solubility Threshold Limit Concentration
<b>SW</b>	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TDS</b>	Total Dissolved Solids
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>tr</b>	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TSS</b>	Total Suspended Solids
<b>TTLC</b>	Total Threshold Limit Concentration
<b>VOA</b>	Volatile Organic Analyte(s)

**SUMMARY REPORT FOR AN ACUTE BIOASSAY PERFORMED UNDER TITLE 22 REQUIREMENTS**  
 Test Dates: 3/7 - 3/11/97

Report Issued by:  
 MEC Analytical Systems, Inc.  
 Bioassay Division  
 98 Main St #428  
 Tiburon, CA 94920

Report Issued to:  
 Columbia Analytical Services  
 2059 Junction Ave.  
 San Jose, CA 95131

Page 1 of 1

REPORT DATE: March 12, 1997  
 PROJECT #: 0652-004

**SAMPLE AND BIOASSAY INFORMATION**

**TEST INFORMATION**

Control Water: Soft water (Nanopure + Evian™ spring water)  
 Exposure volume: 10 L  
 Test chambers: 5 gal aquaria  
 Concentrations (mg/L): 250, 750  
 # Fish/chamber: 10

**SPECIES INFORMATION**

Species: *Pimephales promelas*  
 Common name: Fathead Minnows  
 Source: Thomas Fish Co. Anderson, CA  
 Age of Fish: Juvenile, Acclimated for ≥ 10 days  
 Mean weight (g): 0.26  
 Mean length (mm): 28.0

**SAMPLE INFORMATION**

Sample Type: Solid  
 Client Sample ID: WP2-3  
 Sample Preparation: Sample was shaken on shaker table for ≥ 6 hours according to CDFG guidelines.  
 Sample Date: March 4, 1997  
 Sample Received: March 6, 1997  
 MECBL #: T970306.04

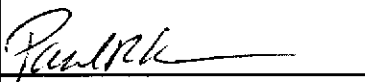
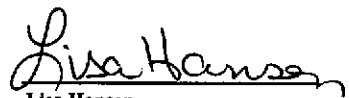
**Final Water Quality and Fish Counts**

Concentration (mg/L)	Rep	Day 0					Day 1					Day 2					Day 3					Day 4					Survival (%)
		Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	
Control	1	20.6	8.7	8.02	93	10	21.5	8.5	8.03	95	10	21.1	8.3	7.83	96	10	21.2	8.0	7.99	97	10	21.6	8.6	7.98	99	10	100
	2	20.3	8.9	8.11	94	10	20.9	8.7	8.06	95	10	20.7	8.2	7.84	96	10	21.2	8.3	7.95	97	10	21.2	8.7	7.95	98	10	100
250	1	20.3	8.7	8.17	94	10	20.9	8.9	8.12	96	10	20.8	8.2	7.93	97	10	21.2	8.4	8.02	98	10	21.0	8.6	7.99	99	10	100
	2	20.3	8.7	8.13	94	10	20.9	8.5	8.08	95	10	20.8	8.1	7.89	96	10	21.1	8.5	7.97	97	10	20.9	8.6	8.01	99	10	100
750	1	20.2	8.8	8.14	95	10	20.8	8.7	8.04	97	10	20.8	8.3	7.87	99	10	21.0	8.4	8.02	100	10	20.5	9.1	8.00	102	10	100
	2	20.0	8.9	8.19	95	10	20.4	8.9	8.12	97	10	20.7	8.4	7.97	98	10	20.9	8.5	8.10	100	10	20.3	9.4	8.09	102	10	100

Conc (mg/L)	Day 0		Day 4	
	Alkalinity (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
Control	44	44	36	36
750	42	44	36	36

**RESULTS:**

Since survival in the 750 mg/L concentration of the WP2-3 sample was >60%, this sample would qualify for a nonhazardous designation on the basis of aquatic toxicity.

 Paul R. Krause, Ph.D. Project Manager	 Lisa Hansen Laboratory Manager
---	--

Reference: Polisini and Miller. 1988. Static acute bioassay procedures for hazardous waste samples. California Department of Fish and Game, Water Pollution Control Laboratory.

**SUMMARY REPORT FOR AN ACUTE BIOASSAY PERFORMED UNDER TITLE 22 REQUIREMENTS**  
 Test Dates: 3/7 - 3/11/97

Report Issued by:  
 MEC Analytical Systems, Inc.  
 Bioassay Division  
 98 Main St #428  
 Tiburon, CA 94920

Report Issued to:  
 Columbia Analytical Services  
 2059 Junction Ave.  
 San Jose, CA 95131

Page 1 of 1

REPORT DATE: March 12, 1997  
 PROJECT #: 0652-004

SAMPLE AND BIOASSAY INFORMATION

TEST INFORMATION

Control Water: Soft water (Nanopure + Evian™ spring water)  
 Exposure volume: 10 L  
 Test chambers: 5 gal aquaria  
 Concentrations (mg/L): 250, 750  
 # Fish/chamber: 10

SPECIES INFORMATION

Species: *Pimephales promelas*  
 Common name: Fathead Minnows  
 Source: Thomas Fish Co. Anderson, CA  
 Age of Fish: Juvenile, Acclimated for ≥ 10 days  
 Mean weight (g): 0.26  
 Mean length (mm): 28.0

SAMPLE INFORMATION

Sample Type: Solid  
 Client Sample ID: WP1-1  
 Sample Preparation: Sample was shaken on shaker table for ≥ 6 hours according to CDFG guidelines.  
 Sample Date: March 4, 1997  
 Sample Received: March 6, 1997  
 MECBL #: T970306.05

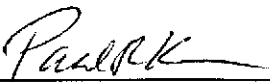
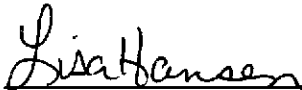
Final Water Quality and Fish Counts

Concentration (mg/L)	Rep	Day 0					Day 1					Day 2					Day 3					Day 4					Survival (%)
		Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	
Control	1	20.6	8.7	8.02	93	10	21.5	8.5	8.03	95	10	21.1	8.3	7.83	96	10	21.2	8.0	7.99	97	10	21.6	8.6	7.98	99	10	100
	2	20.3	8.9	8.11	94	10	20.9	8.7	8.06	95	10	20.7	8.2	7.84	96	10	21.2	8.3	7.95	97	10	21.2	8.7	7.95	98	10	100
250	1	20.1	8.8	8.10	96	10	20.7	8.8	8.03	98	10	20.3	8.3	7.85	99	10	20.3	8.5	7.96	100	10	20.9	9.3	8.04	101	10	100
	2	20.3	8.8	8.10	96	10	20.9	8.9	8.11	98	10	20.3	8.4	7.90	99	10	20.6	8.5	7.99	100	10	21.0	9.2	8.04	101	10	100
750	1	20.3	8.8	8.09	99	10	20.8	9.0	8.2	104	10	20.5	8.1	7.94	105	10	20.8	8.4	7.88	104	10	21.0	8.0	7.90	107	10	100
	2	20.1	8.8	8.15	99	10	20.9	9.0	8.23	103	10	20.6	8.1	7.98	104	10	20.9	8.2	8.02	105	10	21.1	8.9	8.01	105	10	100

Conc (mg/L)	Day 0		Day 4	
	Alkalinity (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
Control	44	44	36	36
750	44	46	36	32

**RESULTS:**

Since survival in the 750 mg/L concentration of the WP1-1 sample was >60%, this sample would qualify for a nonhazardous designation on the basis of aquatic toxicity.

 Paul R. Krause, Ph.D. Project Manager	 Lisa Hansen Laboratory Manager
---	--

Reference: Polisini and Miller. 1988. Static acute bioassay procedures for hazardous waste samples. California Department of Fish and Game, Water Pollution Control Laboratory.

PROJECT NAME #S0604-01.01  
 PROJECT MGR. P. Lacey  
 COMPANY The Gaultlett Group, LLC  
 ADDRESS 111. W. Evelyn Suite 305  
Sunnyvale CA 94086 PHONE 328-0814  
 FAX 774-6757  
 SAMPLER'S SIGNATURE [Signature]

**ANALYSIS REQUESTED**

PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	REMARKS
Base/New/Acid Organics GC/MS 625/8270													
Volatiles Organics GC/MS 624/8240/8260													
Halogenated or Aromatic Volatiles 601/8010 7													
TPH as Gas (BTEX)													
DHS LUFT (BTEX)													
TPH as Diesel/HBHC													
TRPH (418.1) Oil and Grease Method													
Metals (total or dissolved) List Below													
pH, Cond. Cl. SO <sub>4</sub> . F. TDS, TSS													
Alk. NO <sub>3</sub> , NO <sub>2</sub> (circle), TDS, TSS													
NH <sub>3</sub> -N, COD, Total-P, TKN													
NO <sub>3</sub> / NO <sub>2</sub> (circle)													
Total Organic Carbon TOC													
Total Phenols Method Cyanide													

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS
WP2-3	3/4/97	1515		9011	2
WP1-1	3/4/97	1620		Soil	2

96 Hour Fish Toxicity Screen  
S0604-01.01

RELINQUISHED BY:  
[Signature]  
[Printed Name]  
[Firm]  
3/4/97 1730  
 Date/Time

RECEIVED BY:  
[Signature]  
[Printed Name]  
[Firm]  
3/4/97 1730  
 Date/Time

RELINQUISHED BY:  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

RECEIVED BY:  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

TURNAROUND REQUIREMENTS  
 1 day  2 day  3 day   
 5 day  Other   
 Standard (10 working days)   
 Provide Preliminary Results   
 Date Due 3/6/97 pm.

REPORT REQUIREMENTS  
 I. Routine Report  
 II. Report (includes DUP MAS MSD, as required, may be charged as samples)  
 III. Data Validation Report (includes All Raw Data)  
 RWQCB (MDLs/PQLs/TRACE#)

RELINQUISHED BY:  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

RECEIVED BY:  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

SPECIAL INSTRUCTIONS/COMMENTS: Please Voice Mail results ASAP.  
 Circle which metals are to be analyzed:  
 Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn, Mo Ni K Ag Na Sn V Zn  
 As Pb Se Ti Hg  
TOTAL Title 22 Metals  
Fish Toxicity Title 22 screen (Std TAT)  
Please hold remaining sample for volume for possible further analysis.





March 10, 1997

Service Request No.: S9700375

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: S0604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 6, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 7, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", written over a white background.

Steven L. Green  
Project Chemist

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLIC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Gauntlett Group, LLC.  
**Project:** #S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** L9700811  
**Date Collected:** 3/5/97  
**Date Received:** 3/6/97  
**Date Extracted:** 3/7/97  
**Date Analyzed:** 3/7/97

Total Recoverable Petroleum Hydrocarbons (TRPH)  
EPA Method 418.1  
Units: mg/Kg (ppm)

<b>Sample Name</b>	<b>Lab Code</b>	<b>MRL</b>	<b>Result</b>
WP1-2	L9700811-001	10	1500
WP1-3	L9700811-002	10	1400
Method Blank	L970307-MB	10	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Gauntlett Group, LLC  
Project: S0604.01.01  
Sample Matrix: Soil

Service Request: S9700375  
Date Collected: 3/5/97  
Date Received: 3/6/97  
Date Extracted: 3/6/97

Aromatic Volatile Organic Compounds  
EPA Method 8020  
Units: mg/kg (ppm)

Sample Name:	WP1-2	WP1-3	Method Blank
Lab Code:	S9700375-001	S9700375-002	S970306-SB1
Date Analyzed:	3/6/97	3/6/97	3/6/97

Analyte	MRL			
Benzene	0.5	ND	ND	ND
Toluene	1	ND	ND	ND
Ethylbenzene	1	ND	ND	ND
Total Xylenes	1	ND	ND	ND

**COLUMBIA ANALYTICAL SERVICES, INC.**

**Analytical Report**

**Client:** Gautlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700375  
**Date Collected:** 3/5/97  
**Date Received:** 3/6/97  
**Date Digested:** 3/7/97

**Metals**  
**Units: mg/Kg (ppm)**

<b>Sample Name:</b>	<b>WP1-2</b>	<b>WP1-3</b>	<b>Method Blank</b>
<b>Lab Code:</b>	S9700375-001	S9700375-002	S9700375-WMB
<b>Date Analyzed:</b>	3/7-8/97	3/7-8/97	3/7-8/97

<b>Analyte</b>	<b>EPA Method</b>	<b>MRL</b>			
Antimony	3050BM/6010A	5	ND	ND	ND
Arsenic	3050BM/6010A	5	17	14	ND
Barium	3050BM/6010A	1	250	220	ND
Beryllium	3050BM/6010A	0.5	ND	ND	ND
Cadmium	3050BM/6010A	0.5	1.8	1.7	ND
Chromium	3050BM/6010A	1	110	100	ND
Cobalt	3050BM/6010A	1	30	25	ND
Copper	3050BM/6010A	1	3100	2700	ND
Lead	3050BM/6010A	5	350	370	ND
Mercury	7470	0.4	5.6	4.3	ND
Molybdenum	3050BM/6010A	1	120	89	ND
Nickel	3050BM/6010A	2	54	58	ND
Selenium	3050BM/6010A	5	16	25	ND
Silver	3050BM/6010A	2	ND	ND	ND
Thallium	3050BM/6010A	5	ND	ND	ND
Vanadium	3050BM/6010A	1	52	47	ND
Zinc	3050BM/6010A	2	1100	970	ND

**COLUMBIA ANALYTICAL SERVICES, INC.**

**QA/QC Report**

**Client:** Gauntlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700375  
**Date Collected:** 3/5/97  
**Date Received:** 3/6/97  
**Date Extracted:** NA  
**Date Analyzed:** NA

**Surrogate Recovery Summary**  
**Aromatic Volatile Organic Compounds**  
**EPA Method 8020**

<b>Sample Name</b>	<b>Lab Code</b>	<b>Percent Recovery</b> <b>1,4-Difluorobenzene</b>
WP1-2	S9700375-001	96
WP1-3	S9700375-002	95
Method Blank	S970306-SB1	101

**CAS Acceptance Limits:**

**80-120**



2059 Junction Avenue • San Jose, CA 95131 • (408) 428-1280 • FAX (408) 437-9356

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SERVICE REQUEST NO. 59700375 P.O.# \_\_\_\_\_

PAGE 1 OF 1

PROJECT NAME: <u>#5060401.01</u>					NUMBER OF CONTAINERS	ANALYSIS REQUESTED												REMARKS			
PROJECT MGR. <u>P. Lacey</u>						PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>		H <sub>2</sub> SO <sub>4</sub>		
COMPANY/ADDRESS: <u>The Gauntlett Group, LLC</u> <u>111. W. Evelyn Suite 305</u> <u>Sunnyvale CA 94086</u> PHONE <u>328-0814</u> FAX <u>774-6757</u>						Base/Neur/Acid Organics GC/MS 625/8270	Volatile Organics GC/MS 624/8240/8260	Halogenerated or Aromatic Volatiles 601/8010	TPH as Gas (RIEX) DHS LUFT (802)	TPH as Diesel/HBHC DHS LUFT (802)	TRPH (418.1)	Oil and Grease Method	Metals (total or dissolved) List Below	pH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS Alk (circle)	NH <sub>3</sub> -N, COD, Total-P, TKN, NO <sub>3</sub> / NO <sub>2</sub> (circle)	Total Organic Carbon TOC	Total Phenols				
SAMPLERS SIGNATURE: <u>J Buter</u>																					
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX																	
WP1-2	3/5/97	1710	1	Soil	2			X	X	X						X					
WP1-3	3/5/97	1715	2	Soil	2			X	X	X						X					

<b>RELINQUISHED BY:</b> Signature: <u>J Buter</u> Printed Name: <u>W. Butera</u> Firm: <u>JEG</u> Date/Time: <u>3/6/97 0740</u>	<b>RECEIVED BY:</b> Signature: <u>[Signature]</u> Printed Name: <u>RAY BATTON</u> Firm: <u>CAS</u> Date/Time: <u>3/6/97 740</u>	<b>RELINQUISHED BY:</b> Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____	<b>RECEIVED BY:</b> Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____	<b>TURNAROUND REQUIREMENTS</b> 24 hr <input checked="" type="checkbox"/> 48 hr. <input type="checkbox"/> 3-5 day <input type="checkbox"/> Standard (10-15 working days) <input type="checkbox"/> Provide Verbal Preliminary Results <input type="checkbox"/> Provide FAX preliminary Results <input type="checkbox"/> Requested Report Date: <u>3/9/97</u> <u>10</u>	<b>REPORT REQUIREMENTS</b> <input checked="" type="checkbox"/> I. Routine Report <input type="checkbox"/> II. Report (includes DUP, MAS, MSD, as required, may be charged as samples) <input type="checkbox"/> III. Data Validation Report (includes All Raw Data) RWQCB (MDLs/PQLs/TRACE#)
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<b>RELINQUISHED BY:</b> Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____	<b>RECEIVED BY:</b> Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____	<b>SPECIAL INSTRUCTIONS/COMMENTS:</b> Circle which metals are to be analyzed: Metals: Al Sb Ba Be B Cd Ca Cr Cu Co Fe Mg Mn Mo Ni K Ag Na Sn V Zn As Pb Se Ti Hg <u>Please hold sample volume for possible further analysis</u> <u>96 Hour Fish Toxicity Screen (TITLE 22) std TAT</u> <sup>See X</sup> <u>SR#59700376</u> <u>R9, R20 S29</u>
---	---	---



March 14, 1997

Service Request No.: S9700376

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: S0604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 6, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", written in a cursive style.

Steven L. Green  
Project Chemist



**COLUMBIA ANALYTICAL SERVICES, Inc.**

**Acronyms**

<b>A2LA</b>	American Association for Laboratory Accreditation
<b>ASTM</b>	American Society for Testing and Materials
<b>BOD</b>	Biochemical Oxygen Demand
<b>BTEX</b>	Benzene, Toluene, Ethylbenzene, Xylenes
<b>CAM</b>	California Assessment Metals
<b>CARB</b>	California Air Resources Board
<b>CAS Number</b>	Chemical Abstract Service registry Number
<b>CFC</b>	Chlorofluorocarbon
<b>CFU</b>	Colony-Forming Unit
<b>COD</b>	Chemical Oxygen Demand
<b>DEC</b>	Department of Environmental Conservation
<b>DEQ</b>	Department of Environmental Quality
<b>DHS</b>	Department of Health Services
<b>DLCS</b>	Duplicate Laboratory Control Sample
<b>DMS</b>	Duplicate Matrix Spike
<b>DOE</b>	Department of Ecology
<b>DOH</b>	Department of Health
<b>EPA</b>	U. S. Environmental Protection Agency
<b>ELAP</b>	Environmental Laboratory Accreditation Program
<b>GC</b>	Gas Chromatography
<b>GC/MS</b>	Gas Chromatography/Mass Spectrometry
<b>IC</b>	Ion Chromatography
<b>ICB</b>	Initial Calibration Blank sample
<b>ICP</b>	Inductively Coupled Plasma atomic emission spectrometry
<b>ICV</b>	Initial Calibration Verification sample
<b>J</b>	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
<b>LCS</b>	Laboratory Control Sample
<b>LUFT</b>	Leaking Underground Fuel Tank
<b>M</b>	Modified
<b>MBAS</b>	Methylene Blue Active Substances
<b>MCL</b>	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
<b>MDL</b>	Method Detection Limit
<b>MPN</b>	Most Probable Number
<b>MRL</b>	Method Reporting Limit
<b>MS</b>	Matrix Spike
<b>MTBE</b>	Methyl tert-Butyl Ether
<b>NA</b>	Not Applicable
<b>NAN</b>	Not Analyzed
<b>NC</b>	Not Calculated
<b>NCASI</b>	National Council of the paper industry for Air and Stream Improvement
<b>ND</b>	Not Detected at or above the method reporting/detection limit (MRL/MDL)
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppb</b>	Parts Per Billion
<b>ppm</b>	Parts Per Million
<b>PQL</b>	Practical Quantitation Limit
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RPD</b>	Relative Percent Difference
<b>SIM</b>	Selected Ion Monitoring
<b>SM</b>	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
<b>STLC</b>	Solubility Threshold Limit Concentration
<b>SW</b>	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TDS</b>	Total Dissolved Solids
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>tr</b>	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TSS</b>	Total Suspended Solids
<b>TTLC</b>	Total Threshold Limit Concentration
<b>VOA</b>	Volatile Organic Analyte(s)

**SUMMARY REPORT FOR AN ACUTE BIOASSAY PERFORMED UNDER TITLE 22 REQUIREMENTS**  
**Test Dates: 3/7 - 3/11/97**

Report Issued by:  
 MEC Analytical Systems, Inc.  
 Bioassay Division  
 98 Main St #428  
 Tiburon, CA 94920

Report Issued to:  
 Columbia Analytical Services  
 2059 Junction Ave.  
 San Jose, CA 95131

Page 1 of 1

REPORT DATE: March 12, 1997  
 PROJECT #: 0652-004

**SAMPLE AND BIOASSAY INFORMATION**

**TEST INFORMATION**

Control Water: Soft water (Nanopure + Evian™ spring water)  
 Exposure volume: 10 L  
 Test chambers: 5 gal aquaria  
 Concentrations (mg/L): 250, 750  
 # Fish/chamber: 10

**SPECIES INFORMATION**

Species: *Pimephales promelas*  
 Common name: Fathead Minnows  
 Source: Thomas Fish Co. Anderson, CA  
 Age of Fish: Juvenile, Acclimated for ≥ 10 days  
 Mean weight (g): 0.26  
 Mean length (mm): 28.0

**SAMPLE INFORMATION**

Sample Type: Solid  
 Client Sample ID: WP1-2  
 Sample Preparation: Sample was shaken on shaker table for ≥ 6 hours according to CDFG guidelines.  
 Sample Date: March 5, 1997  
 Sample Received: March 7, 1997  
 MECBL #: T970307.01

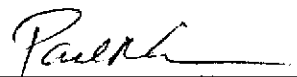

**Final Water Quality and Fish Counts**

Concentration (mg/L)	Rep	Day 0					Day 1					Day 2					Day 3					Day 4					Survival (%)
		Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	
Control	1	20.6	8.7	8.02	93	10	21.5	8.5	8.03	95	10	21.1	8.3	7.83	96	10	21.2	8.0	7.99	97	10	21.6	8.6	7.98	99	10	100
	2	20.3	8.9	8.11	94	10	20.9	8.7	8.06	95	10	20.7	8.2	7.84	96	10	21.2	8.3	7.95	97	10	21.2	8.7	7.95	98	10	100
250	1	21.1	8.8	7.92	99	10	21.1	8.8	8.12	102	9	21.0	8.2	7.94	103	9	21.1	8.3	8.03	104	9	21.3	9.1	8.01	104	9	90
	2	21.0	8.1	8.14	99	10	21.2	8.7	8.16	101	10	21.0	8.4	7.94	102	10	21.0	8.3	8.08	104	10	21.3	9.1	8.07	104	10	100
750	1	21.0	8.9	8.15	104	10	21.4	8.9	8.21	110	9	20.1	8.3	7.98	112	9	20.9	8.4	8.10	115	9	20.9	9.6	8.07	118	9	90
	2	21.2	9.0	8.22	103	10	21.3	8.7	8.20	110	10	20.4	8.4	8.02	113	10	20.9	8.5	8.10	115	8	20.6	9.3	8.07	119	8	80

Conc (mg/L)	Day 0		Day 4	
	Alkalinity (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
Control	44	44	36	36
750	44	44	36	48

**RESULTS:**

Since survival in the 750 mg/L concentration of the WP1-2 sample was >60%, this sample would qualify for a nonhazardous designation on the basis of aquatic toxicity.

 Paul R. Krause, Ph.D. Project Manager	 Lisa Hansen Laboratory Manager
---	--

Reference: Polisini and Miller. 1988. Static acute bioassay procedures for hazardous waste samples. California Department of Fish and Game, Water Pollution Control Laboratory.

**SUMMARY REPORT FOR AN ACUTE BIOASSAY PERFORMED UNDER TITLE 22 REQUIREMENTS**  
 Test Dates: 3/7 - 3/11/97

Report Issued by:  
 MEC Analytical Systems, Inc.  
 Bioassay Division  
 98 Main St #428  
 Tiburon, CA 94920

Report Issued to:  
 Columbia Analytical Services  
 2059 Junction Ave.  
 San Jose, CA 95131

Page 1 of 1

REPORT DATE: March 12, 1997  
 PROJECT #: 0652-004

**SAMPLE AND BIOASSAY INFORMATION**

**TEST INFORMATION**

Control Water: Soft water (Nanopure + Evian™ spring water)  
 Exposure volume: 10 L  
 Test chambers: 5 gal aquaria  
 Concentrations (mg/L): 250, 750  
 # Fish/chamber: 10

**SPECIES INFORMATION**

Species: *Pimephales promelas*  
 Common name: Fathead Minnows  
 Source: Thomas Fish Co. Anderson, CA  
 Age of Fish: Juvenile, Acclimated for ≥ 10 days  
 Mean weight (g): 0.26  
 Mean length (mm): 28.0

**SAMPLE INFORMATION**

Sample Type: Solid  
 Client Sample ID: WP1-3  
 Sample Preparation: Sample was shaken on shaker table for ≥ 6 hours according to CDFG guidelines.  
 Sample Date: March 5, 1997  
 Sample Received: March 7, 1997  
 MECBL #: T970307.02


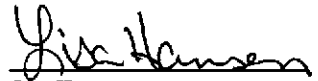
**Final Water Quality and Fish Counts**

Concentration (mg/L)	Rep	Day 0					Day 1					Day 2					Day 3					Day 4					Survival (%)
		Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	
Control	1	20.6	8.7	8.02	93	10	21.5	8.5	8.03	95	10	21.1	8.3	7.83	96	10	21.2	8.0	7.99	97	10	21.6	8.6	7.98	99	10	100
	2	20.3	8.9	8.11	94	10	20.9	8.7	8.06	95	10	20.7	8.2	7.84	96	10	21.2	8.3	7.95	97	10	21.2	8.7	7.95	98	10	100
250	1	21.0	8.8	8.20	98	10	21.3	8.9	8.17	101	10	20.5	8.2	7.90	101	10	20.9	8.0	8.04	103	9	20.8	9.2	8.05	104	9	90
	2	21.0	8.9	8.20	98	10	21.4	8.1	8.04	101	10	20.7	8.2	7.86	102	10	20.9	8.3	7.95	104	10	21.3	8.4	8.00	104	10	100
750	1	21.0	8.9	8.24	103	10	21.4	8.7	8.11	107	10	21.0	8.1	7.89	109	10	21.1	8.1	8.01	111	10	21.5	8.7	8.01	114	10	100
	2	20.9	8.8	8.24	103	10	21.6	8.7	7.98	108	10	21.1	8.2	7.91	109	10	21.2	8.1	8.04	112	10	21.6	8.9	8.06	116	10	100

Conc (mg/L)	Day 0		Day 4	
	Alkalinity (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
Control	44	44	36	36
750	42	46	40	46

**RESULTS:**

Since survival in the 750 mg/L concentration of the WP1-3 sample was >60%, this sample would qualify for a nonhazardous designation on the basis of aquatic toxicity.

 Paul R. Krause, Ph.D. Project Manager	 Lisa Hansen Laboratory Manager
---	--

Reference: Polisini and Miller. 1988. Static acute bioassay procedures for hazardous waste samples. California Department of Fish and Game, Water Pollution Control Laboratory.

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SERVICE REQUEST NO. 59700375 P.O.# 59700376 PAGE 1 OF 1

PROJECT NAME #50604-01.01  
 PROJECT MGR. P. Lacey  
 COMPANY/ADDRESS The Gauntlett Group, LLC  
111. W. Evelyn Suite 305  
Sunnyvale CA 94086 PHONE 328-0814  
 FAX 774-6757  
 SAMPLERS SIGNATURE J Butcher

NUMBER OF CONTAINERS	ANALYSIS REQUESTED														REMARKS		
	PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>				
	Base/Neutral/Acid Organics GC/MS 625/6270	Volatiles Organics GC/MS 624/8240/8260	Halogenated or Aromatic Volatiles 601/8010	TPH as Diesel/HBHC	TPH as Diesel/HBHC	TPH as Diesel/HBHC	Oil and Grease Method	Asbestos (Asbestos dissolved)	List Below	pH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS	NH <sub>3</sub> -N, COD, Total-P, TKN, NO <sub>3</sub> / NO <sub>2</sub> (circle)	Total Organic Carbon	Total Phenols	96 Hour Fish Toxicity Screen			
<u>1</u>	<u>WPI-2</u>	<u>3/5/97</u>	<u>1710</u>	<u>1</u>	<u>Soil</u>												
<u>1</u>	<u>WPI-3</u>	<u>3/5/97</u>	<u>1715</u>	<u>2</u>	<u>Soil</u>												

RELINQUISHED BY:  
 Signature J Butcher  
 Printed Name W. Butcher  
 Firm TGG  
 Date/Time 3/6/97 0740

RECEIVED BY:  
 Signature Ray Batton  
 Printed Name RAY BATTON  
 Firm CAS  
 Date/Time 3/6/97 240

RELINQUISHED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

RECEIVED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

TURNAROUND REQUIREMENTS  
 24 hr  3-5 day  
 Standard (10-15 working days)  
 Provide Verbal Preliminary Results  
 Provide FAX preliminary Results  
 Requested Report Date 3/7/97

REPORT REQUIREMENTS  
 I. Routine Report  
 II. Report (includes DUP.MAS. MSD, as required, may be charged as samples)  
 III. Data Validation Report (includes All Raw Data)  
 RWQCB  
 (MDLs/PQLs/TRACE#)

RELINQUISHED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

RECEIVED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

SPECIAL INSTRUCTIONS/COMMENTS: Please VLM results to P. Lacey ASAP  
 Circle which metals are to be analyzed:  
 Metals: Al Sb Ba Be B Cd Ca Cr Cu Co Fe Mg Mn Mo Ni K Ag Na Sn V Zn  
As Pb Se Ti Hg  
Please hold sample volume for possible further analysis  
96 Hour Fish Toxicity Screen (TITLE 22) STD TAT 3 59700376  
 R20 S29



March 11, 1997

Service Request No.: S9700386

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

**RE: S0604.01.01**

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on February 7, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 8, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", written in a cursive style.

Steven L. Green  
Project Chemist

**COLUMBIA ANALYTICAL SERVICES, Inc.**

**Acronyms**

<b>A2LA</b>	American Association for Laboratory Accreditation
<b>ASTM</b>	American Society for Testing and Materials
<b>BOD</b>	Biochemical Oxygen Demand
<b>BTEX</b>	Benzene, Toluene, Ethylbenzene, Xylenes
<b>CAM</b>	California Assessment Metals
<b>CARB</b>	California Air Resources Board
<b>CAS Number</b>	Chemical Abstract Service registry Number
<b>CFC</b>	Chlorofluorocarbon
<b>CFU</b>	Colony-Forming Unit
<b>COD</b>	Chemical Oxygen Demand
<b>DEC</b>	Department of Environmental Conservation
<b>DEQ</b>	Department of Environmental Quality
<b>DHS</b>	Department of Health Services
<b>DLCS</b>	Duplicate Laboratory Control Sample
<b>DMS</b>	Duplicate Matrix Spike
<b>DOE</b>	Department of Ecology
<b>DOH</b>	Department of Health
<b>EPA</b>	U. S. Environmental Protection Agency
<b>ELAP</b>	Environmental Laboratory Accreditation Program
<b>GC</b>	Gas Chromatography
<b>GC/MS</b>	Gas Chromatography/Mass Spectrometry
<b>IC</b>	Ion Chromatography
<b>ICB</b>	Initial Calibration Blank sample
<b>ICP</b>	Inductively Coupled Plasma atomic emission spectrometry
<b>ICV</b>	Initial Calibration Verification sample
<b>J</b>	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
<b>LCS</b>	Laboratory Control Sample
<b>LUFT</b>	Leaking Underground Fuel Tank
<b>M</b>	Modified
<b>MBAS</b>	Methylene Blue Active Substances
<b>MCL</b>	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
<b>MDL</b>	Method Detection Limit
<b>MPN</b>	Most Probable Number
<b>MRL</b>	Method Reporting Limit
<b>MS</b>	Matrix Spike
<b>MTBE</b>	Methyl tert-Butyl Ether
<b>NA</b>	Not Applicable
<b>NAN</b>	Not Analyzed
<b>NC</b>	Not Calculated
<b>NCASI</b>	National Council of the paper industry for Air and Stream Improvement
<b>ND</b>	Not Detected at or above the method reporting/detection limit (MRL/MDL)
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppb</b>	Parts Per Billion
<b>ppm</b>	Parts Per Million
<b>PQL</b>	Practical Quantitation Limit
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RPD</b>	Relative Percent Difference
<b>SIM</b>	Selected Ion Monitoring
<b>SM</b>	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
<b>STLC</b>	Solubility Threshold Limit Concentration
<b>SW</b>	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TDS</b>	Total Dissolved Solids
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>tr</b>	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TSS</b>	Total Suspended Solids
<b>TTLC</b>	Total Threshold Limit Concentration
<b>VOA</b>	Volatile Organic Analyte(s)

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Gauntlett Group, LLC.  
**Project:** #S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** L9700829  
**Date Collected:** 3/6/97  
**Date Received:** 3/7/97  
**Date Extracted:** 3/11/97  
**Date Analyzed:** 3/11/97

Total Recoverable Petroleum Hydrocarbons (TRPH)  
EPA Method 418.1  
Units: mg/Kg (ppm)

<b>Sample Name</b>	<b>Lab Code</b>	<b>MRL</b>	<b>Result</b>
WP1-4	L9700829-001	10	1100
WP1-5	L9700829-002	10	620
WP1-6	L9700829-003	10	1600
Method Blank	L970311-MB	10	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Gauntlett Group, LLC  
Project: S0604.01.01  
Sample Matrix: Soil

Service Request: S9700386  
Date Collected: 3/6/97  
Date Received: 3/7/97  
Date Extracted: 3/7/97  
Date Analyzed: 3/7/97

BTEX  
EPA Method 8020  
Units: mg/Kg (ppm)

Analyte:	Benzene	Toluene	Ethylbenzene	Xylenes, Total
Method Reporting Limit:	0.5	1	1	1

Sample Name	Lab Code				
WP1-4	S9700386-001	ND	ND	ND	ND
WP1-5	S9700386-002	ND	ND	ND	ND
WP1-6	S9700386-003	ND	ND	ND	ND
Method Blank	S970307-SB1	ND	ND	ND	ND



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Guantlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700386  
**Date Collected:** 3/6/97  
**Date Received:** 3/7/97  
**Date Digested:** 3/7/97

Metals  
 Units: mg/Kg (ppm)

Sample Name:	<b>WP1-4</b>	<b>WP1-5</b>	<b>WP1-6</b>
Lab Code:	S9700386-001	S9700386-002	S9700386-003
Date Analyzed:	3/7/97	3/7/97	3/7/97

Analyte	EPA				
	Method	MRL			
Antimony	3050BM/6010A	5	ND	ND	ND
Arsenic	3050BM/6010A	5	ND	ND	35
Barium	3050BM/6010A	1	150	150	150
Beryllium	3050BM/6010A	0.5	ND	ND	ND
Cadmium	3050BM/6010A	0.5	1.0	1.0	1.8
Chromium	3050BM/6010A	1	71	73	71
Cobalt	3050BM/6010A	1	20	20	19
Copper	3050BM/6010A	1	1900	1900	2000
Lead	3050BM/6010A	5	290	170	270
Mercury	7470	0.4	1.8	ND	0.6
Molybdenum	3050BM/6010A	1	34	39	50
Nickel	3050BM/6010A	2	82	59	63
Selenium	3050BM/6010A	5	15	16	12
Silver	3050BM/6010A	2	ND	ND	ND
Thallium	3050BM/6010A	5	ND	ND	ND
Vanadium	3050BM/6010A	1	42	46	37
Zinc	3050BM/6010A	2	720	830	1000

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Guantlett Group, LLC  
Project: S0604.01.01  
Sample Matrix: Soil

Service Request: S9700386  
Date Collected: 3/6/97  
Date Received: 3/7/97  
Date Digested: 3/7/97

Metals  
Units: mg/Kg (ppm)

Sample Name: Method Blank  
Lab Code: S9700386-SMB  
Date Analyzed: 3/7/97

Analyte	EPA Method	MRL	
Antimony	3050BM/6010A	5	ND
Arsenic	3050BM/6010A	5	ND
Barium	3050BM/6010A	1	ND
Beryllium	3050BM/6010A	0.5	ND
Cadmium	3050BM/6010A	0.5	ND
Chromium	3050BM/6010A	1	ND
Cobalt	3050BM/6010A	1	ND
Copper	3050BM/6010A	1	ND
Lead	3050BM/6010A	5	ND
Mercury	7470	0.4	ND
Molybdenum	3050BM/6010A	1	ND
Nickel	3050BM/6010A	2	ND
Selenium	3050BM/6010A	5	ND
Silver	3050BM/6010A	2	ND
Thallium	3050BM/6010A	5	ND
Vanadium	3050BM/6010A	1	ND
Zinc	3050BM/6010A	2	ND

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

**Client:** Gauntlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700386  
**Date Collected:** 3/6/97  
**Date Received:** 3/7/97  
**Date Extracted:** 3/7/97  
**Date Analyzed:** NA

Surrogate Recovery Summary  
BTEX  
EPA Method 8020

Sample Name	Lab Code	Percent Recovery
		1,4-Bromofluorobenzene
WP1-4	S9700386-001	98
WP1-5	S9700386-002	97
WP1-6	S9700386-003	94
Method Blank	S970307-SB1	99

CAS Acceptance Limits: 51-137

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SERVICE REQUEST NO. 59700386/387 P.O.# MCASSA4

PAGE 1 OF 1

PROJECT NAME: <u># 50604-01-01</u>					NUMBER OF CONTAINERS	ANALYSIS REQUESTED												REMARKS								
PROJECT MGR: <u>P. Lacey</u>						PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>		NaOH							
COMPANY: <u>The Gaultlett Group, LLC</u>						Base/New/Acid Organics GC/MS 625/8270																				
ADDRESS: <u>111 W. Evelyn Suite 305 Sunnyvale CA 94086</u> PHONE: <u>328-0814</u> FAX: <u>774-6757</u>						Volatile Organics GC/MS 624/8240/8260																				
SAMPLER'S SIGNATURE: <u>[Signature]</u>					Halogenated or Aromatic Volatiles 601/8010.7																					
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX		TPH as Gas (BTEX) DHS LUFT (8020A)																				
WP1-4	3/6/97	1755	1	Soil	2		X			X	X															
WP1-5	3/6/97	1800	2	Soil	2		X			X	X															
WP1-6	3/6/97	1805	3	Soil	2		X			X	X															

<b>RELINQUISHED BY:</b> Signature: <u>[Signature]</u> Printed Name: <u>J. Butera</u> Firm: <u>Gaultlett Group</u> Date/Time: <u>3/7/96 10:10</u>		<b>RECEIVED BY:</b> Signature: <u>[Signature]</u> Printed Name: <u>Joanne Brown</u> Firm: <u>CAS</u> Date/Time: <u>3-7-96 10:10</u>		<b>RELINQUISHED BY:</b> Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____		<b>RECEIVED BY:</b> Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____		<b>TURNAROUND REQUIREMENTS</b> ___ 1 day <input checked="" type="checkbox"/> 2 day ___ 3 day ___ 5 day ___ Other ___ Standard (10 working days) ___ Provide Preliminary Results Date Due: _____		<b>REPORT REQUIREMENTS</b> <input checked="" type="checkbox"/> I. Routine Report ___ II. Report (includes DUP, MAS, MSD, as required, may be charged as samples) ___ III. Data Validation Report (includes All Raw Data) ___ RWCCB (MDLs/PQLs/TRACE#)	
--	--	---	--	---	--	---	--	--	--	---	--

<b>RELINQUISHED BY:</b> Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____		<b>RECEIVED BY:</b> Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____		<b>SPECIAL INSTRUCTIONS/COMMENTS:</b> Circle which metals are to be analyzed: <u>Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn</u> <u>As Pb Se Ti Hg</u> Fish toxicity std TAT - Hold remaining samples for possible further analysis.									
---	--	---	--	--	--	--	--	--	--	--	--	--	--



March 18, 1997

Service Request No.: S9700387

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

**RE: S0604.01.01**

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 7, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. Green". The signature is written in a cursive, flowing style with a long, sweeping tail that extends upwards and to the right.

Steven L. Green  
Project Chemist

**COLUMBIA ANALYTICAL SERVICES, Inc.**

**Acronyms**

<b>A2LA</b>	American Association for Laboratory Accreditation
<b>ASTM</b>	American Society for Testing and Materials
<b>BOD</b>	Biochemical Oxygen Demand
<b>BTEX</b>	Benzene, Toluene, Ethylbenzene, Xylenes
<b>CAM</b>	California Assessment Metals
<b>CARB</b>	California Air Resources Board
<b>CAS Number</b>	Chemical Abstract Service registry Number
<b>CFC</b>	Chlorofluorocarbon
<b>CFU</b>	Colony-Forming Unit
<b>COD</b>	Chemical Oxygen Demand
<b>DEC</b>	Department of Environmental Conservation
<b>DEQ</b>	Department of Environmental Quality
<b>DHS</b>	Department of Health Services
<b>DLCS</b>	Duplicate Laboratory Control Sample
<b>DMS</b>	Duplicate Matrix Spike
<b>DOE</b>	Department of Ecology
<b>DOH</b>	Department of Health
<b>EPA</b>	U. S. Environmental Protection Agency
<b>ELAP</b>	Environmental Laboratory Accreditation Program
<b>GC</b>	Gas Chromatography
<b>GC/MS</b>	Gas Chromatography/Mass Spectrometry
<b>IC</b>	Ion Chromatography
<b>ICB</b>	Initial Calibration Blank sample
<b>ICP</b>	Inductively Coupled Plasma atomic emission spectrometry
<b>ICV</b>	Initial Calibration Verification sample
<b>J</b>	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
<b>LCS</b>	Laboratory Control Sample
<b>LUFT</b>	Leaking Underground Fuel Tank
<b>M</b>	Modified
<b>MBAS</b>	Methylene Blue Active Substances
<b>MCL</b>	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
<b>MDL</b>	Method Detection Limit
<b>MPN</b>	Most Probable Number
<b>MRL</b>	Method Reporting Limit
<b>MS</b>	Matrix Spike
<b>MTBE</b>	Methyl tert-Butyl Ether
<b>NA</b>	Not Applicable
<b>NAN</b>	Not Analyzed
<b>NC</b>	Not Calculated
<b>NCASI</b>	National Council of the paper industry for Air and Stream Improvement
<b>ND</b>	Not Detected at or above the method reporting/detection limit (MRL/MDL)
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppb</b>	Parts Per Billion
<b>ppm</b>	Parts Per Million
<b>PQL</b>	Practical Quantitation Limit
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RPD</b>	Relative Percent Difference
<b>SIM</b>	Selected Ion Monitoring
<b>SM</b>	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
<b>STLC</b>	Solubility Threshold Limit Concentration
<b>SW</b>	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TDS</b>	Total Dissolved Solids
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>tr</b>	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TSS</b>	Total Suspended Solids
<b>TTLC</b>	Total Threshold Limit Concentration
<b>VOA</b>	Volatile Organic Analyte(s)

**SUMMARY REPORT FOR AN ACUTE BIOASSAY PERFORMED UNDER TITLE 22 REQUIREMENTS**

Test Dates: 3/9 - 3/13/97

Report Issued by:  
MEC Analytical Systems, Inc.  
Bioassay Division  
98 Main St #428  
Tiburon, CA 94920

Report Issued to:  
Columbia Analytical Services  
2059 Junction Ave.  
San Jose, CA 95131

Page 1 of 1

REPORT DATE: March 14, 1997  
PROJECT #: 0652-004

SAMPLE AND BIOASSAY INFORMATION

TEST INFORMATION

Control Water: Soft water (Nanopure +  
Evian™ spring water)  
Exposure volume: 10 L  
Test chambers: 5 gal aquaria  
Concentrations (mg/L): 250, 750  
# Fish/chamber: 10

SPECIES INFORMATION

Species: *Pimephales promelas*  
Common name: Fathead Minnows  
Source: Thomas Fish Co.  
Anderson, CA  
Age of Fish: Juvenile, Acclimated for ≥ 10 days  
Mean weight (g): 0.243  
Mean length (mm): 27.5

SAMPLE INFORMATION

Sample Type: Solid  
Client Sample ID: WP1-4  
Sample Preparation: Sample was shaken on shaker  
table for ≥ 6 hours according to  
CDFG guidelines.  
Sample Date: March 6, 1997  
Sample Received: March 8, 1997  
MECBL #: T970308.02

Final Water Quality and Fish Counts

Concentration (mg/L)	Rep	Day 0					Day 1					Day 2					Day 3					Day 4					Survival (%)
		Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	
Control	1	20.8	8.0	7.52	93	10	21.3	8.3	7.77	95	10	21.6	8.3	7.94	97	10	21.1	8.8	7.74	99	10	20.7	7.5	8.02	100	9	90
	2	20.7	8.1	7.56	93	10	21.3	8.4	7.87	96	10	21.6	8.8	8.04	97	10	20.9	8.9	7.97	99	10	20.4	8.5	8.02	100	10	100
250	1	20.7	7.8	7.57	97	10	21.3	8.2	7.88	100	10	21.6	9.0	8.03	102	10	20.7	9.1	7.94	104	10	20.4	8.0	8.02	106	10	100
	2	20.7	7.9	7.59	97	10	21.3	8.3	7.82	100	10	21.6	8.8	7.94	102	10	20.9	9.0	7.84	104	10	20.3	7.6	7.98	106	10	100
750	1	20.6	7.9	7.66	105	10	20.9	8.3	7.85	110	10	21.8	8.4	7.90	113	10	21.2	9.1	7.93	115	10	20.7	8.0	7.95	117	10	100
	2	20.8	8.0	7.76	105	10	21.2	8.2	8.02	109	10	21.7	8.7	8.08	112	10	20.9	9.2	8.05	114	10	20.4	8.5	8.09	117	9	90

Conc (mg/L)	Day 0		Day 4	
	Alkalinity (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
Control	40	42	46	40
750	48	50	58	42

**RESULTS:**

Since survival in the 750 mg/L concentration of the WP1-4 sample was >60%, this sample would qualify for a nonhazardous designation on the basis of aquatic toxicity.

<i>Kate Donati for</i>	<i>Kathie Evans for Lisa Hansen</i>
Paul R. Krause, Ph.D. Project Manager	Lisa Hansen Laboratory Manager

Reference: Polisini and Miller. 1988. Static acute bioassay procedures for hazardous waste samples. California Department of Fish and Game, Water Pollution Control Laboratory.

**SUMMARY REPORT FOR AN ACUTE BIOASSAY PERFORMED UNDER TITLE 22 REQUIREMENTS**

Test Dates: 3/9 - 3/13/97

Report Issued by:  
MEC Analytical Systems, Inc.  
Bioassay Division  
98 Main St #428  
Tiburon, CA 94920

Report Issued to:  
Columbia Analytical Services  
2059 Junction Ave.  
San Jose, CA 95131

Page 1 of 1

REPORT DATE: March 14, 1997

PROJECT #: 0652-004

SAMPLE AND BIOASSAY INFORMATION

TEST INFORMATION

Control Water: Soft water (Nanopure + Evian™ spring water)  
Exposure volume: 10 L  
Test chambers: 5 gal aquaria  
Concentrations (mg/L): 250, 750  
# Fish/chamber: 10

SPECIES INFORMATION

Species: *Pimephales promelas*  
Common name: Fathead Minnows  
Source: Thomas Fish Co. Anderson, CA  
Age of Fish: Juvenile, Acclimated for ≥ 10 days  
Mean weight (g): 0.243  
Mean length (mm): 27.5

SAMPLE INFORMATION

Sample Type: Solid  
Client Sample ID: WP1-5  
Sample Preparation: Sample was shaken on shaker table for ≥ 6 hours according to CDFG guidelines.  
Sample Date: March 6, 1997  
Sample Received: March 8, 1997  
MECBL #: T970308.03

Final Water Quality and Fish Counts

Concentration (mg/L)	Rep	Day 0					Day 1					Day 2					Day 3					Day 4					Survival (%)
		Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	
Control	1	20.8	8.0	7.52	93	10	21.3	8.3	7.77	95	10	21.6	8.3	7.94	97	10	21.1	8.8	7.74	99	10	20.7	7.5	8.02	100	9	90
	2	20.7	8.1	7.56	93	10	21.3	8.4	7.87	96	10	21.6	8.8	8.04	97	10	20.9	8.9	7.97	99	10	20.4	8.5	8.02	100	10	100
250	1	20.6	8.1	7.67	100	10	21.0	8.4	7.99	103	10	21.6	9.4	8.02	104	10	21.0	8.9	8.08	106	10	20.5	8.3	8.10	107	10	100
	2	20.8	8.0	7.70	100	10	21.2	8.4	8.00	103	10	21.6	9.2	8.08	104	10	20.9	8.8	8.11	106	10	20.4	8.4	8.11	107	10	100
750	1	20.8	7.9	7.73	106	10	21.2	8.5	7.97	112	10	21.6	9.2	8.05	116	10	20.9	8.8	8.05	117	10	20.4	8.0	8.08	120	10	100
	2	20.9	7.9	7.86	106	10	21.2	8.4	8.04	113	10	21.6	9.1	8.08	117	10	20.9	8.9	8.10	120	10	20.4	8.3	8.08	122	10	100

Conc (mg/L)	Day 0		Day 4	
	Alkalinity (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
Control	40	42	46	40
750	42	52	56	44

**RESULTS:**

Since survival in the 750 mg/L concentration of the WP1-5 sample was >60%, this sample would qualify for a nonhazardous designation on the basis of aquatic toxicity.

*Kathie Evars for*  
Kathie Evars  
for  
Lisa Hansen  
Laboratory Manager

Paul R. Krause, Ph.D.  
Project Manager

Reference: Polisini and Miller. 1988. Static acute bioassay procedures for hazardous waste samples. California Department of Fish and Game, Water Pollution Control Laboratory.



**SUMMARY REPORT FOR AN ACUTE BIOASSAY PERFORMED UNDER TITLE 22 REQUIREMENTS**

Test Dates: 3/9 - 3/13/97

Report Issued by:  
MEC Analytical Systems, Inc.  
Bioassay Division  
98 Main St #428  
Tiburon, CA 94920

Report Issued to:  
Columbia Analytical Services  
2059 Junction Ave.  
San Jose, CA 95131

Page 1 of 1

REPORT DATE: March 14, 1997  
PROJECT #: 0652-004

**SAMPLE AND BIOASSAY INFORMATION**

**TEST INFORMATION**

Control Water: Soft water (Nanopure + Evian™ spring water)  
Exposure volume: 10 L  
Test chambers: 5 gal aquaria  
Concentrations (mg/L): 250, 750  
# Fish/chamber: 10

**SPECIES INFORMATION**

Species: *Pimephales promelas*  
Common name: Fathead Minnows  
Source: Thomas Fish Co. Anderson, CA  
Age of Fish: Juvenile, Acclimated for ≥ 10 days  
Mean weight (g): 0.243  
Mean length (mm): 27.5

**SAMPLE INFORMATION**

Sample Type: Solid  
Client Sample ID: WP1-6  
Sample Preparation: Sample was shaken on shaker table for ≥ 6 hours according to CDFG guidelines.  
Sample Date: March 6, 1997  
Sample Received: March 8, 1997  
MECBL #: T970308.04

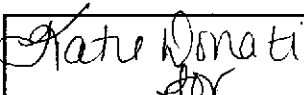
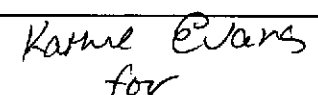
**Final Water Quality and Fish Counts**

Concentration (mg/L)	Rep	Day 0					Day 1					Day 2					Day 3					Day 4					Survival (%)
		Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	
Control	1	20.8	8.0	7.52	93	10	21.3	8.3	7.77	95	10	21.6	8.3	7.94	97	10	21.1	8.8	7.74	99	10	20.7	7.5	8.02	100	10	100
	2	20.7	8.1	7.56	93	10	21.3	8.4	7.87	96	10	21.6	8.8	8.04	97	10	20.9	8.9	7.97	99	10	20.4	8.5	8.02	100	10	100
250	1	20.9	7.8	7.76	100	10	21.0	8.4	7.90	104	10	21.5	9.3	7.96	104	10	20.9	8.7	8.01	106	10	20.4	8.0	8.09	108	10	100
	2	20.9	7.8	7.73	100	10	21.3	8.2	7.95	104	10	21.5	9.2	8.01	104	10	20.9	8.7	8.01	106	10	20.6	8.1	8.08	108	10	100
750	1	20.9	7.9	7.83	105	10	21.3	8.3	7.97	112	10	21.8	9.1	8.01	116	10	21.0	8.9	8.02	119	10	20.6	8.1	8.06	122	10	100
	2	20.8	7.8	7.85	103	10	21.4	8.1	8.00	110	10	21.9	9.1	8.06	117	10	21.2	8.9	8.06	115	10	20.8	8.3	8.07	118	10	100

Conc (mg/L)	Day 0		Day 4	
	Alkalinity (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
Control	40	42	46	40
750	48	46	56	44

**RESULTS:**

Since survival in the 750 mg/L concentration of the WP1-6 sample was >60%, this sample would qualify for a nonhazardous designation on the basis of aquatic toxicity.

 Paul R. Krause, Ph.D. Project Manager	 Lisa Hansen Laboratory Manager
---	--

Reference: Polisini and Miller. 1988. Static acute bioassay procedures for hazardous waste samples. California Department of Fish and Game, Water Pollution Control Laboratory.



CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

PROJECT NAME: #50604-01-01
PROJECT MGR: P. Lacey
COMPANY: The Gault-Hett Group, LLC
ADDRESS: 111 W. Evelyn Suite 305 Sunnyvale CA 94086
PHONE: 328-0814
FAX: 774-6757
SAMPLER'S SIGNATURE: J Butera

ANALYSIS REQUESTED

Table with columns for ANALYSIS REQUESTED (PRESERVATIVE, NP, HCl, HNO3, etc.) and NUMBER OF CONTAINERS. Includes handwritten 'X' marks and notes like '96 Hour Fish Toxicity Screen Title 22'.

Table with columns: SAMPLE I.D., DATE, TIME, LAB I.D., SAMPLE MATRIX, NUMBER OF CONTAINERS. Contains handwritten entries for samples WP1-4, WP1-5, and WP1-6.

RELINQUISHED BY: J Butera
Signature: J Butera
Printed Name: J Butera
Firm: Gault Hett Group
Date/Time: 3/7/96 10:10

RECEIVED BY: Joanne Brown
Signature: Joanne Brown
Printed Name: Joanne Brown
Firm: CAS
Date/Time: 3-7-96 10:10

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RECEIVED BY:
Signature:
Printed Name:
Firm:
Date/Time:

TURNAROUND REQUIREMENTS
1 day [X] 3 day
5 day
Other
Standard (10 working days) [X]
Provide Preliminary Results
Date Due:

REPORT REQUIREMENTS
I. Routine Report [X]
II. Report (includes DUP, MAS, MSD, as required, may be charged as samples)
III. Data Validation Report (includes All Raw Data)
RWOCB (MDLs/PQLs/TRACE#)

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RECEIVED BY:
Signature:
Printed Name:
Firm:
Date/Time:

SPECIAL INSTRUCTIONS/COMMENTS:
Circle which metals are to be analyzed:
Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn
As Pb Se Ti Hg
Fish toxicity std TAT -
Hold remaining samples for possible further Analysis.



March 12, 1997

Service Request No.: S9700400

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: S0604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 8, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 7, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S.L. Green", is written over a large, light-colored scribble or stamp.

Steven L. Green  
Project Chemist

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Gauntlett Group, LLC.  
**Project:** #S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** L9700846  
**Date Collected:** 3/7/97  
**Date Received:** 3/8/97  
**Date Extracted:** 3/11/97  
**Date Analyzed:** 3/11/97

Total Recoverable Petroleum Hydrocarbons (TRPH)  
EPA Method 418.1  
Units: mg/Kg (ppm)

<b>Sample Name</b>	<b>Lab Code</b>	<b>MRL</b>	<b>Result</b>
WP1-7	L9700846-001	10	800
WP1-8	L9700846-002	10	880
Method Blank	L970311-MB	10	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Gauntlett Group, LLC  
Project: S0604.01.01  
Sample Matrix: Soil

Service Request: S9700400  
Date Collected: 3/7/97  
Date Received: 3/8/97  
Date Extracted: 3/10/97

BTEX  
EPA Method 8020  
Units: mg/kg (ppm)

Sample Name:	WP1-7	WP1-8	Method Blank
Lab Code:	S9700400-001	S9700400-002	S970310-SB1
Date Analyzed:	3/10/97	3/10/97	3/10/97

Analyte	MRL			
Benzene	0.5	ND	ND	ND
Toluene	1	ND	ND	ND
Ethylbenzene	1	ND	ND	ND
Total Xylenes	1	ND	ND	ND

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700400  
**Date Collected:** 3/7/97  
**Date Received:** 3/8/97  
**Date Digested:** 3/11/97

Metals  
 Units: mg/Kg (ppm)

Sample Name:	<b>WP1-7</b>	<b>WP1-8</b>	<b>Method Blank</b>
Lab Code:	S9700400-001	S9700400-002	S9700400-SMB
Date Analyzed:	3/11/97	3/11/97	3/11/97

Analyte	EPA	MRL			
	Method				
Antimony	3050BM/6010A	5	ND	8	ND
Arsenic	3050BM/6010A	5	ND	18	ND
Barium	3050BM/6010A	1	100	38	ND
Beryllium	3050BM/6010A	0.5	ND	ND	ND
Cadmium	3050BM/6010A	0.5	0.7	0.9	ND
Chromium	3050BM/6010A	1	38	81	ND
Cobalt	3050BM/6010A	1	10	4	ND
Copper	3050BM/6010A	1	1000	1500	ND
Lead	3050BM/6010A	5	240	360	ND
Mercury	7470	0.4	5.7	14	ND
Molybdenum	3050BM/6010A	1	24	3	ND
Nickel	3050BM/6010A	2	38	78	ND
Selenium	3050BM/6010A	5	ND	ND	ND
Silver	3050BM/6010A	2	ND	ND	ND
Thallium	3050BM/6010A	5	ND	ND	ND
Vanadium	3050BM/6010A	1	24	17	ND
Zinc	3050BM/6010A	2	440	700	ND

**SUMMARY REPORT FOR AN ACUTE BIOASSAY PERFORMED UNDER TITLE 22 REQUIREMENTS**

Test Dates: 3/12 - 3/16/97

Report Issued by:  
MEC Analytical Systems, Inc.  
Bioassay Division  
98 Main St #428  
Tiburon, CA 94920

Report Issued to:  
Columbia Analytical Services  
2059 Junction Ave.  
San Jose, CA 95131

Page 1 of 1

REPORT DATE: March 18, 1997  
PROJECT #: 0652-004

SAMPLE AND BIOASSAY INFORMATION

TEST INFORMATION

Control Water: Soft water (Nanopure + Evian™ spring water)  
Exposure volume: 10 L  
Test chambers: 5 gal aquaria  
Concentrations (mg/L): 250, 750  
# Fish/chamber: 10

SPECIES INFORMATION

Species: *Pimephales promelas*  
Common name: Fathead Minnows  
Source: Thomas Fish Co. Anderson, CA  
Age of Fish: Juvenile, Acclimated for ≥ 10 days  
Mean weight (g): 0.20  
Mean length (mm): 26.4

SAMPLE INFORMATION

Sample Type: Solid  
Client Sample ID: WP1-7  
Sample Preparation: Sample was shaken on shaker table for ≥ 6 hours according to CDFG guidelines.  
Sample Date: March 7, 1997  
Sample Received: March 11, 1997  
MECBL #: T970311.05

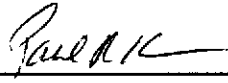
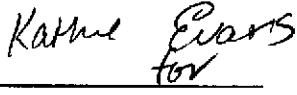
Final Water Quality and Fish Counts

Concentration (mg/L)	Rep	Day 0					Day 1					Day 2					Day 3					Day 4					Survival (%)
		Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp	D.O.	pH	Cond	Alive	Temp	D.O.	pH	Cond	Alive	Temp	D.O.	pH	Cond	Alive	Temp	D.O.	pH	Cond	Alive	
Control	1	19.5	9.2	7.61	97	10	20.2	8.0	7.92	99	10	19.9	7.8	8.25	100	10	20.9	7.9	8.34	101	10	19.8	7.6	7.53	101	10	100
	2	19.5	9.3	7.69	97	10	19.6	8.3	7.93	99	10	19.4	7.9	8.26	100	10	20.9	7.9	8.25	101	10	19.7	7.7	7.55	101	10	100
250	1	20.0	9.4	7.74	102	10	19.6	8.2	7.98	104	10	19.3	8.1	8.12	105	10	20.4	8.1	8.02	103	10	19.6	7.9	7.55	108	10	100
	2	20.0	9.4	7.78	100	10	19.1	8.3	8.00	102	10	19.0	8.2	8.19	104	10	20.1	8.4	8.14	105	10	19.5	8.0	7.67	107	10	100
750	1	20.0	9.3	7.86	105	10	20.0	8.0	8.01	107	10	19.7	8.3	8.19	109	10	20.8	8.4	8.13	110	10	19.7	8.0	7.66	112	10	100
	2	20.0	9.4	7.87	105	10	19.7	8.2	8.06	109	10	19.6	8.4	8.27	112	10	20.6	8.6	8.23	114	10	19.7	8.1	7.69	116	10	100

Conc (mg/L)	Day 0		Day 4	
	Alkalinity (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
Control	40	44	52	46
750	48	40	56	48

**RESULTS:**

Since survival in the 750 mg/L concentration of the WP1-7 sample was >60%, this sample would qualify for a nonhazardous designation on the basis of aquatic toxicity.

 Paul R. Krause, Ph.D. Project Manager	 Lisa Hansen Laboratory Manager
---	--

Reference: Polisini and Miller, 1988. Static acute bioassay procedures for hazardous waste samples. California Department of Fish and Game, Water Pollution Control Laboratory.



**SUMMARY REPORT FOR AN ACUTE BIOASSAY PERFORMED UNDER TITLE 22 REQUIREMENTS**

Test Dates: 3/12 - 3/16/97

Report Issued by:  
MEC Analytical Systems, Inc.  
Bioassay Division  
98 Main St #428  
Tiburon, CA 94920

Report Issued to:  
Columbia Analytical Services  
2059 Junction Ave.  
San Jose, CA 95131

Page 1 of 1

REPORT DATE: March 18, 1997  
PROJECT #: 0652-004

SAMPLE AND BIOASSAY INFORMATION

TEST INFORMATION

Control Water: Soft water (Nanopure + Evian™ spring water)  
Exposure volume: 10 L  
Test chambers: 5 gal aquaria  
Concentrations (mg/L): 250, 750  
# Fish/chamber: 10

SPECIES INFORMATION

Species: *Pimephales promelas*  
Common name: Fathead Minnows  
Source: Thomas Fish Co. Anderson, CA  
Age of Fish: Juvenile, Acclimated for ≥ 10 days  
Mean weight (g): 0.20  
Mean length (mm): 26.4

SAMPLE INFORMATION

Sample Type: Solid  
Client Sample ID: **WP1-8**  
Sample Preparation: Sample was shaken on shaker table for ≥ 6 hours according to CDFG guidelines.  
Sample Date: March 7, 1997  
Sample Received: March 11, 1997  
MECBL #: T970311.06

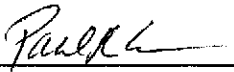
Final Water Quality and Fish Counts

Concentration (mg/L)	Rep	Day 0					Day 1					Day 2					Day 3					Day 4					Survival (%)
		Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	
Control	1	19.5	9.2	7.61	97	10	20.2	8.0	7.92	99	10	19.9	7.8	8.25	100	10	20.9	7.9	8.34	101	10	19.8	7.6	7.53	101	10	100
	2	19.5	9.3	7.69	97	10	19.6	8.3	7.93	99	10	19.4	7.9	8.26	100	10	20.9	7.9	8.25	101	10	19.7	7.7	7.55	101	10	100
250	1	20.5	9.6	7.82	95	10	20.3	8.0	7.98	97	10	19.9	8.1	8.06	98	10	21.0	8.1	7.99	100	10	19.8	7.9	7.62	101	10	100
	2	20.5	9.5	7.84	95	10	20.1	8.1	7.99	97	10	19.8	8.2	8.12	99	10	20.8	8.3	8.03	100	10	19.8	7.9	7.64	101	10	100
750	1	20.5	9.7	7.88	101	10	20.4	7.6	7.95	106	10	20.0	7.6	8.01	107	10	21.1	7.7	7.93	109	10	19.8	7.7	7.59	110	10	100
	2	20.5	9.6	7.89	101	10	20.3	7.7	7.95	106	10	19.9	7.9	8.08	107	10	21.0	8.0	8.00	109	10	19.8	7.8	7.61	111	10	100

Conc (mg/L)	Day 0		Day 4	
	Alkalinity (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
Control	40	44	52	46
750	44	52	50	46

**RESULTS:**

Since survival in the 750 mg/L concentration of the WP1-8 sample was >60%, this sample would qualify for a nonhazardous designation on the basis of aquatic toxicity.

	<i>Karne Evans for</i>
Paul R. Krause, Ph.D. Project Manager	Lisa Hansen Laboratory Manager

Reference: Polisini and Miller. 1988. Static acute bioassay procedures for hazardous waste samples. California Department of Fish and Game, Water Pollution Control Laboratory.

**59700401**

**CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM**

SERVICE REQUEST NO. ~~59700400~~

P.O.# **59700401** \* **Bio5524** PAGE **1** OF **1**

PROJECT NAME: # **SU604-01.01**  
 PROJECT MGR: **P. Lacey**  
 COMPANY/ADDRESS: **The Gauntlett Group, LLC**  
**111 West Evelyn, Suite 305**  
**Sunnyvale, CA 94086** PHONE **328-0814**  
 FAX **774-6757**  
 SAMPLERS SIGNATURE

NUMBER OF CONTAINERS	ANALYSIS REQUESTED														REMARKS
	PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>		
	<del>Base/Neu/Acid Organics GC/MS 625/8270</del>	<del>Volatiles Organics GC/MS 624/8240/8260</del>	<del>Halogenated or Aromatic Volatiles 601/8010 □ 602/8020 7</del>	<del>TPH as Gas/TEX</del>	<del>DHS LUFT 1/8020 3/8020</del>	<del>TPH as Diesel/MBHC</del>	<del>TPH 418.1</del>	<del>Oil and Grease Method</del>	<del>Metals (Total or dissolved) less than 100ppb</del>	<del>pH, Cond, Cl, SO<sub>4</sub>, F, TDS, TSS</del>	<del>NH<sub>3</sub>-N, COD, Total-P, TKN, NO<sub>3</sub>/NO<sub>2</sub> (circle)</del>	<del>Total Organic Carbon</del>	<del>Total Phenols</del>		
<b>3</b>															
<b>3</b>															

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX
<b>WP 2-7</b>	<b>3/7/97</b>	<b>1825</b>	<b>1</b>	<b>Solid</b>
<b>WP 2-8</b>	<b>3/7/97</b>	<b>1830</b>	<b>2</b>	<b>Solid</b>

RELINQUISHED BY:  
 Signature: *[Signature]*  
 Printed Name: **P. Lacey**  
 Firm: **TSG**  
 Date/Time: **3-8-97 / 1050**

RECEIVED BY:  
 Signature: *[Signature]*  
 Printed Name: **Jeanne Brown**  
 Firm: **CAS**  
 Date/Time: **3-8-97 1050**

RELINQUISHED BY:  
 Signature: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_  
 Firm: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

RECEIVED BY:  
 Signature: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_  
 Firm: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

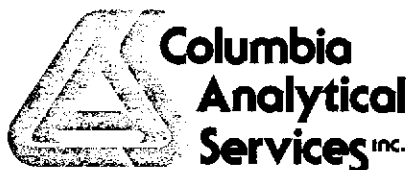
TURNAROUND REQUIREMENTS  
 24 hr ~~\_\_\_\_\_~~ 3-5 day  
 Standard (10-15 working days)  
 Provide Verbal Preliminary Results  
 Provide FAX preliminary Results  
 Requested Report Date: **3/11/97**

REPORT REQUIREMENTS  
 I. Routine Report  
 \_\_\_ II. Report (includes DUP.MAS. MSD, as required, may be charged as samples)  
 \_\_\_ III. Data Validation Report (includes All Raw Data)  
 \_\_\_ RWQCB (MDLs/PQLs/TRACE#)

RELINQUISHED BY:  
 Signature: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_  
 Firm: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

RECEIVED BY:  
 Signature: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_  
 Firm: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

SPECIAL INSTRUCTIONS/COMMENTS:  
 Circle which metals are to be analyzed: **Title 22 Metals**  
 Metals: Al Sb Ba Be B Cd Ca Cr Cu Co Fe Mg Mn Mo Ni K Ag Na Sn V Zn  
 As Pb Se Tl Hg  
**< 96-Hour Fish Toxicity std TAT. Title 22 Fish Toxicity Succ. Please hold remaining sample pending possible additional analysis. >**



March 12, 1997

Service Request No.: S9700403

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: S0604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 10, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 7, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to be "S. L. Green", written in a cursive style. The signature is positioned above the typed name and title.

Steven L. Green  
Project Chemist

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

**Client:** Gauntlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700400  
**Date Collected:** 3/7/97  
**Date Received:** 3/8/97  
**Date Extracted:** NA  
**Date Analyzed:** NA

Surrogate Recovery Summary  
BTEX  
EPA Method 8020

Sample Name	Lab Code	Percent Recovery 4-Difluorobenzene
WP1-7	S9700400-001	99
WP1-8	S9700400-002	99
Method Blank	S970310-SB1	97

CAS Acceptance Limits: 80-120



March 21, 1997

Service Request No.: S9700401

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: S0604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 8, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", is written over a light-colored background.

Steven L. Green  
Project Chemist



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SERVICE REQUEST NO. *59700400*

P.O.# *(59700401)* *\* Bioassay*

PROJECT NAME *# SU604-01.01*

PROJECT MGR. *P. Lacey*

COMPANY/ADDRESS *The Gauntlet Group, LLC*  
*111 West Evelyn, Suite 305*  
*Sunnyvale, CA 94086* PHONE *328-0814*  
 FAX *774-6757*

SAMPLERS SIGNATURE \_\_\_\_\_

	NUMBER OF CONTAINERS	ANALYSIS REQUESTED														REMARKS		
		PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>				
<i>WP2-7</i>	<i>3</i>	<i>X</i>																
<i>WP2-8</i>	<i>3</i>	<i>X</i>																
<i>M3/1/97</i>																		

RELINQUISHED BY: *P. Lacey*

Signature: \_\_\_\_\_  
 Printed Name: *P. Lacey*  
 Firm: *166*  
 Date/Time: *3-8-97/ 1050*

RECEIVED BY: *Joanne Brown*

Signature: \_\_\_\_\_  
 Printed Name: *Joanne Brown*  
 Firm: *CAS*  
 Date/Time: *3-8-97 1050*

RELINQUISHED BY: \_\_\_\_\_

Signature: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_  
 Firm: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

RECEIVED BY: \_\_\_\_\_

Signature: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_  
 Firm: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

TURNAROUND REQUIREMENTS

24 hr  48 hr  3-5 day

Standard (10-15 working days)

Provide Verbal Preliminary Results

Provide FAX preliminary Results

Requested Report Date *3-11-97*

REPORT REQUIREMENTS

I. Routine Report

II. Report (includes DUP.MAS. MSD, as required, may be charged as samples)

III. Data Validation Report (includes All Raw Data)

RWQCB (MDLs/PQLs/TRACE#)

RELINQUISHED BY: \_\_\_\_\_

Signature: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_  
 Firm: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

SPECIAL INSTRUCTIONS/COMMENTS:

Circle which metals are to be analyzed: *Title 22 Metals*

Metals: Al Sb Ba Be B Cd Ca Cr Cu Co Fe Mg Mn Mo Ni K Ag Na Sn V Zn  
 As Pb Se Ti Hg

*96-Hour Fish Toxicity std TAT. Title 22 Fish Toxicity screen. Please hold remaining sample pending possible additional analysis.*

**COLUMBIA ANALYTICAL SERVICES, Inc.**

**Acronyms**

<b>A2LA</b>	American Association for Laboratory Accreditation
<b>ASTM</b>	American Society for Testing and Materials
<b>BOD</b>	Biochemical Oxygen Demand
<b>BTEX</b>	Benzene, Toluene, Ethylbenzene, Xylenes
<b>CAM</b>	California Assessment Metals
<b>CARB</b>	California Air Resources Board
<b>CAS Number</b>	Chemical Abstract Service registry Number
<b>CFC</b>	Chlorofluorocarbon
<b>CFU</b>	Colony-Forming Unit
<b>COD</b>	Chemical Oxygen Demand
<b>DEC</b>	Department of Environmental Conservation
<b>DEQ</b>	Department of Environmental Quality
<b>DHS</b>	Department of Health Services
<b>DLCS</b>	Duplicate Laboratory Control Sample
<b>DMS</b>	Duplicate Matrix Spike
<b>DOE</b>	Department of Ecology
<b>DOH</b>	Department of Health
<b>EPA</b>	U. S. Environmental Protection Agency
<b>ELAP</b>	Environmental Laboratory Accreditation Program
<b>GC</b>	Gas Chromatography
<b>GC/MS</b>	Gas Chromatography/Mass Spectrometry
<b>IC</b>	Ion Chromatography
<b>ICB</b>	Initial Calibration Blank sample
<b>ICP</b>	Inductively Coupled Plasma atomic emission spectrometry
<b>ICV</b>	Initial Calibration Verification sample
<b>J</b>	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
<b>LCS</b>	Laboratory Control Sample
<b>LUFT</b>	Leaking Underground Fuel Tank
<b>M</b>	Modified
<b>MBAS</b>	Methylene Blue Active Substances
<b>MCL</b>	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
<b>MDL</b>	Method Detection Limit
<b>MPN</b>	Most Probable Number
<b>MRL</b>	Method Reporting Limit
<b>MS</b>	Matrix Spike
<b>MTBE</b>	Methyl tert-Butyl Ether
<b>NA</b>	Not Applicable
<b>NAN</b>	Not Analyzed
<b>NC</b>	Not Calculated
<b>NCASI</b>	National Council of the paper industry for Air and Stream Improvement
<b>ND</b>	Not Detected at or above the method reporting/detection limit (MRL/MDL)
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppb</b>	Parts Per Billion
<b>ppm</b>	Parts Per Million
<b>PQL</b>	Practical Quantitation Limit
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RPD</b>	Relative Percent Difference
<b>SIM</b>	Selected Ion Monitoring
<b>SM</b>	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
<b>STLC</b>	Solubility Threshold Limit Concentration
<b>SW</b>	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TDS</b>	Total Dissolved Solids
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>tr</b>	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TSS</b>	Total Suspended Solids
<b>TTLC</b>	Total Threshold Limit Concentration
<b>VOA</b>	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Gauntlett Group, LLC.  
**Project:** #S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** L9700847  
**Date Collected:** 3/8/97  
**Date Received:** 3/10/97  
**Date Extracted:** 3/11/97  
**Date Analyzed:** 3/11/97

Total Recoverable Petroleum Hydrocarbons (TRPH)  
EPA Method 418.1  
Units: mg/Kg (ppm)

<b>Sample Name</b>	<b>Lab Code</b>	<b>MRL</b>	<b>Result</b>
WP1-9	L9700847-001	10	770
Method Blank	L970311-MB	10	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Gauntlett Group, LLC  
Project: S0604.01.01  
Sample Matrix: Soil

Service Request: S9700403  
Date Collected: 3/8/97  
Date Received: 3/10/97  
Date Extracted: 3/10/97

BTEX  
EPA Method 8020  
Units: mg/kg (ppm)

Sample Name:	WP1-9	Method Blank
Lab Code:	S9700403-001	S970310-SB1
Date Analyzed:	3/10/97	3/10/97

Analyte	MRL		
Benzene	0.5	ND	ND
Toluene	1	ND	ND
Ethylbenzene	1	ND	ND
Total Xylenes	1	ND	ND

**COLUMBIA ANALYTICAL SERVICES, INC.**

**Analytical Report**

**Client:** Gauntlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700403  
**Date Collected:** 3/8/97  
**Date Received:** 3/10/97  
**Date Digested:** 3/11/97

Metals  
 Units: mg/Kg (ppm)

**Sample Name:** WP1-9      **Method Blank**  
**Lab Code:** S9700403-001      **S9700403-SMB**  
**Date Analyzed:** 3/11/97      **3/11/97**

Analyte	EPA Method	MRL		
Antimony	3050BM/6010A	5	ND	ND
Arsenic	3050BM/6010A	5	ND	ND
Barium	3050BM/6010A	1	95	ND
Beryllium	3050BM/6010A	0.5	ND	ND
Cadmium	3050BM/6010A	0.5	0.6	ND
Chromium	3050BM/6010A	1	46	ND
Cobalt	3050BM/6010A	1	8	ND
Copper	3050BM/6010A	1	750	ND
Lead	3050BM/6010A	5	210	ND
Mercury	7470	0.4	1.8	ND
Molybdenum	3050BM/6010A	1	6	ND
Nickel	3050BM/6010A	2	49	ND
Selenium	3050BM/6010A	5	ND	ND
Silver	3050BM/6010A	2	ND	ND
Thallium	3050BM/6010A	5	ND	ND
Vanadium	3050BM/6010A	1	23	ND
Zinc	3050BM/6010A	2	390	ND

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

**Client:** Gauntlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700403  
**Date Collected:** 3/8/97  
**Date Received:** 3/10/97  
**Date Extracted:** NA  
**Date Analyzed:** NA

Surrogate Recovery Summary  
BTEX  
EPA Method 8020

Sample Name	Lab Code	Percent Recovery 1,4-Difluorobenzene
WP1-9	S9700403-001	97
Method Blank	S970310-SB1	97

CAS Acceptance Limits:

80-120



2059 Junction Avenue • San Jose, CA 95131 • (408) 437-2400 • FAX (408) 437-9356

CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SERVICE REQUEST NO. **59700403** P.O.# **(59700404)** PAGE **1** OF **1**

PROJECT NAME: #SUL604.01.01  
 PROJECT MGR: P. LACEY  
 COMPANY: The Gauntlet Group LLC  
 ADDRESS: 111. W. Evelyn Suite 305  
 Sunnyvale 94086 PHONE 328-0814  
 FAX 774-6757  
 SAMPLER'S SIGNATURE: [Signature]

PRESERVATIVE	ANALYSIS REQUESTED												REMARKS			
	NP	HCl	HCl	HCl	NP	HCl	HNO3	NP	H2SO4	H2SO4	H2SO4	NaOH				
Base/Neu/Acid Organics GC/MS 625/8270																
Volatiles Organics GC/MS 624/8240/8260																
Halogenated or Aromatic Volatiles 601/8010.7																
TPH as Gas/GTEX DHS LUFT / 8020		X														
TPH as Diesel/HBHC DHS LUFT			X													
TRPH Oil and Grease Method List Below				X												
Metals (total or dissolved) pH, Cond, Cl, SO4, F, TDS, TSS NH3, NO3, NO2 (circle) NO3-N, COD, Total-P, TKN, NO3-/NO2 (circle)																
Total Organic Carbon TOC																
Total Phenols Method Cyanide																
96 Herb Fish Toxicity Screen (Title 22)																
WPT-9	3/8/97	1920		Soil	3								X			

PROJECT COMPLETE  
3/10/97

RELINQUISHED BY: Signature: [Signature] Printed Name: Gauntlett Firm: [Firm] Date/Time: 3/10/97 0910	RECEIVED BY: Signature: [Signature] Printed Name: Joanne Brown Firm: CTS Date/Time: 3/10/97 0910
--	--

RELINQUISHED BY: Signature: Printed Name: Firm: Date/Time:	RECEIVED BY: Signature: Printed Name: Firm: Date/Time:
--	--

<b>TURNAROUND REQUIREMENTS</b> ___ 1 day <input checked="" type="checkbox"/> 2 day ___ 3 day ___ 5 day ___ Other ___ Standard (10 working days) ___ Provide Preliminary Results Date Due:	<b>REPORT REQUIREMENTS</b> <input checked="" type="checkbox"/> I. Routine Report ___ II. Report (includes DUP, MAS, MSD, as required, may be charged as samples) ___ III. Data Validation Report (includes All Raw Data) ___ RWQCB (MDLs/PQLs/TRACE#)
--	---

RELINQUISHED BY: Signature: Printed Name: Firm: Date/Time:	RECEIVED BY: Signature: Printed Name: Firm: Date/Time:
--	--

SPECIAL INSTRUCTIONS/COMMENTS: Please Fax Results to Placey ASAP  
 Circle which metals are to be analyzed:  
 Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn  
 As Pb Se Ti Hg  
 Fish toxicity std turnaround  
 Please hold additional sample for possible further analysis.  
 R9, R20/860



March 21, 1997

Service Request No.: S9700404

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: S0604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 10, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", written in a cursive style.

Steven L. Green  
Project Chemist

**COLUMBIA ANALYTICAL SERVICES, Inc.**

**Acronyms**

<b>A2LA</b>	American Association for Laboratory Accreditation
<b>ASTM</b>	American Society for Testing and Materials
<b>BOD</b>	Biochemical Oxygen Demand
<b>BTEX</b>	Benzene, Toluene, Ethylbenzene, Xylenes
<b>CAM</b>	California Assessment Metals
<b>CARB</b>	California Air Resources Board
<b>CAS Number</b>	Chemical Abstract Service registry Number
<b>CFC</b>	Chlorofluorocarbon
<b>CFU</b>	Colony-Forming Unit
<b>COD</b>	Chemical Oxygen Demand
<b>DEC</b>	Department of Environmental Conservation
<b>DEQ</b>	Department of Environmental Quality
<b>DHS</b>	Department of Health Services
<b>DLCS</b>	Duplicate Laboratory Control Sample
<b>DMS</b>	Duplicate Matrix Spike
<b>DOE</b>	Department of Ecology
<b>DOH</b>	Department of Health
<b>EPA</b>	U. S. Environmental Protection Agency
<b>ELAP</b>	Environmental Laboratory Accreditation Program
<b>GC</b>	Gas Chromatography
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<b>IC</b>	Ion Chromatography
<b>ICB</b>	Initial Calibration Blank sample
<b>ICP</b>	Inductively Coupled Plasma atomic emission spectrometry
<b>ICV</b>	Initial Calibration Verification sample
<b>J</b>	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
<b>LCS</b>	Laboratory Control Sample
<b>LUFT</b>	Leaking Underground Fuel Tank
<b>M</b>	Modified
<b>MBAS</b>	Methylene Blue Active Substances
<b>MCL</b>	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
<b>MDL</b>	Method Detection Limit
<b>MPN</b>	Most Probable Number
<b>MRL</b>	Method Reporting Limit
<b>MS</b>	Matrix Spike
<b>MTBE</b>	Methyl tert-Butyl Ether
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<b>NAN</b>	Not Analyzed
<b>NC</b>	Not Calculated
<b>NCASI</b>	National Council of the paper industry for Air and Stream Improvement
<b>ND</b>	Not Detected at or above the method reporting/detection limit (MRL/MDL)
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppb</b>	Parts Per Billion
<b>ppm</b>	Parts Per Million
<b>PQL</b>	Practical Quantitation Limit
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RPD</b>	Relative Percent Difference
<b>SIM</b>	Selected Ion Monitoring
<b>SM</b>	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
<b>STLC</b>	Solubility Threshold Limit Concentration
<b>SW</b>	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
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<b>TDS</b>	Total Dissolved Solids
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<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TSS</b>	Total Suspended Solids
<b>TTLC</b>	Total Threshold Limit Concentration
<b>VOA</b>	Volatile Organic Analyte(s)

**SUMMARY REPORT FOR AN ACUTE BIOASSAY PERFORMED UNDER TITLE 22 REQUIREMENTS**

Test Dates: 3/12 - 3/16/97

Report Issued by:  
MEC Analytical Systems, Inc.  
Bioassay Division  
98 Main St #428  
Tiburon, CA 94920

Report Issued to:  
Columbia Analytical Services  
2059 Junction Ave.  
San Jose, CA 95131

Page 1 of 1

REPORT DATE: March 18, 1997  
PROJECT #: 0652-004

**SAMPLE AND BIOASSAY INFORMATION**

TEST INFORMATION

Control Water: Soft water (Nanopure + Evian™ spring water)  
Exposure volume: 10 L  
Test chambers: 5 gal aquaria  
Concentrations (mg/L): 250, 750  
# Fish/chamber: 10

SPECIES INFORMATION

Species: *Pimephales promelas*  
Common name: Fathead Minnows  
Source: Thomas Fish Co. Anderson, CA  
Age of Fish: Juvenile, Acclimated for ≥ 10 days  
Mean weight (g): 0.20  
Mean length (mm): 26.4

SAMPLE INFORMATION

Sample Type: Solid  
Client Sample ID: WP1-9  
Sample Preparation: Sample was shaken on shaker table for ≥ 6 hours according to CDFG guidelines.  
Sample Date: March 8, 1997  
Sample Received: March 11, 1997  
MECBL #: T970311.04


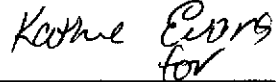
**Final Water Quality and Fish Counts**

Concentration (mg/L)	Rep	Day 0					Day 1					Day 2					Day 3					Day 4					Survival (%)
		Temp °C	D.O. mg/L	pH units	Cond μS/cm	# Alive	Temp	D.O.	pH	Cond	Alive	Temp	D.O.	pH	Cond	Alive	Temp	D.O.	pH	Cond	Alive	Temp	D.O.	pH	Cond	Alive	
Control	1	19.5	9.2	7.61	97	10	20.2	8.0	7.92	99	10	19.9	7.8	8.25	100	10	20.9	7.9	8.34	101	10	19.8	7.6	7.53	101	10	100
	2	19.5	9.3	7.69	97	10	19.6	8.3	7.93	99	10	19.4	7.9	8.26	100	10	20.9	7.9	8.25	101	10	19.7	7.7	7.55	101	10	100
250	1	19.9	9.4	7.67	100	10	19.8	8.0	8.09	102	10	19.6	7.9	8.20	103	10	20.6	8.1	8.22	105	10	19.6	7.8	7.56	106	10	100
	2	19.9	9.4	7.74	100	10	19.3	7.8	8.05	102	10	19.2	7.9	8.21	104	10	20.3	8.1	8.18	105	10	19.7	7.8	7.56	106	10	100
750	1	19.9	9.4	7.75	104	10	19.3	7.8	7.98	110	10	19.0	7.9	8.16	110	10	20.3	7.9	8.11	112	10	19.6	7.9	7.55	114	10	100
	2	19.9	9.4	7.75	104	10	19.1	7.8	8.00	110	10	19.0	7.8	8.14	111	10	20.1	7.7	8.07	113	10	19.6	7.8	7.54	115	10	100

Conc (mg/L)	Day 0		Day 4	
	Alkalinity (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
Control	40	44	52	46
750	48	44	60	48

**RESULTS:**

Since survival in the 750 mg/L concentration of the WP1-9 sample was >60%, this sample would qualify for a nonhazardous designation on the basis of aquatic toxicity.

	
Paul R. Krause, Ph.D. Project Manager	Lisa Hansen Laboratory Manager

Reference: Polisini and Miller. 1988. Static acute bioassay procedures for hazardous waste samples. California Department of Fish and Game, Water Pollution Control Laboratory.





March 11, 1997

Service Request No.: S9700383

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: S0604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 4, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 5, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", written over a white background.

Steven L. Green  
Project Chemist

COLUMBIA ANALYTICAL SERVICES, Inc.

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TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700383  
**Date Collected:** 3/4/97  
**Date Received:** 3/4/97  
**Date Digested:** 3/10/97

Metals

Units: mg/L (ppm) in WET Extract  
 Soluble Threshold Limit Concentration (STLC)

Sample Name:	<b>WP2-1</b>	<b>WP2-2</b>	<b>WP2-3</b>
Lab Code:	S9700383-001	S9700383-002	S9700383-003
Date Analyzed:	3/10-11/97	3/10-11/97	3/10-11/97

Analyte	EPA Method	STLC Limits*	MRL			
				WP2-1	WP2-2	WP2-3
Antimony	3005/6010A	15	0.5	ND	-	-
Barium	3005/6010A	100	5	-	14	-
Chromium	3005/6010A	5	0.1	2.2	3.9	3.5
Copper	3005/6010A	25	0.1	18	18	41
Lead	3005/6010A	5.0	0.5	12	23	20
Mercury	7470	0.2	0.004	ND	ND	0.008

\* State of California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24 and Article 5, Section 66261.126, Appendix II.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Gauntlett Group, LLC  
Project: S0604.01.01  
Sample Matrix: Soil

Service Request: S9700383  
Date Collected: 3/4/97  
Date Received: 3/4/97  
Date Digested: 3/10/97

Metals

Units: mg/L (ppm) in WET Extract  
Soluble Threshold Limit Concentration (STLC)

Sample Name: WP1-1      Method Blank  
Lab Code: S9700383-004      9700383-WETMB  
Date Analyzed: 3/10-11/97      3/10-11/97

Analyte	EPA Method	STLC Limits*	MRL		
Antimony	3005/6010A	15	0.5	-	ND
Barium	3005/6010A	100	5	-	ND
Chromium	3005/6010A	5	0.1	1.1	ND
Copper	3005/6010A	25	0.1	10	ND
Lead	3005/6010A	5.0	0.5	12	ND
Mercury	7470	0.2	0.004	ND	ND

\* State of California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24 and Article 5, Section 66261.126, Appendix II.



2059 Junction Avenue • San Jose, CA 95131 • (408) 437-2400 • FAX (408) 437-9356

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

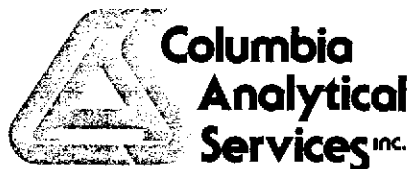
SERVICE REQUEST NO. S9700383 P.O.# \_\_\_\_\_ PAGE 1 OF 1

PROJECT NAME: # <u>S0604.01.01</u> PROJECT MGR: <u>Pat Lacey</u> COMPANY: <u>The Gauntlett Group, LLC</u> ADDRESS: <u>111 W. Evelyn Suite 305</u> <u>Sunnyvale, Ca 94086</u> PHONE: <u>328-0814</u> FAX: <u>774-6757</u> SAMPLER'S SIGNATURE: _____	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">NUMBER OF CONTAINERS</th> <th colspan="14">ANALYSIS REQUESTED</th> </tr> <tr> <th>PRESERVATIVE</th> <th>NP</th> <th>HCl</th> <th>HCl</th> <th>HCl</th> <th>NP</th> <th>HCl</th> <th>HNO<sub>3</sub></th> <th>NP</th> <th>H<sub>2</sub>SO<sub>4</sub></th> <th>H<sub>2</sub>SO<sub>4</sub></th> <th>H<sub>2</sub>SO<sub>4</sub></th> <th>NaOH</th> <th></th> </tr> <tr> <td></td> <td>Base/Neu/Acid Organics GC/MS 625/8270</td> <td>Volatile Organics GC/MS 624/8240/8280</td> <td>Halogenated or Aromatic Volatiles 601/8010</td> <td>TPH as Gas/BTEX DHS LUFT / 8020</td> <td>TPH as Diesel/HBHC DHS LUFT</td> <td>TRPH 418.1 Oil and Grease Method</td> <td>Metals (total or dissolved) List Below</td> <td>pH, Cond, Cl, SO<sub>4</sub>, F, TDS, TSS</td> <td>Alk, NO<sub>3</sub>, NO<sub>2</sub> (circle)</td> <td>NH<sub>3</sub>-N, COD (circle)</td> <td>NO<sub>3</sub> / NO<sub>2</sub> (circle)</td> <td>Total Organic Carbon TOC</td> <td>Total Phenols Method</td> <td>Cyanide</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	NUMBER OF CONTAINERS	ANALYSIS REQUESTED														PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH			Base/Neu/Acid Organics GC/MS 625/8270	Volatile Organics GC/MS 624/8240/8280	Halogenated or Aromatic Volatiles 601/8010	TPH as Gas/BTEX DHS LUFT / 8020	TPH as Diesel/HBHC DHS LUFT	TRPH 418.1 Oil and Grease Method	Metals (total or dissolved) List Below	pH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS	Alk, NO <sub>3</sub> , NO <sub>2</sub> (circle)	NH <sub>3</sub> -N, COD (circle)	NO <sub>3</sub> / NO <sub>2</sub> (circle)	Total Organic Carbon TOC	Total Phenols Method	Cyanide																	
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SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	REMARKS
WP2-1	3/4/97		①	Soil	
WP2-2	3/4/97		②	Soil	
WP2-3	3/4/97		③	Soil	
WP1-1	3/4/97		④	Soil	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:	TURNAROUND REQUIREMENTS	REPORT REQUIREMENTS
Signature _____	Signature _____	Signature _____	Signature _____	1 day <input checked="" type="checkbox"/> 2 day <input checked="" type="checkbox"/> 3 day <input checked="" type="checkbox"/> 5 day _____ Other _____ Standard (10 working days) _____ Provide Preliminary Results _____ Date Due <u>3/6/97 AM</u> <u>11/3/97</u>	<input checked="" type="checkbox"/> I. Routine Report ____ II. Report (includes DUP.MAS. MSD, as required, may be charged as samples) ____ III. Data Validation Report (includes All Raw Data) ____ RWQCB (MDLs/PQLs/TRACE#)
Printed Name _____	Printed Name _____	Printed Name _____	Printed Name _____		
Firm _____	Firm _____	Firm _____	Firm _____		
Date/Time _____	Date/Time _____	Date/Time _____	Date/Time _____		

RELINQUISHED BY:	RECEIVED BY:	SPECIAL INSTRUCTIONS/COMMENTS:
Signature _____	Signature _____	Circle which metals are to be analyzed: Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn As Pb Se Ti Hg
Printed Name _____	Printed Name _____	<u>Samples WP2-1 and WP2-2 originally rec'd 3/4/97 under SR# S9700385. Additional analysis requested 3/6/97 ML</u>
Firm _____	Firm _____	<u>Samples WP2-3 and WP1-1 originally rec'd 3/4/97 under SR# S9700370. Additional analysis requested 3/6/97 by Pat Lacey. ML 3/6/97</u>
Date/Time _____	Date/Time _____	



March 12, 1997

Service Request No.: S9700423

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: S0604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 6, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 4, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

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Steven L. Green  
Project Chemist

**COLUMBIA ANALYTICAL SERVICES, Inc.**

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<b>MRL</b>	Method Reporting Limit
<b>MS</b>	Matrix Spike
<b>MTBE</b>	Methyl tert-Butyl Ether
<b>NA</b>	Not Applicable
<b>NAN</b>	Not Analyzed
<b>NC</b>	Not Calculated
<b>NCASI</b>	National Council of the paper industry for Air and Stream Improvement
<b>ND</b>	Not Detected at or above the method reporting/detection limit (MRL/MDL)
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppb</b>	Parts Per Billion
<b>ppm</b>	Parts Per Million
<b>PQL</b>	Practical Quantitation Limit
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RPD</b>	Relative Percent Difference
<b>SIM</b>	Selected Ion Monitoring
<b>SM</b>	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
<b>STLC</b>	Solubility Threshold Limit Concentration
<b>SW</b>	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TDS</b>	Total Dissolved Solids
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>tr</b>	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TSS</b>	Total Suspended Solids
<b>TTLC</b>	Total Threshold Limit Concentration
<b>VOA</b>	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Gauntlett Group, LLC  
Project: S0604.01.01  
Sample Matrix: Soil

Service Request: S9700423  
Date Collected: 3/5/97  
Date Received: 3/6/97  
Date Digested: 3/10/97

Metals

Units: mg/L (ppm) in WET Extract  
Soluble Threshold Limit Concentration (STLC)

Sample Name:	WP1-2	WP1-3	Method Blank
Lab Code:	S9700423-001	S9700423-002	S9700423-WETMB
Date Analyzed:	3/10-11/97	3/10-11/97	3/10-11/97

Analyte	EPA Method	STLC Limits*	MRL			
Chromium	3005/6010A	5	0.1	1.7	2.0	ND
Copper	3005/6010A	25	0.1	ND	ND	ND
Lead	3005/6010A	5.0	0.5	4.6	4.5	ND
Mercury	7470	0.2	0.004	ND	ND	ND
Selenium	3005/6010A	1.0	0.5	ND	ND	ND

\* State of California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24 and Article 5, Section 66261.126, Appendix II.



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SERVICE REQUEST NO. 59700423 P.O.# \_\_\_\_\_ PAGE \_\_\_\_\_ OF \_\_\_\_\_

PROJECT NAME \_\_\_\_\_ # 50604.01.07  
PROJECT MGR. Pat Gray  
COMPANY The Gauntlett Group  
ADDRESS \_\_\_\_\_  
PHONE \_\_\_\_\_  
FAX \_\_\_\_\_  
SAMPLER'S SIGNATURE \_\_\_\_\_

ANALYSIS REQUESTED														
PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH		
Base/New/Acid Organics GC/MS 625/8270														
Volatile Organics GC/MS 624/8240/8260														
Halogenated or Aromatic Volatiles 601/8010.7														
TPH as Gas/BTEX DHS LUFT / 8020														
TPH as Diesel/HBHC DHS LUFT														
TRPH - 418.1 Oil and Grease Method														
Metals (Total or dissolved) List Below														
pH Cond; Cl; SO <sub>4</sub> ; F; TDS, TSS														
Alk; NO <sub>3</sub> ; NO <sub>2</sub> (circle)														
NH <sub>3</sub> -N; COD; Total-P, TKN, TOC														
Total Organic Carbon														
Total Phenols Method														
Cyanide														
SR# 59700423														

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS												REMARKS
WP 1-2	3/5/97			Soil	1												
WP 1-3	3/5/97			Soil	1												

<b>RELINQUISHED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____		<b>RECEIVED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____		<b>RELINQUISHED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____		<b>RECEIVED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____		<b>TURNAROUND REQUIREMENTS</b> ___ 1 day <input checked="" type="checkbox"/> 2 day ___ 3 day ___ 5 day ___ Other ___ Standard (10 working days) ___ Provide Preliminary Results ___ Date Due _____	<b>REPORT REQUIREMENTS</b> <input checked="" type="checkbox"/> I. Routine Report ___ II. Report (includes DUP, MAS, MSD, as required, may be charged as samples) ___ III. Data Validation Report (includes All Raw Data) ___ RWQCB (MDLs/PQLs/TRACE#)
<b>RELINQUISHED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____		<b>RECEIVED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____		<b>SPECIAL INSTRUCTIONS/COMMENTS:</b> Circle which metals are to be analyzed: Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn As Pb Se Ti Hg  Samples originally received 3/6/97 under SR# 59700375 Additional analysis requested 3/11/97 by Jim Burton.					



March 13, 1997

Service Request No.: S9700433

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

**RE: S0604.01.01**

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 6, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 5, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", written over a white background.

Steven L. Green  
Project Chemist

**COLUMBIA ANALYTICAL SERVICES, Inc.**

**Acronyms**

<b>A2LA</b>	American Association for Laboratory Accreditation
<b>ASTM</b>	American Society for Testing and Materials
<b>BOD</b>	Biochemical Oxygen Demand
<b>BTEX</b>	Benzene, Toluene, Ethylbenzene, Xylenes
<b>CAM</b>	California Assessment Metals
<b>CARB</b>	California Air Resources Board
<b>CAS Number</b>	Chemical Abstract Service registry Number
<b>CFC</b>	Chlorofluorocarbon
<b>CFU</b>	Colony-Forming Unit
<b>COD</b>	Chemical Oxygen Demand
<b>DEC</b>	Department of Environmental Conservation
<b>DEQ</b>	Department of Environmental Quality
<b>DHS</b>	Department of Health Services
<b>DLCS</b>	Duplicate Laboratory Control Sample
<b>DMS</b>	Duplicate Matrix Spike
<b>DOE</b>	Department of Ecology
<b>DOH</b>	Department of Health
<b>EPA</b>	U. S. Environmental Protection Agency
<b>ELAP</b>	Environmental Laboratory Accreditation Program
<b>GC</b>	Gas Chromatography
<b>GC/MS</b>	Gas Chromatography/Mass Spectrometry
<b>IC</b>	Ion Chromatography
<b>ICB</b>	Initial Calibration Blank sample
<b>ICP</b>	Inductively Coupled Plasma atomic emission spectrometry
<b>ICV</b>	Initial Calibration Verification sample
<b>J</b>	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
<b>LCS</b>	Laboratory Control Sample
<b>LUFT</b>	Leaking Underground Fuel Tank
<b>M</b>	Modified
<b>MBAS</b>	Methylene Blue Active Substances
<b>MCL</b>	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
<b>MDL</b>	Method Detection Limit
<b>MPN</b>	Most Probable Number
<b>MRL</b>	Method Reporting Limit
<b>MS</b>	Matrix Spike
<b>MTBE</b>	Methyl tert-Butyl Ether
<b>NA</b>	Not Applicable
<b>NAN</b>	Not Analyzed
<b>NC</b>	Not Calculated
<b>NCASI</b>	National Council of the paper industry for Air and Stream Improvement
<b>ND</b>	Not Detected at or above the method reporting/detection limit (MRL/MDL)
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppb</b>	Parts Per Billion
<b>ppm</b>	Parts Per Million
<b>PQL</b>	Practical Quantitation Limit
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RPD</b>	Relative Percent Difference
<b>SIM</b>	Selected Ion Monitoring
<b>SM</b>	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
<b>STLC</b>	Solubility Threshold Limit Concentration
<b>SW</b>	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TDS</b>	Total Dissolved Solids
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>tr</b>	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TSS</b>	Total Suspended Solids
<b>TTLC</b>	Total Threshold Limit Concentration
<b>VOA</b>	Volatile Organic Analyte(s)

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700433  
**Date Collected:** 3/5/97  
**Date Received:** 3/6/97  
**Date Digested:** 3/10/97

Metals  
 Units: mg/L (ppm) in WET Extract  
 Soluble Threshold Limit Concentration (STLC)

Sample Name:	<b>WP1-4</b>	<b>WP1-5</b>	<b>WP1-6</b>
Lab Code:	S9700433-001	S9700433-002	S9700433-003
Date Analyzed:	3/10/97	3/10/97	3/10/97

Analyte	EPA	STLC	MRL			
	Method	Limits*				
Chromium	3005/6010A	5	0.1	1.3	1.0	1.4
Copper	3005/6010A	25	0.1	1.6	0.6	0.6
Lead	3005/6010A	5.0	0.5	14	3.7	6.6
Selenium	3005/6010A	1.0	0.5	ND	ND	ND

\* State of California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24 and Article 5, Section 66261.126, Appendix II.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700433  
**Date Collected:** 3/5/97  
**Date Received:** 3/6/97  
**Date Digested:** 3/10/97

Metals  
Units: mg/L (ppm) in WET Extract  
Soluble Threshold Limit Concentration (STLC)

Sample Name: **Method Blank**  
Lab Code: 9700433-WETMB  
Date Analyzed: 3/10/97

Analyte	EPA Method	STLC Limits*	MRL	
Chromium	3005/6010A	5	0.1	ND
Copper	3005/6010A	25	0.1	ND
Lead	3005/6010A	5.0	0.5	ND
Selenium	3005/6010A	1.0	0.5	ND

\* State of California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24 and Article 5, Section 66261.126, Appendix II.

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SERVICE REQUEST NO. 59700433 P.O.# \_\_\_\_\_

PAGE 1 OF 1

PROJECT NAME # 50604.01.01  
 PROJECT MGR. Pat Casey  
 COMPANY The Guantlett Group, LLC  
 ADDRESS \_\_\_\_\_  
 PHONE \_\_\_\_\_  
 FAX \_\_\_\_\_  
 SAMPLER'S SIGNATURE \_\_\_\_\_

NUMBER OF CONTAINERS	ANALYSIS REQUESTED														REMARKS
	PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH			
	Base/Neu/Acid Organics GC/MS 625/8270	Volatiles Organics GC/MS 624/8240/8260	Halogenated or Aromatic Volatiles 601/8010	TPH as Gas/BTEX DHS LUFT / 8020	TPH as Diesel/HBHC DHS LUFT	TRPH - 418.1 Oil and Grease Method	Metals (total or dissolved) List Below	pH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS	Alk, NO <sub>3</sub> , NO <sub>2</sub> (circle)	NH <sub>3</sub> -N, COD, Total-P, TKN, NO <sub>3</sub> / NO <sub>2</sub> (circle)	Total Organic Carbon TOC	Total Phenols Method	Cyanide		
														<u>STC/Er, Cu, Pb, Se</u>	

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX
WPI-4	3/6/97			Soil
WPI-5	↓			↓
WPI-6	↓			↓

**RELINQUISHED BY:**  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

**RECEIVED BY:**  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm 3/7/97  
 Date/Time \_\_\_\_\_

**RELINQUISHED BY:**  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

**RECEIVED BY:**  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

**TURNAROUND REQUIREMENTS**  
 \_\_\_ 1 day  2 day \_\_\_ 3 day  
 \_\_\_ 5 day \_\_\_ Other  
 \_\_\_ Standard (10 working days)  
 \_\_\_ Provide Preliminary Results  
 Date Due \_\_\_\_\_

**REPORT REQUIREMENTS**  
 I. Routine Report  
 \_\_\_ II. Report (includes DUP, MAS, MSD, as required, may be charged as samples)  
 \_\_\_ III. Data Validation Report (includes All Raw Data)  
 \_\_\_ RWOCB (MDLs/PQLs/TRACE#)

**RELINQUISHED BY:**  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

**RECEIVED BY:**  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

**SPECIAL INSTRUCTIONS/COMMENTS:**  
 Circle which metals are to be analyzed:  
 Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn  
 As Pb Se Ti Hg

Samples received 3/7/97 under SR# 59700386  
Additional analysis requested 3/12/97 M.

PROJECT NAME # 506040101  
 PROJECT MGR. P. Lacey  
 COMPANY The Gannett Group, LLC  
 ADDRESS 111. W. Evelyn suite 305  
Sunnyvale CA 94086 PHONE 328-0814  
 FAX 714-6757  
 SAMPLER'S SIGNATURE [Signature]

PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /NaOH	ANALYSIS REQUESTED		REMARKS	
												NUMBER OF CONTAINERS			
Base/Neutral/Acid Organics GC/MS 625/8270															
Volatile Organics GC/MS 624/8240/8260															
Halogenated or Aromatic Volatiles 601/8010															
TPH as Gas (BTEX) DHS LUFT (8020)															
TPH as Diesel/HBHC DHS LUFT (8020)															
TRPH Oil and Grease (18.1) Metals (total or dissolved) See Below															
pH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS															
NH <sub>3</sub> -N, COD, Total-P, TKN, NO <sub>3</sub> /NO <sub>2</sub> (circle)															
Total Organic Carbon															
Total Phenols Method Cyanide															

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS
WP1-4	3/6/97	1755	1	Soil	2
WP1-5	3/6/97	1800	2	Soil	2
WP1-6	3/6/97	1805	3	Soil	2

RELINQUISHED BY:  
 Signature [Signature]  
 Printed Name D.J. Butera  
 Firm Gannett Group  
 Date/Time 3/4/96 1010

RECEIVED BY:  
 Signature [Signature]  
 Printed Name Joanne Brown  
 Firm CAS  
 Date/Time 3-7-96 10:10

RELINQUISHED BY:  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

RECEIVED BY:  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

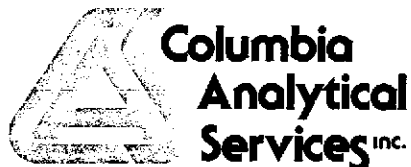
TURNAROUND REQUIREMENTS  
 \_\_\_ 1 day  2 day \_\_\_ 3 day  
 \_\_\_ 5 day \_\_\_ Other  
 \_\_\_ Standard (10 working days)  
 \_\_\_ Provide Preliminary Results  
 Date Due \_\_\_\_\_

REPORT REQUIREMENTS  
 I. Routine Report  
 \_\_\_ II. Report (includes DUP.MAS, MSD, as required, may be charged as samples)  
 \_\_\_ III. Data Validation Report (includes All Raw Data)  
 \_\_\_ RWOCB (MDLs/PQLs/TRACE#)

RELINQUISHED BY:  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

RECEIVED BY:  
 Signature \_\_\_\_\_  
 Printed Name \_\_\_\_\_  
 Firm \_\_\_\_\_  
 Date/Time \_\_\_\_\_

SPECIAL INSTRUCTIONS/COMMENTS: Please Call Placey V/M with Results ASAP.  
 Circle which metals are to be analyzed:  
 Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn  
 As Pb Se Ti Hg  
Fish toxicity std TAT -  
Hold remaining samples for possible further analysis.



March 20, 1997

Service Request No.: S9700457

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: S0604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 8-10, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 5, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. Green", written in a cursive style.

Steven L. Green  
Project Chemist



**COLUMBIA ANALYTICAL SERVICES, Inc.**

**Acronyms**

<b>A2LA</b>	American Association for Laboratory Accreditation
<b>ASTM</b>	American Society for Testing and Materials
<b>BOD</b>	Biochemical Oxygen Demand
<b>BTEX</b>	Benzene, Toluene, Ethylbenzene, Xylenes
<b>CAM</b>	California Assessment Metals
<b>CARB</b>	California Air Resources Board
<b>CAS Number</b>	Chemical Abstract Service registry Number
<b>CFC</b>	Chlorofluorocarbon
<b>CFU</b>	Colony-Forming Unit
<b>COD</b>	Chemical Oxygen Demand
<b>DEC</b>	Department of Environmental Conservation
<b>DEQ</b>	Department of Environmental Quality
<b>DHS</b>	Department of Health Services
<b>DLCS</b>	Duplicate Laboratory Control Sample
<b>DMS</b>	Duplicate Matrix Spike
<b>DOE</b>	Department of Ecology
<b>DOH</b>	Department of Health
<b>EPA</b>	U. S. Environmental Protection Agency
<b>ELAP</b>	Environmental Laboratory Accreditation Program
<b>GC</b>	Gas Chromatography
<b>GC/MS</b>	Gas Chromatography/Mass Spectrometry
<b>IC</b>	Ion Chromatography
<b>ICB</b>	Initial Calibration Blank sample
<b>ICP</b>	Inductively Coupled Plasma atomic emission spectrometry
<b>ICV</b>	Initial Calibration Verification sample
<b>J</b>	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
<b>LCS</b>	Laboratory Control Sample
<b>LUFT</b>	Leaking Underground Fuel Tank
<b>M</b>	Modified
<b>MBAS</b>	Methylene Blue Active Substances
<b>MCL</b>	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
<b>MDL</b>	Method Detection Limit
<b>MPN</b>	Most Probable Number
<b>MRL</b>	Method Reporting Limit
<b>MS</b>	Matrix Spike
<b>MTBE</b>	Methyl tert-Butyl Ether
<b>NA</b>	Not Applicable
<b>NAN</b>	Not Analyzed
<b>NC</b>	Not Calculated
<b>NCASI</b>	National Council of the paper industry for Air and Stream Improvement
<b>ND</b>	Not Detected at or above the method reporting/detection limit (MRL/MDL)
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppb</b>	Parts Per Billion
<b>ppm</b>	Parts Per Million
<b>PQL</b>	Practical Quantitation Limit
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RPD</b>	Relative Percent Difference
<b>SIM</b>	Selected Ion Monitoring
<b>SM</b>	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
<b>STLC</b>	Solubility Threshold Limit Concentration
<b>SW</b>	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TDS</b>	Total Dissolved Solids
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>tr</b>	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TSS</b>	Total Suspended Solids
<b>TTLC</b>	Total Threshold Limit Concentration
<b>VOA</b>	Volatile Organic Analyte(s)

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700457  
**Date Collected:** 3/7-3/8/97  
**Date Received:** 3/8-3/10/97  
**Date Digested:** 3/19/97

Metals

Units: mg/L (ppm) in WET Extract  
 Soluble Threshold Limit Concentration (STLC)

Sample Name:	<b>WP1-7</b>	<b>WP1-8</b>	<b>WP1-9</b>
Lab Code:	S9700457-001	S9700457-002	S9700457-003
Date Analyzed:	3/19/97	3/19/97	3/19/97

Analyte	EPA	STLC	MRL			
	Method	Limits*				
Chromium	3005/6010A	5	0.1	—	2.9	—
Copper	3005/6010A	25	0.1	13	56	21
Lead	3005/6010A	5.0	0.5	9.3	25	12
Mercury	7470	0.2	0.004	ND	ND	—

\* State of California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24 and Article 5, Section 66261.126, Appendix II.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700457  
**Date Collected:** 3/7-3/8/97  
**Date Received:** 3/8-3/10/97  
**Date Digested:** 3/19/97

Metals

Units: mg/L (ppm) in WET Extract  
Soluble Threshold Limit Concentration (STLC)

**Sample Name:** Method Blank  
**Lab Code:** S9700457-SB  
**Date Analyzed:** 3/19/97

Analyte	EPA Method	STLC Limits*	MRL	
Chromium	3005/6010A	5	0.1	ND
Copper	3005/6010A	25	0.1	ND
Lead	3005/6010A	5.0	0.5	ND
Mercury	7470	0.2	0.004	ND

\* State of California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24 and Article 5, Section 66261.126, Appendix II.



2059 Junction Avenue • San Jose, CA 95131 • (408) 437-2400 • FAX (408) 437-9356

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SERVICE REQUEST NO. 59700457 P.O.# \_\_\_\_\_ PAGE 1 OF 1

PROJECT NAME _____ # _____ PROJECT MGR. <u>Pat Lacey</u> COMPANY <u>Gauntlett Group</u> ADDRESS _____ PHONE _____ FAX _____ SAMPLER'S SIGNATURE _____	NUMBER OF CONTAINERS	<b>ANALYSIS REQUESTED</b> <table border="1" style="width:100%; border-collapse: collapse; font-size: small;"> <tr> <th>PRESERVATIVE</th> <th>NP</th> <th>HCl</th> <th>HCl</th> <th>HCl</th> <th>NP</th> <th>HCl</th> <th>HNO<sub>3</sub></th> <th>NP</th> <th>H<sub>2</sub>SO<sub>4</sub></th> <th>H<sub>2</sub>SO<sub>4</sub>/H<sub>2</sub>SO<sub>4</sub>/NaOH</th> <th>NaOH</th> </tr> <tr> <td style="text-align: center;">Base/Neu/Acid Organics GC/MS 625/8270</td> <td style="text-align: center;">Volatile Organics GC/MS 624/8240/8260</td> <td style="text-align: center;">Halogenated or Aromatic Volatiles 601/8010</td> <td style="text-align: center;">TPH as Gas/BTEX DHS LUFT / 8020</td> <td style="text-align: center;">TPH as Diesel/HBHC DHS LUFT</td> <td style="text-align: center;">TPH - 418.1 Oil and Grease Method</td> <td style="text-align: center;">Metals (total or dissolved) List Below</td> <td style="text-align: center;">pH, Cond, Cl, SO<sub>4</sub>, F, TDS, TSS Alk, NO<sub>3</sub>, NO<sub>2</sub> (circle)</td> <td style="text-align: center;">NH<sub>3</sub>-N, COD, Total-P, TKN NO<sub>3</sub>/NO<sub>2</sub> (circle)</td> <td style="text-align: center;">Total Organic Carbon TOC</td> <td style="text-align: center;">Total Phenols Method</td> <td style="text-align: center;">Cyanide</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub> /NaOH	NaOH	Base/Neu/Acid Organics GC/MS 625/8270	Volatile Organics GC/MS 624/8240/8260	Halogenated or Aromatic Volatiles 601/8010	TPH as Gas/BTEX DHS LUFT / 8020	TPH as Diesel/HBHC DHS LUFT	TPH - 418.1 Oil and Grease Method	Metals (total or dissolved) List Below	pH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS Alk, NO <sub>3</sub> , NO <sub>2</sub> (circle)	NH <sub>3</sub> -N, COD, Total-P, TKN NO <sub>3</sub> /NO <sub>2</sub> (circle)	Total Organic Carbon TOC	Total Phenols Method	Cyanide												
PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub> /NaOH	NaOH																											
Base/Neu/Acid Organics GC/MS 625/8270	Volatile Organics GC/MS 624/8240/8260	Halogenated or Aromatic Volatiles 601/8010	TPH as Gas/BTEX DHS LUFT / 8020	TPH as Diesel/HBHC DHS LUFT	TPH - 418.1 Oil and Grease Method	Metals (total or dissolved) List Below	pH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS Alk, NO <sub>3</sub> , NO <sub>2</sub> (circle)	NH <sub>3</sub> -N, COD, Total-P, TKN NO <sub>3</sub> /NO <sub>2</sub> (circle)	Total Organic Carbon TOC	Total Phenols Method	Cyanide																											

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub> /NaOH	NaOH	REMARKS	
WPI-7	3/1/97			Soil	1														
WPI-8	3/1/97			Soil	1														
WPI-9	3/1/97			Soil	1														

<b>RELINQUISHED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____	<b>RECEIVED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____	<b>RELINQUISHED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____	<b>RECEIVED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____	<b>TURNAROUND REQUIREMENTS</b> ___ 1 day ___ 2 day <input checked="" type="checkbox"/> 3 day ___ 5 day ___ Other ___ Standard (10 working days) Provide Preliminary Results Date Due <u>3/20/97</u>	<b>REPORT REQUIREMENTS</b> <input checked="" type="checkbox"/> I. Routine Report ___ II. Report (includes DUP.MAS. MSD, as required, may be charged as samples) ___ III. Data Validation Report (includes All Raw Data) ___ RWQCB (MDLs/POLs/TRACE#)
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<b>RELINQUISHED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____	<b>RECEIVED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____	<b>SPECIAL INSTRUCTIONS/COMMENTS:</b> Circle which metals are to be analyzed: Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn As Pb Se Ti Hg  <p style="font-size: large; font-style: italic;">Additional analyses requested 3/17/97 by Pat Lacey. M 3/1/97          Samples WPI-7 and WPI-8 were originally received 3/8/97 under 59700400          Samples WPI-9 were originally received 3/10/97 under 59700403 M 3/1/97</p>
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# ITS Intertek Testing Services Environmental Laboratories

JIM BUTERA  
THE GAUNTLETT GROUP  
111 W. EVELYN AVENUE  
SUNNYVALE CA 94086

ITS Group # : 662  
Date Received: 05/16/97  
Project ID : 50604.01.06

The following samples were received at Intertek for analysis :

ITS ID	CLIENT SAMPLE ID
97051285	WP1-1-0.8
97051286	WP1-2-8-1.3
97051287	WP1-3-13-2.5
97051288	WP1-4-18-2.2
97051289	WP1-5-22-1.7
97051290	WP1-6-26-1.0
97051291	WP1-7-32-2.5
97051292	WP1-7-33-2.0
97051293	WP1-8-36-0.7
97051294	WP1-8-40-2.0

This report is organized in sections according to the specific Intertek laboratory group which performed the analysis(es) and generated the data.

The results contained within this report relate to only the sample(s) tested. Additionally, these data should be considered in their entirety and Intertek cannot be responsible for the detachment, separation, or otherwise partial use of this report.

Intertek is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234.

If you have any further questions or comments on this report, please call your project manager as soon as possible. Thank you for using Intertek Testing Services.

  
Project Manager

6/11/97  
Date

This report consists of 52 pages


CASE NARRATIVE

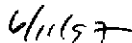
GROUP No. 662

PROJECT No. 50604.01.06

**QUALITY CONTROL PROBLEMS:**

- All holding times have been met for the analyses reported in this section.

  
\_\_\_\_\_  
Michael A. Hoban  
Inorganics Manager

  
\_\_\_\_\_  
Date

**INCHCAPE TESTING SERVICES  
SAN JOSE LABORATORIES  
(408) 432-8192  
DATA REPORT**

Analyte-Method: **pH-9045**  
 Client Project Number: **50604.01.06**  
 Matrix - Units: **SOLID - pH units**  
 Group #: **662**

SDG #: **NA**  
 Prep. Batch: **16209**  
 Analyst: *[Signature]*  
 Supervisor: *[Signature]*

ITS-SJ Sample ID	Client Sample ID	Prep. Method	Instr. ID	Date Sampled	Date Prepared	Date Analyzed	D.F.	Reporting Limit	Results	Q
97051285	WP1-1-1-0.8	9045	MET3	05/16/97	05/19/97	05/19/97	1	+/-0.1	8.6	
97051286	WP1-2-8-1.3	9045	MET3	05/16/97	05/19/97	05/19/97	1	+/-0.1	8.0	
97051287	WP1-3-13-2.5	9045	MET3	05/16/97	05/19/97	05/19/97	1	+/-0.1	8.0	
97051288	WP1-4-18.2.2	9045	MET3	05/16/97	05/19/97	05/19/97	1	+/-0.1	8.4	
97051289	WP1-5-22-1.7	9045	MET3	05/16/97	05/19/97	05/19/97	1	+/-0.1	8.5	
97051290	WP1-6-26-1.0	9045	MET3	05/16/97	05/19/97	05/19/97	1	+/-0.1	8.2	
97051291	WP1-7-32-2.5	9045	MET3	05/16/97	05/19/97	05/19/97	1	+/-0.1	8.4	
97051292	WP1-7-33-2.0	9045	MET3	05/16/97	05/19/97	05/19/97	1	+/-0.1	8.1	
97051293	WP1-8-36-0.7	9045	MET3	05/16/97	05/19/97	05/19/97	1	+/-0.1	8.4	
97051294	WP1-1-40-2.0	9045	MET3	05/16/97	05/19/97	05/19/97	1	+/-0.1	8.10	

COMMENTS:

**INCHCAPE TESTING SERVICES  
SAN JOSE LABORATORIES  
(408) 432-8192  
SAMPLE DUPLICATE REPORT**

ITS-SJ Sample ID: 97051285DU  
Client Sample ID: WP1-1-1-0.8  
Client Project Number: 50604.01.06  
Matrix: SOLID  
Group #: 662

SDG #: N/A  
Analyst: *[Signature]*  
Supervisor:

Analyte	Prep. Method	Prep. Batch	Analyt. Method	Instr. ID	Date Prepared	Date Analyzed	Dil. Factor	Units	Sample Conc.	Sample Duplicate Conc.	RPD	Q
pH	9045	16209	9045	MET3	05/19/97	05/19/97	1	pH	8.6	8.7	1.2	

COMMENTS:



**CUSTOMER: ITS/San Jose**  
**PROJECT: 662 S0604.01.06**

**REPORT NUMBER: D97-6171**  
**SAMPLES RECEIVED: 20-May-1997**

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(D97-6171)

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**CASE NARRATIVE**



**Intertek Testing Services**  
Environmental Laboratories

DATE RECEIVED: 20-MAY-1997

REPORT NUMBER: D97-6171

REPORT DATE: 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Suite E  
San Jose, Ca 95131  
ATTENTION : Mr. Michael Malveda  
  
PROJECT : 662 S0604.01.06

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CASE NARRATIVE COMMENTS:

This is a QC Level 3 data package. Please find enclosed results for the analysis of total lead and TCLP lead by EPA methodology.

Metals Analysis

No issues were noted during the total lead and TCLP lead analysis for this task.

If you have any questions, please feel free to call Mr. John (J.T.) Todd at (972) 238-5591.

Gregory K. Horton  
Data Review



# Intertek Testing Services Environmental Laboratories

JOB ID : D97-6171  
 CUSTOMER : ITS/San Jose  
 PROJECT : 662 S0604.01.06

SAMPLE ID : D97-6171-1      DATE SAMPLED : 16-MAY-1997 ID MARKS : WP1-1-1-0.8 97051285					
ANALYSIS	PRP	PRP DATE	ANL	ANL DATE	QC BATCH NUMBER
M_PB_TC_I /1	SPF	22-MAY-1997	MPE	23-MAY-1997	17279
M_PB_T_S_P /1	HMR	21-MAY-1997	MPE	21-MAY-1997	17142
SOLID_TPER /1			SAB	23-MAY-1997	106057J

SAMPLE ID : D97-6171-2      DATE SAMPLED : 16-MAY-1997 ID MARKS : WP1-2-8-1.3 97051286					
ANALYSIS	PRP	PRP DATE	ANL	ANL DATE	QC BATCH NUMBER
M_PB_TC_I /1	SPF	22-MAY-1997	MPE	23-MAY-1997	17279
M_PB_T_S_P /1	HMR	21-MAY-1997	MPE	21-MAY-1997	17142
SOLID_TPER /1			SAB	23-MAY-1997	106057J

SAMPLE ID : D97-6171-3      DATE SAMPLED : 16-MAY-1997 ID MARKS : WP1-3-13-2.5 97051287					
ANALYSIS	PRP	PRP DATE	ANL	ANL DATE	QC BATCH NUMBER
M_PB_TC_I /1	SPF	22-MAY-1997	MPE	23-MAY-1997	17279
M_PB_T_S_P /1	HMR	21-MAY-1997	MPE	21-MAY-1997	17142
SOLID_TPER /1			SAB	23-MAY-1997	106057J

SAMPLE ID : D97-6171-4      DATE SAMPLED : 16-MAY-1997 ID MARKS : WP1-4-18-2.2 97051288					
ANALYSIS	PRP	PRP DATE	ANL	ANL DATE	QC BATCH NUMBER
M_PB_TC_I /1	SPF	22-MAY-1997	MPE	23-MAY-1997	17279
M_PB_T_S_P /1	HMR	21-MAY-1997	MPE	21-MAY-1997	17142
SOLID_TPER /1			SAB	23-MAY-1997	106057J



# Intertek Testing Services Environmental Laboratories

JOB ID : D97-6171  
 CUSTOMER : ITS/San Jose  
 PROJECT : 662 S0604.01.06

SAMPLE ID : D97-6171-5      DATE SAMPLED : 16-MAY-1997 ID MARKS : WP1-5-22-1.7 97051289					
ANALYSIS	PRP	PRP DATE	ANL	ANL DATE	QC BATCH NUMBER
M_PB_TC_I /1	SPF	22-MAY-1997	MPE	23-MAY-1997	17279
M_PB_T_S_P /1	HMR	21-MAY-1997	MPE	21-MAY-1997	17142
SOLID_TPER /1			SAB	23-MAY-1997	106057J

SAMPLE ID : D97-6171-6      DATE SAMPLED : 16-MAY-1997 ID MARKS : WP1-6-26-1.0 97051290					
ANALYSIS	PRP	PRP DATE	ANL	ANL DATE	QC BATCH NUMBER
M_PB_TC_I /1	SPF	22-MAY-1997	MPE	23-MAY-1997	17279
M_PB_T_S_P /1	HMR	21-MAY-1997	MPE	21-MAY-1997	17142
SOLID_TPER /1			SAB	23-MAY-1997	106057J

SAMPLE ID : D97-6171-7      DATE SAMPLED : 16-MAY-1997 ID MARKS : WP1-7-32-2.5 97051291					
ANALYSIS	PRP	PRP DATE	ANL	ANL DATE	QC BATCH NUMBER
M_PB_TC_I /1	SPF	22-MAY-1997	MPE	23-MAY-1997	17279
M_PB_T_S_P /1	HMR	21-MAY-1997	MPE	21-MAY-1997	17142
SOLID_TPER /1			SAB	23-MAY-1997	106057J

SAMPLE ID : D97-6171-8      DATE SAMPLED : 16-MAY-1997 ID MARKS : WP1-7-33-2.0 97051292					
ANALYSIS	PRP	PRP DATE	ANL	ANL DATE	QC BATCH NUMBER
M_PB_TC_I /1	SPF	22-MAY-1997	MPE	23-MAY-1997	17279
M_PB_T_S_P /1	HMR	21-MAY-1997	MPE	21-MAY-1997	17142
SOLID_TPER /1			SAB	23-MAY-1997	106057J



# Intertek Testing Services Environmental Laboratories

JOB ID : D97-6171  
 CUSTOMER : ITS/San Jose  
 PROJECT : 662 S0604.01.06

SAMPLE ID : D97-6171-9      DATE SAMPLED : 16-MAY-1997					
ID MARKS : WP1-8-36-0.7 97051293					
ANALYSIS	PRP	PRP DATE	ANL	ANL DATE	QC BATCH NUMBER
M_PB_TC_I /1	SPF	22-MAY-1997	MPE	23-MAY-1997	17279
M_PB_T_S_P /1	HMR	21-MAY-1997	MPE	21-MAY-1997	17142
SOLID_TPER /1			SAB	23-MAY-1997	106057J

SAMPLE ID : D97-6171-10      DATE SAMPLED : 16-MAY-1997					
ID MARKS : WP1-8-40-2.0 97051294					
ANALYSIS	PRP	PRP DATE	ANL	ANL DATE	QC BATCH NUMBER
M_PB_TC_I /1	SPF	22-MAY-1997	MPE	23-MAY-1997	17279
M_PB_T_S_P /1	HMR	21-MAY-1997	MPE	21-MAY-1997	17142
SOLID_TPER /1			SAB	23-MAY-1997	106057J

ANALYSIS	DESCRIPTION
M_PB_TC_I	Lead, TCLP , by ICP
M_PB_T_S_P	Lead, Total, Solid, by PE-ICP
SOLID_TPER	Total Solids, Soil/Sludge, %



**Intertek Testing Services**  
Environmental Laboratories

## **CHAIN OF CUSTODY**





# CHAIN-OF-CUSTODY RECORD

PROJECT NUMBER		PROJECT NAME				Number of Cntrs	Type of Containers	Type of Analysis		Condition of Samples	Initials	
1662		S0604.01.06						Total Pb TCIP Pb				
Send Report Attention of:			Report Due	Verbal Due								
			5/30/97	1 1								
Sample Number	Date	Time	Comp	Matrix	Station Location							
WPI-1-1-0.8	5/16/97	1350		S	97051285	1	(16025)	X	X		6/17/97	-1
WPI-2-8-1.3		1357			97051286			X	X			2
WPI-3-13-2.5		1415			97051287			X	X			3
WPI-4-18-2.2		1430			97051288			X	X			4
WPI-5-22-1.7		1440			97051289			X	X			5
WPI-6-26-1.0		1450			97051290			X	X			6
WPI-7-32-2.5		1510			97051291			X	X			7
WPI-7-33-2.0		1525			97051292			X	X			8
WPI-8-36-0.7		1535			97051293			X	X			9
WPI-8-40-2.0		1550			97051294			X	X			10
SCREENED FOR RADIOACTIVITY						COOLER TEMPERATURE WHEN RECEIVED 4 °C						
Relinquished by: (Signature)		Date/Time	Received by: (Signature)		Date/Time	Remarks: PLEASE SEND RAW DATA AND ORIGINAL CHAIN OF CUSTODY ALONG WITH THE REPORT. <i>Submitted to Dallas</i>						
<i>[Signature]</i>		5-19-97 1602	<i>[Signature]</i>		5-20-97/1130							
Relinquished by: (Signature)		Date/Time	Received by: (Signature)		Date/Time							
Relinquished by: (Signature)		Date/Time	Received by Lab:		Date/Time	COMPANY: INCHCAPE TESTING SERVICES ADDRESS: 1961 CONCOURSE DRIVE, SUITE E SAN JOSE, CA 95131 PHONE: (408) 432 8192 FAX: (408) 432 8198						



**Intertek Testing Services**  
Environmental Laboratories

**SUBCONTRACT PURCHASE ORDER**

ITS Contact : MICHAEL MALVEDA

To: ITS-DALLAS Lab Contact : J.T.

PO # : 662/663

Turnaround Time : STD

QTY	ANALYSES REQUESTED	COST / SAMPLE	EXTENDED PRICE
<del>10</del> 13	TOTAL LEAD	35	<del>350</del> 455
<del>10</del> 13	TCLP LEAD	110	<del>1100</del> 1430

TOTAL COST ~~\$1450~~ \$1885

ADDITIONAL COMMENTS:  
THE GAURETT GROUP

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**ANALYTICAL RESULTS**



# Intertek Testing Services Environmental Laboratories

## ANALYTICAL REPORT

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171

REPORT DATE : 27-MAY-1997

ATTENTION : Michael Malveda  
SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131

PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662

Included in this data package are the analytical results for the sample group which you have submitted to Intertek Testing Services for analysis. These results are representative of the samples as received by the laboratory.

The information contained herein has undergone extensive review and is deemed accurate and complete. Sample analysis and quality control were performed in accordance with all applicable protocols. Please refrain from reproducing this report except in its entirety.

If you have any questions regarding this report and its associated materials please call your Project Manager at (972) 238-5591.

We appreciate the opportunity to serve you and look forward to providing continued service in the future.

Martin Jeffus  
General Manager



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-1  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-1-1-0.8  
: 97051285  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.50 mg/Kg	331 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 21-MAY-1997 by HMR Analyzed using EPA 6010A on 21-MAY-1997 by MPE QC Batch No : 17142		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-1

REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
 ADDRESS : 1961 Concourse Dr., Ste. E  
 : San Jose, CA 95131  
 ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
 ID MARKS : WP1-1-1-0.8  
 : 97051285  
 PROJECT : 662 S0604.01.06  
 PURCHASE ORDER NO : 662  
 DATE SAMPLED : 16-MAY-1997

TCLP METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.200 mg/L	< 0.200 mg/L
Dilution Factor : 1 Prepared using EPA 1311/3015 on 22-MAY-1997 by SPF Analyzed using EPA 6010A on 23-MAY-1997 by MPE QC Batch No : 17279		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-1  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-1-1-0.8  
: 97051285  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Total Solids /1	0.01 %	80.2 %
Analyzed using ASTM D2216 mod. on 23-MAY-1997 by SAB QC Batch No : 106057J		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-2  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-2-8-1.3  
: 97051286  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.50 mg/Kg	383 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 21-MAY-1997 by HMR Analyzed using EPA 6010A on 21-MAY-1997 by MPE QC Batch No : 17142		





# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-2  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-2-8-1.3  
: 97051286  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

TCLP METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.200 mg/L	< 0.200 mg/L
Dilution Factor : 1 Prepared using EPA 1311/3015 on 22-MAY-1997 by SPF Analyzed using EPA 6010A on 23-MAY-1997 by MPE QC Batch No : 17279		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-2  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-2-8-1.3  
: 97051286  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Total Solids /1	0.01 %	79.9 %
Analyzed using ASTM D2216 mod. on 23-MAY-1997 by SAB QC Batch No : 106057J		



**Intertek Testing Services**  
**Environmental Laboratories**

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-3  
 REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
 ADDRESS : 1961 Concourse Dr., Ste. E  
 : San Jose, CA 95131  
 ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
 ID MARKS : WP1-3-13-2.5  
 : 97051287  
 PROJECT : 662 S0604.01.06  
 PURCHASE ORDER NO : 662  
 DATE SAMPLED : 16-MAY-1997

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.50 mg/Kg	674 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 21-MAY-1997 by HMR Analyzed using EPA 6010A on 21-MAY-1997 by MPE QC Batch No : 17142		

**ITS** Intertek Testing Services  
Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-3

REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-3-13-2.5  
: 97051287  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

TCLP METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.200 mg/L	0.482 mg/L
Dilution Factor : 1 Prepared using EPA 1311/3015 on 22-MAY-1997 by SPF Analyzed using EPA 6010A on 23-MAY-1997 by MPE QC Batch No : 17279		



# Intertek Testing Services

## Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-3  
 REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
 ADDRESS : 1961 Concourse Dr., Ste. E  
 : San Jose, CA 95131  
 ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
 ID MARKS : WP1-3-13-2.5  
 : 97051287  
 PROJECT : 662 S0604.01.06  
 PURCHASE ORDER NO : 662  
 DATE SAMPLED : 16-MAY-1997

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Total Solids /1	0.01 %	88.1 %
Analyzed using ASTM D2216 mod. on 23-MAY-1997 by SAB QC Batch No : 106057J		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-4  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-4-18-2.2  
: 97051288

PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.50 mg/Kg	3010 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 21-MAY-1997 by HMR Analyzed using EPA 6010A on 21-MAY-1997 by MPE QC Batch No : 17142		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-4  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-4-18-2.2  
: 97051288  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

TCLP METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.200 mg/L	0.384 mg/L
Dilution Factor : 1 Prepared using EPA 1311/3015 on 22-MAY-1997 by SPF Analyzed using EPA 6010A on 23-MAY-1997 by MPE QC Batch No : 17279		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-4

REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-4-18-2.2  
: 97051288  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Total Solids /1	0.01 %	77.3 %
Analyzed using ASTM D2216 mod. on 23-MAY-1997 by SAB QC Batch No : 106057J		





# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-5

REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
 ADDRESS : 1961 Concourse Dr., Ste. E  
 : San Jose, CA 95131  
 ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
 ID MARKS : WP1-5-22-1.7  
 : 97051289  
 PROJECT : 662 S0604.01.06  
 PURCHASE ORDER NO : 662  
 DATE SAMPLED : 16-MAY-1997

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.50 mg/Kg	340 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 21-MAY-1997 by HMR Analyzed using EPA 6010A on 21-MAY-1997 by MPE QC Batch No : 17142		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-5

REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-5-22-1.7  
: 97051289  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

TCLP METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.200 mg/L	< 0.200 mg/L
Dilution Factor : 1 Prepared using EPA 1311/3015 on 22-MAY-1997 by SPF Analyzed using EPA 6010A on 23-MAY-1997 by MPE QC Batch No : 17279		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-5  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-5-22-1.7  
              : 97051289  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Total Solids /1	0.01 %	78.8 %
Analyzed using ASTM D2216 mod. on 23-MAY-1997 by SAB QC Batch No : 106057J		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-6  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-6-26-1.0  
: 97051290  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.50 mg/Kg	405 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 21-MAY-1997 by HMR Analyzed using EPA 6010A on 21-MAY-1997 by MPE QC Batch No : 17142		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-6

REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
 ADDRESS : 1961 Concourse Dr., Ste. E  
 : San Jose, CA 95131  
 ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
 ID MARKS : WP1-6-26-1.0  
 : 97051290  
 PROJECT : 662 S0604.01.06  
 PURCHASE ORDER NO : 662  
 DATE SAMPLED : 16-MAY-1997

TCLP METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.200 mg/L	0.435 mg/L
Dilution Factor : 1 Prepared using EPA 1311/3015 on 22-MAY-1997 by SPF Analyzed using EPA 6010A on 23-MAY-1997 by MPE QC Batch No : 17279		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-6  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-6-26-1.0  
: 97051290  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Total Solids /1	0.01 %	82.0 %
Analyzed using ASTM D2216 mod. on 23-MAY-1997 by SAB QC Batch No : 106057J		

# ITS Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-7  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-7-32-2.5  
: 97051291  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.50 mg/Kg	507 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 21-MAY-1997 by HMR Analyzed using EPA 6010A on 21-MAY-1997 by MPE QC Batch No : 17142		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-7  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-7-32-2.5  
: 97051291  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

TCLP METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.200 mg/L	< 0.200 mg/L
Dilution Factor : 1 Prepared using EPA 1311/3015 on 22-MAY-1997 by SPF Analyzed using EPA 6010A on 23-MAY-1997 by MPE QC Batch No : 17279		





**Intertek Testing Services**  
**Environmental Laboratories**

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-7  
 REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
 ADDRESS : 1961 Concourse Dr., Ste. E  
 : San Jose, CA 95131  
 ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
 ID MARKS : WP1-7-32-2.5  
 : 97051291  
 PROJECT : 662 S0604.01.06  
 PURCHASE ORDER NO : 662  
 DATE SAMPLED : 16-MAY-1997

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Total Solids /1	0.01 %	82.4 %
Analyzed using ASTM D2216 mod. on 23-MAY-1997 by SAB QC Batch No : 106057J		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-8

REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-7-33-2.0  
: 97051292  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.50 mg/Kg	409 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 21-MAY-1997 by HMR Analyzed using EPA 6010A on 21-MAY-1997 by MPE QC Batch No : 17142		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-8  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-7-33-2.0  
: 97051292  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

TCLP METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.200 mg/L	< 0.200 mg/L
Dilution Factor : 1 Prepared using EPA 1311/3015 on 22-MAY-1997 by SPF Analyzed using EPA 6010A on 23-MAY-1997 by MPE QC Batch No : 17279		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-8  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-7-33-2.0  
: 97051292  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Total Solids /1	0.01 %	75.8 %
Analyzed using ASTM D2216 mod. on 23-MAY-1997 by SAB QC Batch No : 106057J		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-9  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-8-36-0.7  
              : 97051293  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.50 mg/Kg	427 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 21-MAY-1997 by HMR Analyzed using EPA 6010A on 21-MAY-1997 by MPE QC Batch No : 17142		

# ITS Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-9

REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
 ADDRESS : 1961 Concourse Dr., Ste. E  
 : San Jose, CA 95131  
 ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
 ID MARKS : WP1-8-36-0.7  
 : 97051293  
 PROJECT : 662 S0604.01.06  
 PURCHASE ORDER NO : 662  
 DATE SAMPLED : 16-MAY-1997

TCLP METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.200 mg/L	< 0.200 mg/L
Dilution Factor : 1 Prepared using EPA 1311/3015 on 22-MAY-1997 by SPF Analyzed using EPA 6010A on 23-MAY-1997 by MPE QC Batch No : 17279		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-9  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP1-8-36-0.7  
97051293  
PROJECT : 662 S0604.01.06  
PURCHASE ORDER NO : 662  
DATE SAMPLED : 16-MAY-1997

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Total Solids /1	0.01 %	79.6 %
Analyzed using ASTM D2216 mod. on 23-MAY-1997 by SAB QC Batch No : 106057J		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-10

REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
 ADDRESS : 1961 Concourse Dr., Ste. E  
 : San Jose, CA 95131  
 ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
 ID MARKS : WP1-8-40-2.0  
 : 97051294  
 PROJECT : 662 S0604.01.06  
 PURCHASE ORDER NO : 662  
 DATE SAMPLED : 16-MAY-1997

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.50 mg/Kg	672 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 21-MAY-1997 by HMR Analyzed using EPA 6010A on 21-MAY-1997 by MPE QC Batch No : 17142		



**ITS** Intertek Testing Services  
Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-10

REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
 ADDRESS : 1961 Concourse Dr., Ste. E  
 : San Jose, CA 95131  
 ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
 ID MARKS : WP1-8-40-2.0  
 : 97051294  
 PROJECT : 662 S0604.01.06  
 PURCHASE ORDER NO : 662  
 DATE SAMPLED : 16-MAY-1997

TCLP METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.200 mg/L	< 0.200 mg/L
Dilution Factor : 1 Prepared using EPA 1311/3015 on 22-MAY-1997 by SPF Analyzed using EPA 6010A on 23-MAY-1997 by MPE QC Batch No : 17279		



**Intertek Testing Services**  
**Environmental Laboratories**

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6171-10

REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
 ADDRESS : 1961 Concourse Dr., Ste. E  
 : San Jose, CA 95131  
 ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
 ID MARKS : WP1-8-40-2.0  
 : 97051294  
 PROJECT : 662 S0604.01.06  
 PURCHASE ORDER NO : 662  
 DATE SAMPLED : 16-MAY-1997

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Total Solids /1	0.01 %	85.3 %
Analyzed using ASTM D2216 mod. on 23-MAY-1997 by SAB QC Batch No : 106057J		



**Intertek Testing Services**  
Environmental Laboratories

## **QUALITY CONTROL SUMMARY**

# ITS

## Intertek Testing Services Environmental Laboratories

REPORT DATE : 27-MAY-1997

REPORT NUMBER : D97-6171

SAMPLE SUBMITTED BY : ITS/San Jose  
 ATTENTION : Michael Malveda  
 PROJECT : 662 S0604.01.06

### LABORATORY QUALITY CONTROL REPORT

ANALYTE	Lead	Lead
BATCH NO.	17142	17279
LCS LOT NO.	AB300-72,74	AB300-72,74
PREP METHOD	EPA 3051	EPA 1311/3015
PREPARED BY	HMR	SPF
ANALYSIS METHOD	EPA 6010A	EPA 6010A
ANALYZED BY	MPE	MPE
UNITS	mg/Kg	mg/L
METHOD BLANK	< 0.500	< 0.200
SPIKE LEVEL	100	1.00
SPK REC LIMITS	75.0 - 125	80.0 - 120
SPK RPD LIMITS	25.0	20.0
MS RESULT	102	1.29
MS RECOVERY %	102	99.4
MSD RESULT	101	1.29
MSD RECOVERY %	101	99.4
MS/MSD RPD %	0.99	0.00
BS RESULT	NA	NA
BS RECOVERY %	NA	NA
BSD RESULT	NA	NA
BSD RECOVERY %	NA	NA
BS/BSD RPD %	NA	NA
DUP RPD LIMITS	---	20.0
DUPLICATE RPD %	NC	0.34
LCS LEVEL	100	1.00
LCS REC LIMITS	75.0 - 125	80.0 - 120
LCS RESULT	95.9	0.990
LCS RECOVERY %	95.9	99.0
SPIKE SAMPLE ID	6101-2	6146-1
SAMPLE VALUE	< 0.500	0.296
DUP SAMPLE ID	6101-2	6146-1
DUP SAMPLE VAL/1	---	0.297
DUP SAMPLE VAL/2	---	0.296

NA  
NC

Not applicable  
Not calculable

Intertek Testing Services NA Inc.  
 1089 East Collins Boulevard Richardson, TX 75081  
 Telephone (972) 238-5591 Fax (972) 238-5592

Report to:  
 Company: The Gauntlet Group  
 Address: 111 W. Evelyn Avenue  
Suite 305, Sunnyvale  
CA 94086  
 Contact: \_\_\_\_\_  
 Phone: Jim Butera 328-0814  
 Fax: 774-6757  
 Contract/Quote #: 76055

Invoice to  
 Company: Same  
 Address: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 PO/SO #: NA

ANALYSIS REQUESTED

*Total Lead*  
*TCIP Lead*  
*PH*

Lab use only  
 Due Date: \_\_\_\_\_  
 Temp. of coolers when received (C°):  
 1 | 2 | 3 | 4 | 5  
 Custody Seal N / Y  
 Intact N / Y  
 Screened For Radioactivity

Sampler's Name \_\_\_\_\_ Sampler's Signature \_\_\_\_\_

Proj. No. 506040.06 Project Name \_\_\_\_\_ No./Type of Containers<sup>2</sup> \_\_\_\_\_

Matrix <sup>1</sup>	Date	Time	C o m p	G r a b	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O	Lab Sample ID (Lab Use Only)						
										1	2	3	4	5		
SD	5-16	1350			WPI-1-1-0.8				X	X	X					97051285
SD	5-16	1357			WPI-2-8-1.3				X	X	X					97051286
SD	5-16	1415			WPI-3-13-2.5				X	X	X					97051287
SD	5-16	1430			WPI-4-18-2.2				X	X	X					97051288
SD	5-16	1440			WPI-5-22-1.7				X	X	X					97051289
SD	5-16	1450			WPI-6-26-1.0				X	X	X					97051290
SD	5-16	1510			WPI-7-32-2.5				X	X	X					97051291
SD	5-16	1525			WPI-7-33-2.0				X	X	X					97051292
SD	5-16	1545			WPI-8-36-0.7				X	X	X					97051293
SD	5-16	1550			WPI-8-40-2.0				X	X	X					97051294

Turn around time  Priority 1 or Standard  Priority 2 or 50% \*  Priority 3 or 100% \*  Priority 4 ERS (Dallas Only) \* Must Coordinate with Project Manager

Shipment For Case Complete  Yes  No

Relinquished by: (Signature) <i>Butera</i>	Date: <u>5-16-97</u> Time: <u>1710</u>	Received by: (Signature)	Date: _____ Time: _____	Remarks
Relinquished by: (Signature)	Date: _____ Time: _____	Received by: (Signature)	Date: _____ Time: _____	
Relinquished by: (Signature)	Date: _____ Time: _____	Received by: (Signature) <i>[Signature]</i>	Date: <u>5-16-97</u> Time: <u>1710</u>	

Client's delivery of samples constitutes acceptance of ITS Environmental Laboratories terms and conditions contained in the Price Schedule.

<sup>1</sup> Matrix WW - Wastewater W - Water S - Soil SD - Solid L - Liquid A - Air Bag C - Charcoal tube SL - Sludge O - Oil  
<sup>2</sup> Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

16-0Z Glass Wide Mouth

ITS cannot accept verbal changes. Please Fax written changes to (408) 432-8198



# Intertek Testing Services Environmental Laboratories

SAMPLE RECEIVING CHECKLIST		
Workorder Number: <u>662</u>	Client Project ID: <u>50604.01.06</u>	Quote Number: _____
<b>Cooler</b>		
Shipping documentation present? If YES, enter Carrier and Airbill #:	YES	NO <u>N/A</u>
Custody Seal on the outside of cooler? Condition: Intact Broken	YES	NO <u>N/A</u>
Temperature of sample(s) within range? List temperatures of cooler(s): <u>4 C</u> Note: If all samples taken within previous 4 hr, circle N/A and place in sample storage area as soon as possible.	<u>YES</u>	NO N/A IR <u>-1</u> Temp Blank _____
<b>Samples</b>		
Chain of custody seal present for each container? Condition: Intact Broken	YES	NO <u>N/A</u>
Samples arrived within holding time?	<u>YES</u>	NO N/A
Samples in proper containers for methods requested? Condition of containers: <u>Intact</u> Broken If NO, were samples transferred to proper container(s)? Yes No	<u>YES</u>	NO
VOA containers received with zero headspace or bubbles < 6 mm?	YES	NO <u>N/A</u>
Container labels complete? (ID, date, time, preservative)	<u>YES</u>	NO N/A
Samples properly preserved? If NO, was the preservative added at time of receipt? Yes No	YES	NO <u>N/A</u>
pH check of samples required at time of receipt?(volatiles checked at analysis) If YES, pH checked and recorded by:	YES	<u>NO</u>
Sufficient amount of sample received for methods requested? If NO, has the client or PM been notified? Yes No	<u>YES</u>	NO
Field blanks received with sample batch?	YES	NO <u>N/A</u>
Trip blanks received with sample batch?	YES	NO <u>N/A</u>
<b>Chain of Custody</b>		
Chain of custody form received with samples?	<u>YES</u>	NO
Has it been filled out completely and in ink?	<u>YES</u>	NO
Sample IDs on chain of custody form agree with labels?	<u>YES</u>	NO
Number of containers on chain agree with number received?	<u>YES</u>	NO
Analysis methods specified?	<u>YES</u>	NO
Sampling date and time indicated?	<u>YES</u>	NO
Proper signatures of sampler, courier and custodian in appropriate spaces? With time and date? <u>Yes</u> No	<u>YES</u>	NO
Turnaround time? <u>Standard</u> Rush		

Any NO responses and/or any BROKEN that was checked must be detailed in a Corrective Action Form.

Sample Custodian: JP Date: 5-20-97 Project Manager: Mih/Phh Date: 5/21/97

**Table 4**  
**September 11, 1997 Sampling Data**  
**Lead Solubility in Fresh Water, Round 1 Results**  
**Pacific Dry Dock Yard I**  
**Oakland, California**

Analyte	SANDBLAST GRIT STOCKPILE SAMPLE IDENTIFICATIONS				DTSC REGULATORY LEVEL
	WP1-1-9-1.0 (µg/l) <sup>2</sup>	WP1-2-20-2.0 (µg/l)	WP1-3-29-3.1 (µg/l)	WP1-4-37-1.4 (µg/l)	Guidance Level <sup>1</sup> (µg/l)
Soluble Lead (EPA Method 1320, Modified)	<5	<5	15	<5	83

1. Department of Toxic Substances Control Regulatory Guidance for Reclassification, February 1997
2. µg/l = micrograms per liter

**Table 5**  
**September 11, 1997 Sampling Data**  
**Lead Solubility in Artificial Sea Water, Round 1 Results**  
**Pacific Dry Dock Yard I**  
**Oakland, California**

Analyte	SANDBLAST GRIT STOCKPILE SAMPLE IDENTIFICATIONS				DTSC REGULATORY LEVEL
	WP1-1-9-1.0 ( $\mu\text{g/l}$ ) <sup>2</sup>	WP1-2-20-2.0 ( $\mu\text{g/l}$ )	WP1-3-29-3.1 ( $\mu\text{g/l}$ )	WP1-4-37-1.4 ( $\mu\text{g/l}$ )	Guidance Level <sup>1</sup> ( $\mu\text{g/l}$ )
Soluble Lead (EPA Method 1320, Modified)	<50	<50	<50	<50	140

1. Department of Toxic Substances Control Regulatory Guidance for Reclassification, February 1997
2.  $\mu\text{g/l}$  = micrograms per liter





October 1, 1997

Service Request No.: S9701770

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: 604.01.07

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on September 11, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 14, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. Green", written in a cursive style.

Steven L. Green  
Project Chemist

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701770  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Total Metals  
Lead

**Prep Method:** EPA 3050BM  
**Analysis Method:** 6010A  
**Test Notes:**

**Units:** mg/Kg (ppm)  
**Basis:** NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
WP1-1-9-1.0	S9701770-001	5	1	9/15/97	9/15/97	390	
WP1-2-20-2.0	S9701770-002	5	1	9/15/97	9/15/97	390	
WP1-3-29-3.1	S9701770-003	5	1	9/15/97	9/15/97	340	
WP1-4-37-1.4	S9701770-004	5	1	9/15/97	9/15/97	430	
Method Blank	S970915-MB	5	1	9/15/97	9/15/97	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701770  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

**Lead**  
Determination of Maximum Solubility in Fresh Water\*

**Sample Name:** WP1-1-9-1.0      **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S9701770-001      **Basis:** NA  
**Test Notes:**

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 18-19, 1997	EPA 3005	7421	5	83	1	9/19/97	9/19/97	ND	
September 24-25, 1997	EPA 3005	7421	5	83	1	9/25/97	9/25/97	ND	

\* See attached method for extraction procedure.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701770  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Lead

Determination of Maximum Solubility in Fresh Water\*

**Sample Name:** WP1-2-20-2.0      **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S9701770-002      **Basis:** NA  
**Test Notes:**

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 18-19, 1997	EPA 3005	7421	5	83	1	9/19/97	9/19/97	ND	
September 24-25, 1997	EPA 3005	7421	5	83	1	9/25/97	9/25/97	59	
September 26-27, 1997	EPA 3005	7421	5	83	1	9/29/97	9/29/97	ND	

\* See attached method for extraction procedure.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701770  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Lead

Determination of Maximum Solubility in Fresh Water\*

**Sample Name:** WP1-3-29-3.1      **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S9701770-003      **Basis:** NA  
**Test Notes:**

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 18-19, 1997	EPA 3005	7421	5	83	1	9/19/97	9/19/97	15	
September 24-25, 1997	EPA 3005	7421	5	83	1	9/25/97	9/25/97	8	

\* See attached method for extraction procedure.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701770  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Lead

Determination of Maximum Solubility in Fresh Water\*

**Sample Name:** WP1-4-37-1.4      **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S9701770-004      **Basis:** NA  
**Test Notes:**

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 18-19, 1997	EPA 3005	7421	5	83	1	9/19/97	9/19/97	ND	
September 24-25, 1997	EPA 3005	7421	5	83	1	9/25/97	9/25/97	ND	

\* See attached method for extraction procedure.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701770  
**Date Collected:** NA  
**Date Received:** NA

Lead

Determination of Maximum Solubility in Fresh Water\*

**Sample Name:** Method Blank **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S97mmdd-MB **Basis:** NA  
**Test Notes:**

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 18-19, 1997	EPA 3005	7421	5	83	1	9/19/97	9/19/97	ND	
September 24-25, 1997	EPA 3005	7421	5	83	1	9/25/97	9/25/97	ND	

\* See attached method for extraction procedure.



**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701770  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

**Lead**  
 Determination of Maximum Solubility in Sea Water\*

**Sample Name:** WP1-1-9-1.0      **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S9701770-001      **Basis:** NA  
**Test Notes:**

<b>Date Extracted</b>	<b>Prep Method</b>	<b>Analysis Method</b>	<b>MRL</b>	<b>Soluble Limits*</b>	<b>Dilution Factor</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Result</b>	<b>Result Notes</b>
September 20-21, 1997	EPA 3005	7421	5	140	10	9/22/97	9/22/97	<50	M1

\* See attached method for extraction procedure.  
 M1 The MRL was elevated because of matrix interferences.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701770  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Lead  
Determination of Maximum Solubility in Sea Water\*

**Sample Name:** WP1-2-20-2.0      **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S9701770-002      **Basis:** NA  
**Test Notes:**

<b>Date Extracted</b>	<b>Prep Method</b>	<b>Analysis Method</b>	<b>MRL</b>	<b>Soluble Limits*</b>	<b>Dilution Factor</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Result</b>	<b>Result Notes</b>
September 20-21, 1997	EPA 3005	7421	5	140	10	9/22/97	9/22/97	<50	M1

\*  
M1      See attached method for extraction procedure.  
The MRL was elevated because of matrix interferences.

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701770  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Lead

Determination of Maximum Solubility in Sea Water\*

Sample Name: WP1-3-29-3.1 Units: ug/L(ppb) in Extractant  
 Lab Code: S9701770-003 Basis: NA  
 Test Notes:

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 20-21, 1997	EPA 3005	7421	5	140	10	9/22/97	9/22/97	<50	M1

\* See attached method for extraction procedure.  
 M1 The MRL was elevated because of matrix interferences.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701770  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Lead

Determination of Maximum Solubility in Sea Water\*

**Sample Name:** WP1-4-37-1.4      **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S9701770-004      **Basis:** NA  
**Test Notes:**

<b>Date Extracted</b>	<b>Prep Method</b>	<b>Analysis Method</b>	<b>MRL</b>	<b>Soluble Limits*</b>	<b>Dilution Factor</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Result</b>	<b>Result Notes</b>
September 20-21, 1997	EPA 3005	7421	5	140	10	9/22/97	9/22/97	<50	M1

\* See attached method for extraction procedure.  
M1 The MRL was elevated because of matrix interferences.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701770  
**Date Collected:** NA  
**Date Received:** NA

Lead

Determination of Maximum Solubility in Sea Water\*

**Sample Name:** Method Blank **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S97mmdd-MB **Basis:** NA  
**Test Notes:**

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 20-21, 1997	EPA 3005	7421	5	140	1	9/22/97	9/22/97	ND	

\* See attached method for extraction procedure.



2059 Junction Avenue • San Jose, CA 95131 • (408) 437-2400 • FAX (408) 437-9356

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SERVICE REQUEST NO. S9701770 P.O.# \_\_\_\_\_ PAGE 1 OF 1

PROJECT NAME # <u>6040107</u>					NUMBER OF CONTAINERS	ANALYSIS REQUESTED													REMARKS							
PROJECT MGR. <u>Placey</u>						PRESERVATIVE	HCl	HCl	HCl	NP	NP	NP	HCl	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>		H <sub>2</sub> SO <sub>4</sub>	NaOH					
COMPANY <u>The Gantlett Group</u>						Volatile Organics GC/MS 624/8240/8260	Halogenated or Aromatic Volatiles 601/8010	TPH as Gas/BTEX DHS LUFT / 8020	TPH as Diesel/HBHC DHS LUFT	Base/Neu/Acid Organics GC/MS 625/8270	Pesticides / PCBs 609/8080	TRPH - 418.1	Oil and Grease Method	Metals (total or dissolved) List Below	pH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS Alk, NO <sub>3</sub> , NO <sub>2</sub> (circle)	NH <sub>3</sub> -N, COD, Total-P, TKN, NO <sub>3</sub> /NO <sub>2</sub> (circle)	Total Organic Carbon	Total Phenols		Cyanide						
ADDRESS <u>111 W Evelyn Avenue, #305 San Jose, CA 95126</u>																										
PHONE <u>328-0844</u>																										
FAX <u>744-6757</u>																										
SAMPLER'S SIGNATURE <u>[Signature]</u>																										
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX																						
<u>WPI-1-9-10</u>	<u>9-11-97</u>	<u>1445</u>	<u>1</u>	<u>Solid</u>	<u>2</u>																					
<u>WPI-2-20-20</u>	<u>9-11-97</u>	<u>1810</u>	<u>2</u>	<u>Solid</u>	<u>2</u>																					
<u>WPI-3-29-3.1</u>	<u>9-11-97</u>	<u>1825</u>	<u>3</u>	<u>Solid</u>	<u>2</u>																					
<u>WPI-4-37-1.4</u>	<u>9-11-97</u>	<u>1845</u>	<u>4</u>	<u>Solid</u>	<u>2</u>																					
<u>LAST ENTRY</u>																										

<b>RELINQUISHED BY:</b> Signature <u>[Signature]</u> Printed Name <u>Placey</u> Firm <u>166</u> Date/Time <u>9-11-97 1845</u>		<b>RECEIVED BY:</b> Signature <u>[Signature]</u> Printed Name <u>Kristina Lovelace</u> Firm <u>CAS</u> Date/Time <u>9/11/97 1645</u>		<b>RELINQUISHED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____		<b>RECEIVED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____		<b>TURNAROUND REQUIREMENTS</b> ___ 1 day <input checked="" type="checkbox"/> 2 day ___ 3 day ___ 5 day ___ Other Standard (10 working days) Results Due <u>ASAP</u> <u>Run Attached</u>		<b>REPORT REQUIREMENTS</b> <input checked="" type="checkbox"/> I. Routine Report ___ II. Report (includes MS, MSD, as required, may be charged as samples) ___ III. Data Validation Report (includes All Raw Data) ___ MDLs/PQLs/Trace # ___ Electronic Data Deliverables			
<b>RELINQUISHED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____		<b>RECEIVED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____		<b>SAMPLE RECEIPT:</b> Condition _____ Custody Seals _____ <b>SPECIAL INSTRUCTIONS/COMMENTS:</b> Circle which metals are to be analyzed: Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn As <input checked="" type="checkbox"/> Pb Se Ti Hg <u>Please see attached guidance for maximum solubility testing protocol. Please hold addtl sample</u>								Storage: <u>R20/S71</u>	



March 6, 1997

Service Request No.: S9700365

Mr. Pat Lacey  
Gauntlett Group, LLC  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: 50604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 3, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 7, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. Green". The signature is written in a cursive, flowing style.

Steven L. Green  
Project Chemist

**COLUMBIA ANALYTICAL SERVICES, Inc.**

**Acronyms**

<b>A2LA</b>	American Association for Laboratory Accreditation
<b>ASTM</b>	American Society for Testing and Materials
<b>BOD</b>	Biochemical Oxygen Demand
<b>BTEX</b>	Benzene, Toluene, Ethylbenzene, Xylenes
<b>CAM</b>	California Assessment Metals
<b>CARB</b>	California Air Resources Board
<b>CAS Number</b>	Chemical Abstract Service registry Number
<b>CFC</b>	Chlorofluorocarbon
<b>CFU</b>	Colony-Forming Unit
<b>COD</b>	Chemical Oxygen Demand
<b>DEC</b>	Department of Environmental Conservation
<b>DEQ</b>	Department of Environmental Quality
<b>DHS</b>	Department of Health Services
<b>DLCS</b>	Duplicate Laboratory Control Sample
<b>DMS</b>	Duplicate Matrix Spike
<b>DOE</b>	Department of Ecology
<b>DOH</b>	Department of Health
<b>EPA</b>	U. S. Environmental Protection Agency
<b>ELAP</b>	Environmental Laboratory Accreditation Program
<b>GC</b>	Gas Chromatography
<b>GC/MS</b>	Gas Chromatography/Mass Spectrometry
<b>IC</b>	Ion Chromatography
<b>ICB</b>	Initial Calibration Blank sample
<b>ICP</b>	Inductively Coupled Plasma atomic emission spectrometry
<b>ICV</b>	Initial Calibration Verification sample
<b>J</b>	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
<b>LCS</b>	Laboratory Control Sample
<b>LUFT</b>	Leaking Underground Fuel Tank
<b>M</b>	Modified
<b>MBAS</b>	Methylene Blue Active Substances
<b>MCL</b>	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
<b>MDL</b>	Method Detection Limit
<b>MPN</b>	Most Probable Number
<b>MRL</b>	Method Reporting Limit
<b>MS</b>	Matrix Spike
<b>MTBE</b>	Methyl tert-Butyl Ether
<b>NA</b>	Not Applicable
<b>NAN</b>	Not Analyzed
<b>NC</b>	Not Calculated
<b>NCASI</b>	National Council of the paper industry for Air and Stream Improvement
<b>ND</b>	Not Detected at or above the method reporting/detection limit (MRL/MDL)
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppb</b>	Parts Per Billion
<b>ppm</b>	Parts Per Million
<b>PQL</b>	Practical Quantitation Limit
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RPD</b>	Relative Percent Difference
<b>SIM</b>	Selected Ion Monitoring
<b>SM</b>	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
<b>STLC</b>	Solubility Threshold Limit Concentration
<b>SW</b>	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TDS</b>	Total Dissolved Solids
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>tr</b>	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TSS</b>	Total Suspended Solids
<b>TTLC</b>	Total Threshold Limit Concentration
<b>VOA</b>	Volatile Organic Analyte(s)



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** The Gauntlett Group  
**Project:** #50604.01.01  
**Sample Matrix:** Soil

**Service Request:** L9700767  
**Date Collected:** 3/3/97  
**Date Received:** 3/3/97  
**Date Extracted:** 3/6/97  
**Date Analyzed:** 3/6/97

Total Recoverable Petroleum Hydrocarbons (TRPH)  
EPA Method 418.1  
Units: mg/Kg (ppm)

Sample Name	Lab Code	MRL	Result
WP2-1	L9700767-001	10	310
WP2-2	L9700767-002	10	850
Method Blank	L970306-MB	10	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** THE GAUNTLETT GROUP, LLC  
**Project:** 50604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700365  
**Date Collected:** 3/4/97  
**Date Received:** 3/4/97  
**Date Extracted:** 3/5/97

Aromatic Volatile Organic Compounds  
EPA Method 8020  
Units: mg/kg (ppm)

<b>Sample Name:</b>	<b>WP2-1</b>	<b>WP2-2</b>	<b>Method Blank</b>
<b>Lab Code:</b>	S9700365-001	S9700365-002	S970305-SB1
<b>Date Analyzed:</b>	3/5/97	3/5/97	3/5/97

Analyte	MRL			
Benzene	0.5	ND	ND	ND
Toluene	1	ND	ND	ND
Ethylbenzene	1	ND	ND	ND
Total Xylenes	1	ND	ND	ND

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** THE GAUNTLETT GROUP, LLC  
**Project:** 50604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700365  
**Date Collected:** 3/4/97  
**Date Received:** 3/4/97  
**Date Digested:** 3/5/97

Metals  
 Units: mg/Kg (ppm)

Sample Name:	<b>WP2-1</b>	<b>WP2-2</b>	<b>Method Blank</b>
Lab Code:	S9700365-001	S9700365-002	S9700365-SMB
Date Analyzed:	3/5/97	3/5/97	3/5/97

Analyte	EPA	MRL			
	Method				
Antimony	3050BM/6010A	5	320	ND	ND
Arsenic	3050BM/6010A	5	ND	ND	ND
Barium	3050BM/6010A	1	53	1200	ND
Beryllium	3050BM/6010A	0.5	ND	ND	ND
Cadmium	3050BM/6010A	0.5	0.6	0.6	ND
Chromium	3050BM/6010A	1	78	210	ND
Cobalt	3050BM/6010A	1	7	16	ND
Copper	3050BM/6010A	1	510	640	ND
Lead	3050BM/6010A	5	240	340	ND
Mercury	7470	0.4	4.0	3.6	ND
Molybdenum	3050BM/6010A	1	ND	ND	ND
Nickel	3050BM/6010A	2	29	180	ND
Selenium	3050BM/6010A	5	ND	9	ND
Silver	3050BM/6010A	2	ND	ND	ND
Thallium	3050BM/6010A	5	ND	ND	ND
Vanadium	3050BM/6010A	1	25	48	ND
Zinc	3050BM/6010A	2	480	450	ND

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

**Client:** THE GAUNTLETT GROUP, LLC  
**Project:** 50604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700365  
**Date Collected:** 3/4/97  
**Date Received:** 3/4/97  
**Date Extracted:** NA  
**Date Analyzed:** NA

Surrogate Recovery Summary  
BTEX  
EPA Method 8020

Sample Name	Lab Code	Percent Recovery 1,4-Difluorobenzene
WP2-1	S9700365-001	102
WP2-2	S9700365-002	98
Method Blank	S970305-SB1	103

CAS Acceptance Limits:

80-120



2059 Junction Avenue • San Jose, CA 95131 • (408) 437-2400 • FAX (408) 437-9356

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SERVICE REQUEST NO. 590 365 P.O.# \_\_\_\_\_ PAGE 1 OF 1

PROJECT NAME: <u>#50604-0101</u>					NUMBER OF CONTAINERS	ANALYSIS REQUESTED										REMARKS			
PROJECT MGR: <u>P. Lacey</u>						PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>		H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /NaOH	
COMPANY: <u>The Gawnlett Group, LLC</u>						Base/New/Acid Organics GC/MS 625/8270	Volatiles Organics GC/MS 624/8240/8260	Halogenated or Aromatic Volatiles 601/8070 □ 602/8020 □	TPH as Gas (BTEX) DHS LUFT (3020) <u>8020A</u>	TPH as Diesel/HBHC DHS LUFT	TPH 418 Oil and Grease	Metals (Total or dissolved) List Below	pH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS	NO <sub>3</sub> -N, COD, Total-P, TKN	Total Organic Carbon TOC		Total Phenols Method Cyanide		
ADDRESS: <u>111 West Evelyn Suite 305 Sunnyvale CA 94086</u>																			
PHONE: <u>328-8814</u> FAX: <u>774-6767</u>																			
SAMPLER'S SIGNATURE: <u>J. Butler</u>																			
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX															
WP2-1	3/3/97	1606	1	Soil	1			X	X	X									
WP2-2	3/3/97	1610	2	Soil	1			X	X	X									

96 Hour Fish Toxicity

59700364

RELINQUISHED BY: <u>J. Butler</u> Signature <u>J. Butler</u> Printed Name <u>3/3/97 1715</u> Date/Time	RECEIVED BY: <u>Ray Batten</u> Signature <u>RAY BATTEN</u> Printed Name <u>CAS</u> Firm <u>3/3/97 1715</u> Date/Time	RELINQUISHED BY:	RECEIVED BY:	TURNAROUND REQUIREMENTS 1 day <input checked="" type="checkbox"/> 2 day <input type="checkbox"/> 3 day <input type="checkbox"/> 5 day <input type="checkbox"/> Other <input type="checkbox"/> Standard (10 working days) <input type="checkbox"/> Provide Preliminary Results <input type="checkbox"/> Date Due <u>3/5/97</u>	REPORT REQUIREMENTS <input checked="" type="checkbox"/> I. Routine Report <input type="checkbox"/> II. Report (includes DUP.MAS. MSD, as required, may be charged as samples) <input type="checkbox"/> III. Data Validation Report (includes All Raw Data) RWQCB (MDLs/PQLs/TRACE#)
--	--	------------------	--------------	--	---

RELINQUISHED BY:	RECEIVED BY:	SPECIAL INSTRUCTIONS/COMMENTS: Circle which metals are to be analyzed: Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn As Pb Se Ti Hg
Signature	Signature	<p>Please leave verbal results on Placey U/M</p> <p>96 Hour Fish toxicity / sid FAT see Steve Green 59700364 Title 22 Fish toxicity screen. Please hold remaining sample pending possible additional analysis.</p>
Printed Name	Printed Name	
Firm	Firm	
Date/Time	Date/Time	

Columbia Analytical Service

SUBCONTRACT CHAIN OF CUSTODY

700767

59700365

2059 Junction Ave., San Jose, CA 95131 (408) 453-7300 FAX (408) 437-9526

Date \_\_\_\_\_ Page \_\_\_ of \_\_\_

Project Name: Project Number: 50604 01.01 Project Manager: Pat Lacey  Company/Address: The Gamblett Group 111 West Evelyn, Suite 305 Sunnyvale, CA 94086 Phone: 408-728-0814  SUB LAB: LLAB					Analysis Requested																			
					Number of Containers 418.1																			
Sample ID	Date	Time	LAB I.D.	Sample Matrix																	REMARKS			
WP2-1	3/3		1.0	S	1	X																		
WP2-2	3/3		2.0	S	1	X																		
					TURNAROUND REQUIREMENTS 20 to <input checked="" type="checkbox"/> 40 to _____ days Sized at (10 working days) Provide Verbal Preliminary Results Provide CAS Inclusion: _____ Reported by: <u>3/5/97</u>					REPORT REQUIREMENTS <input checked="" type="checkbox"/> Routine Report If Report includes CAS, MS If MS required, may be changed as sample If CAS Inclusion Report included, include date If CAS Inclusion Report included, include date					INVOICE INFORMATION P.O. # _____ Bill to _____ _____ _____					SAMPLE RECEIPT Shipping Via _____ Shipping # _____ Condition _____ <u>Cos/Intest</u> Lab Use _____				
Requested By: <u>[Signature]</u> Signature: _____ Printed Name: <u>OU RAYBURN</u> Firm: <u>CAS</u> Date/Time: <u>3/4/97</u>					Received By: <u>[Signature]</u> Signature: _____ Printed Name: <u>A. B. R. [Signature]</u> Firm: <u>CAS</u> Date/Time: <u>3/5/97 0900</u>					Special Instructions/Comments:														
Requested By: Signature: Printed Name: Firm: Date/Time:					Received By: Signature: Printed Name: Firm: Date/Time:																			

03/06/97 13:27 FAX  
 CAS Canoga Park →→ CAS SAN JOSE  
 007/007



March 14, 1997

Service Request No.: S9700364

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: 50604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 3, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", written in a cursive style.

Steven L. Green  
Project Chemist

**COLUMBIA ANALYTICAL SERVICES, Inc.**

**Acronyms**

<b>A2LA</b>	American Association for Laboratory Accreditation
<b>ASTM</b>	American Society for Testing and Materials
<b>BOD</b>	Biochemical Oxygen Demand
<b>BTEX</b>	Benzene, Toluene, Ethylbenzene, Xylenes
<b>CAM</b>	California Assessment Metals
<b>CARB</b>	California Air Resources Board
<b>CAS Number</b>	Chemical Abstract Service registry Number
<b>CFC</b>	Chlorofluorocarbon
<b>CFU</b>	Colony-Forming Unit
<b>COD</b>	Chemical Oxygen Demand
<b>DEC</b>	Department of Environmental Conservation
<b>DEQ</b>	Department of Environmental Quality
<b>DHS</b>	Department of Health Services
<b>DLCS</b>	Duplicate Laboratory Control Sample
<b>DMS</b>	Duplicate Matrix Spike
<b>DOE</b>	Department of Ecology
<b>DOH</b>	Department of Health
<b>EPA</b>	U. S. Environmental Protection Agency
<b>ELAP</b>	Environmental Laboratory Accreditation Program
<b>GC</b>	Gas Chromatography
<b>GC/MS</b>	Gas Chromatography/Mass Spectrometry
<b>IC</b>	Ion Chromatography
<b>ICB</b>	Initial Calibration Blank sample
<b>ICP</b>	Inductively Coupled Plasma atomic emission spectrometry
<b>ICV</b>	Initial Calibration Verification sample
<b>J</b>	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
<b>LCS</b>	Laboratory Control Sample
<b>LUFT</b>	Leaking Underground Fuel Tank
<b>M</b>	Modified
<b>MBAS</b>	Methylene Blue Active Substances
<b>MCL</b>	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
<b>MDL</b>	Method Detection Limit
<b>MPN</b>	Most Probable Number
<b>MRL</b>	Method Reporting Limit
<b>MS</b>	Matrix Spike
<b>MTBE</b>	Methyl tert-Butyl Ether
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<b>NCASI</b>	National Council of the paper industry for Air and Stream Improvement
<b>ND</b>	Not Detected at or above the method reporting/detection limit (MRL/MDL)
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppb</b>	Parts Per Billion
<b>ppm</b>	Parts Per Million
<b>PQL</b>	Practical Quantitation Limit
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RPD</b>	Relative Percent Difference
<b>SIM</b>	Selected Ion Monitoring
<b>SM</b>	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
<b>STLC</b>	Solubility Threshold Limit Concentration
<b>SW</b>	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TDS</b>	Total Dissolved Solids
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>tr</b>	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TSS</b>	Total Suspended Solids
<b>TTLC</b>	Total Threshold Limit Concentration
<b>VOA</b>	Volatile Organic Analyte(s)



**SUMMARY REPORT FOR AN ACUTE BIOASSAY PERFORMED UNDER TITLE 22 REQUIREMENTS**

Test Dates: 3/6 - 3/10/97

Report Issued by:  
MEC Analytical Systems, Inc.  
Bioassay Division  
98 Main St #428  
Tiburon, CA 94920

Report Issued to:  
Columbia Analytical Services  
2059 Junction Ave.  
San Jose, CA 95131

Page 1 of 1

REPORT DATE: March 11, 1997  
PROJECT #: 0652-004

SAMPLE AND BIOASSAY INFORMATION

TEST INFORMATION

Control Water: Soft water (Nanopure + Evian™ spring water)  
Exposure volume: 10 L  
Test chambers: 5 gal aquaria  
Concentrations (mg/L): 250, 750  
# Fish/chamber: 10

SPECIES INFORMATION

Species: *Pimephales promelas*  
Common name: Fathead Minnows  
Source: Thomas Fish Co. Anderson, CA  
Age of Fish: Juvenile, Acclimated for ≥ 10 days  
Mean weight (g): 0.48  
Mean length (mm): 33.7

SAMPLE INFORMATION

Sample Type: Solid  
Client Sample ID: WP2-1  
Sample Preparation: Sample was shaken on shaker table for ≥ 6 hours according to CDFG guidelines.  
Sample Date: March 3, 1997  
Sample Received: March 5, 1997  
MECBL #: T970305.01


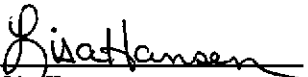
Final Water Quality and Fish Counts

Concentration (mg/L)	Rep	Day 0					Day 1					Day 2					Day 3					Day 4					Survival (%)
		Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp	D.O.	pH	Cond	Alive	Temp	D.O.	pH	Cond	Alive	Temp	D.O.	pH	Cond	Alive	Temp	D.O.	pH	Cond	Alive	
Control	1	20.0	9.1	8.11	97	10	20.1	8.0	7.83	100	10	20.4	8.5	7.95	102	10	20.2	8.0	7.89	104	10	20.5	8.1	8.00	106	10	100
	2	20.0	9.1	7.83	96	10	20.4	6.9	7.79	99	10	20.6	8.6	7.93	100	10	20.2	8.0	7.89	102	10	20.5	8.3	8.00	103	10	100
250	1	20.0	9.2	7.84	96	10	20.9	6.9	7.65	99	10	21.1	8.3	7.89	100	10	20.4	7.9	7.87	102	10	20.7	7.8	7.96	103	10	100
	2	20.0	9.2	7.86	97	10	21.0	7.1	7.66	100	10	21.2	8.4	7.93	102	10	20.8	8.0	7.86	103	10	20.9	7.8	7.96	105	10	100
750	1	20.0	9.1	8.10	98	10	21.0	7.7	7.81	102	10	21.3	8.6	7.99	104	10	20.9	8.1	7.87	104	10	21.1	8.0	7.95	106	10	100
	2	20.0	9.1	8.10	98	10	21.1	7.4	7.80	102	10	21.3	8.9	8.13	104	10	21.0	7.9	7.91	105	10	21.1	7.9	8.01	106	10	100

Conc (mg/L)	Day 0		Day 4	
	Alkalinity (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
Control	40	46	44	46
750	46	50	34	48

**RESULTS:**

Since survival in the 750 mg/L concentration of the WP2-1 sample was >60%, this sample would qualify for a nonhazardous designation on the basis of aquatic toxicity.

 Paul R. Krause, Ph.D. Project Manager	 Lisa Hansen Laboratory Manager
---	--

Reference: Polisini and Miller. 1988. Static acute bioassay procedures for hazardous waste samples. California Department of Fish and Game, Water Pollution Control Laboratory.

**SUMMARY REPORT FOR AN ACUTE BIOASSAY PERFORMED UNDER TITLE 22 REQUIREMENTS**

Test Dates: 3/6 - 3/10/97

Report Issued by:  
MEC Analytical Systems, Inc.  
Bioassay Division  
98 Main St #428  
Tiburon, CA 94920

Report Issued to:  
Columbia Analytical Services  
2059 Junction Ave.  
San Jose, CA 95131

Page 1 of 1

REPORT DATE: March 11, 1997  
PROJECT #: 0652-004

SAMPLE AND BIOASSAY INFORMATION

TEST INFORMATION

Control Water: Soft water (Nanopure + Evian™ spring water)  
Exposure volume: 10 L  
Test chambers: 5 gal aquaria  
Concentrations (mg/L): 250, 750  
# Fish/chamber: 10

SPECIES INFORMATION

Species: *Pimephales promelas*  
Common name: Fathead Minnows  
Source: Thomas Fish Co. Anderson, CA  
Age of Fish: Juvenile, Acclimated for ≥ 10 days  
Mean weight (g): 0.48  
Mean length (mm): 33.7

SAMPLE INFORMATION

Sample Type: Solid  
Client Sample ID: WP2-2  
Sample Preparation: Sample was shaken on shaker table for ≥ 6 hours according to CDFG guidelines.  
Sample Date: March 3, 1997  
Sample Received: March 5, 1997  
MECBL #: T970305.02

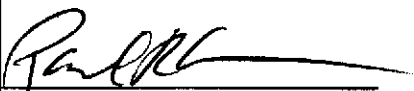
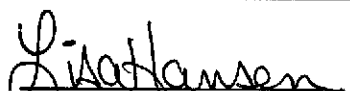
Final Water Quality and Fish Counts

Concentration (mg/L)	Rep	Day 0					Day 1					Day 2					Day 3					Day 4					Survival (%)
		Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp	D.O.	pH	Cond	Alive	Temp	D.O.	pH	Cond	Alive	Temp	D.O.	pH	Cond	Alive	Temp	D.O.	pH	Cond	Alive	
Control	1	20.0	9.1	8.11	97	10	20.1	8.0	7.83	100	10	20.4	8.5	7.95	102	10	20.2	8.0	7.89	104	10	20.5	8.1	8.00	106	10	100
	2	20.0	9.1	7.83	96	10	20.4	6.9	7.79	99	10	20.6	8.6	7.93	100	10	20.2	8.0	7.89	102	10	20.5	8.3	8.00	103	10	100
250	1	20.0	9.1	8.20	97	10	21.1	8.1	7.89	100	10	21.3	8.9	8.04	102	10	20.8	7.8	7.87	104	10	21.1	7.9	8.01	104	10	100
	2	20.0	9.1	7.80	98	10	21.1	6.5	7.65	101	10	21.3	8.4	8.02	102	10	21.0	7.9	7.89	103	10	21.1	8.0	7.94	105	10	100
750	1	20.1	9.1	8.19	99	10	21.1	6.0	7.61	104	10	21.3	8.1	7.85	105	10	20.9	7.9	7.82	107	10	21.2	8.1	7.85	109	10	100
	2	20.2	9.0	8.19	99	10	21.0	7.8	7.82	104	10	21.3	8.6	8.07	105	10	21.0	8.0	7.86	106	10	21.2	8.0	7.95	108	10	100

Conc (mg/L)	Day 0		Day 4	
	Alkalinity (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
Control	40	46	44	46
750	44	48	36	44

**RESULTS:**

Since survival in the 750 mg/L concentration of the WP2-2 sample was >60%, this sample would qualify for a nonhazardous designation on the basis of aquatic toxicity.

 Paul R. Krause, Ph.D. Project Manager	 Lisa Hansen Laboratory Manager
---	--

Reference: Polisini and Miller. 1988. Static acute bioassay procedures for hazardous waste samples. California Department of Fish and Game, Water Pollution Control Laboratory.



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# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SE SERVICE REQUEST NO.

**S9700364**

PAGE 1 OF 1

PROJECT NAME: <u>5604-01-01</u>					ANALYSIS REQUESTED
PROJECT MGR: <u>P. Placey</u>					
COMPANY: <u>The Gauntlett Group, LLC</u>					
ADDRESS: <u>111 West Evelyn Suite 305 Sunnyvale CA 94086</u>					
SAMPLER'S SIGNATURE: <u>[Signature]</u>					PRESERVATIVE: NP HCl HCl HCl NP HCl HNO <sub>3</sub> NP H <sub>2</sub> SO <sub>4</sub> H <sub>2</sub> SO <sub>4</sub> H <sub>2</sub> SO <sub>4</sub> NaOH Base/Neu/Acid Organics GC/MS 625/8270 Volatile Organics GC/MS 624/8240/8260 Halogenated or Aromatic Volatiles 601/8010 T 602/8020 T TPH as Gas (BTEX) 8020 TPH as Diesel/HBHC 8020 TRPA - 418 Oil and Grease Method Metals (Total or dissolved) List Below pH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS NH <sub>3</sub> -N, COD, Total-P, TKN, Total Organic Carbon Total Phosphorus Method Cyanide <u>96 Hour Fish Toxicity</u>
NUMBER OF CONTAINERS					
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	
WP2-1	3/3/97	11006	1	Soil	
WP2-2	3/3/97	11610	2	Soil	
REMARKS					

RELINQUISHED BY:  
 Signature: [Signature]  
 Printed Name: Gauntlett  
 Firm: 3/3/97 1715  
 Date/Time

RECEIVED BY:  
 Signature: [Signature]  
 Printed Name: RAY BA HOU  
 Firm: CAS  
 Date/Time: 3/3/97 1715

RELINQUISHED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

RECEIVED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

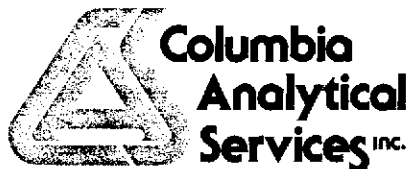
TURNAROUND REQUIREMENTS  
 1 day  2 day  3 day   
 5 day  Other   
 Standard (10 working days)   
 Provide Preliminary Results   
 Date Due: 3/5/97

REPORT REQUIREMENTS  
 I. Routine Report  
 II. Report (includes DUP, MAS MSD, as required, may be charged as samples)  
 III. Data Validation Report (includes All Raw Data)  
 RWQCB (MDLs/PQLs/TRACE#)

RELINQUISHED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

RECEIVED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

SPECIAL INSTRUCTIONS/COMMENTS: Please leave verbal results on Placey U/M  
 Circle which metals are to be analyzed:  
 Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn  
 As Pb Se Ti Hg  
96 Hour Fish toxicity / sid FAT see Steve Green  
Title 22 Fish toxicity screen. Please hold remaining sample pending possible additional analysis.



March 6, 1997

Service Request No.: S9700370

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: 50604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 4, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 7, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", written in a cursive style. The signature is positioned above the typed name and title.

Steven L. Green  
Project Chemist

**COLUMBIA ANALYTICAL SERVICES, Inc.**

**Acronyms**

<b>A2LA</b>	American Association for Laboratory Accreditation
<b>ASTM</b>	American Society for Testing and Materials
<b>BOD</b>	Biochemical Oxygen Demand
<b>BTEX</b>	Benzene, Toluene, Ethylbenzene, Xylenes
<b>CAM</b>	California Assessment Metals
<b>CARB</b>	California Air Resources Board
<b>CAS Number</b>	Chemical Abstract Service registry Number
<b>CFC</b>	Chlorofluorocarbon
<b>CFU</b>	Colony-Forming Unit
<b>COD</b>	Chemical Oxygen Demand
<b>DEC</b>	Department of Environmental Conservation
<b>DEQ</b>	Department of Environmental Quality
<b>DHS</b>	Department of Health Services
<b>DLCS</b>	Duplicate Laboratory Control Sample
<b>DMS</b>	Duplicate Matrix Spike
<b>DOE</b>	Department of Ecology
<b>DOH</b>	Department of Health
<b>EPA</b>	U. S. Environmental Protection Agency
<b>ELAP</b>	Environmental Laboratory Accreditation Program
<b>GC</b>	Gas Chromatography
<b>GC/MS</b>	Gas Chromatography/Mass Spectrometry
<b>IC</b>	Ion Chromatography
<b>ICB</b>	Initial Calibration Blank sample
<b>ICP</b>	Inductively Coupled Plasma atomic emission spectrometry
<b>ICV</b>	Initial Calibration Verification sample
<b>J</b>	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
<b>LCS</b>	Laboratory Control Sample
<b>LUFT</b>	Leaking Underground Fuel Tank
<b>M</b>	Modified
<b>MBAS</b>	Methylene Blue Active Substances
<b>MCL</b>	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
<b>MDL</b>	Method Detection Limit
<b>MPN</b>	Most Probable Number
<b>MRL</b>	Method Reporting Limit
<b>MS</b>	Matrix Spike
<b>MTBE</b>	Methyl tert-Butyl Ether
<b>NA</b>	Not Applicable
<b>NAN</b>	Not Analyzed
<b>NC</b>	Not Calculated
<b>NCASI</b>	National Council of the paper industry for Air and Stream Improvement
<b>ND</b>	Not Detected at or above the method reporting/detection limit (MRL/MDL)
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppb</b>	Parts Per Billion
<b>ppm</b>	Parts Per Million
<b>PQL</b>	Practical Quantitation Limit
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RPD</b>	Relative Percent Difference
<b>SIM</b>	Selected Ion Monitoring
<b>SM</b>	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
<b>STLC</b>	Solubility Threshold Limit Concentration
<b>SW</b>	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TDS</b>	Total Dissolved Solids
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>tr</b>	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TSS</b>	Total Suspended Solids
<b>TTLC</b>	Total Threshold Limit Concentration
<b>VOA</b>	Volatile Organic Analyte(s)

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** The Gauntlett Group  
**Project:** #50604.01.01  
**Sample Matrix:** Soil

**Service Request:** L9700768  
**Date Collected:** 3/4/97  
**Date Received:** 3/4/97  
**Date Extracted:** 3/6/97  
**Date Analyzed:** 3/6/97

Total Recoverable Petroleum Hydrocarbons (TRPH)  
EPA Method 418.1  
Units: mg/Kg (ppm)

<b>Sample Name</b>	<b>Lab Code</b>	<b>MRL</b>	<b>Result</b>
WP2-3	L9700768-001	10	430
WP1-1	L9700768-002	10	940
Method Blank	L970306-MB	10	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: THE GAUNTLETT GROUP, LLC  
Project: 50604.01.01  
Sample Matrix: Soil

Service Request: S9700370  
Date Collected: 3/4/97  
Date Received: 3/4/97  
Date Extracted: 3/5/97

BTEX  
EPA Method 8020  
Units: mg/kg (ppm)

Sample Name:	WP2-3	WP1-1	Method Blank
Lab Code:	S9700370-001	S9700370-002	S970305-SB1
Date Analyzed:	3/5/97	3/5/97	3/5/97

Analyte	MRL			
Benzene	0.5	ND	ND	ND
Toluene	1	ND	ND	ND
Ethylbenzene	1	ND	ND	ND
Total Xylenes	1	ND	ND	ND

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** THE GAUNTLETT GROUP, LLC  
**Project:** 50604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700370  
**Date Collected:** 3/4/97  
**Date Received:** 3/4/97  
**Date Digested:** 3/5/97

**Metals**  
 Units: mg/Kg (ppm)

Sample Name:	<b>WP2-3</b>	<b>WP1-1</b>	<b>Method Blank</b>
Lab Code:	S9700370-001	S9700370-002	S9700370-SMB
Date Analyzed:	3/5/97	3/5/97	3/5/97

Analyte	EPA	MRL			
	Method				
Antimony	3050BM/6010A	5	7	ND	ND
Arsenic	3050BM/6010A	5	ND	16	ND
Barium	3050BM/6010A	1	730	200	ND
Beryllium	3050BM/6010A	0.5	ND	ND	ND
Cadmium	3050BM/6010A	0.5	1.4	1.5	ND
Chromium	3050BM/6010A	1	91	76	ND
Cobalt	3050BM/6010A	1	7	22	ND
Copper	3050BM/6010A	1	620	1700	ND
Lead	3050BM/6010A	5	210	230	ND
Mercury	7470	0.4	3.7	3.1	ND
Molybdenum	3050BM/6010A	1	ND	89	ND
Nickel	3050BM/6010A	2	38	75	ND
Selenium	3050BM/6010A	5	ND	7	ND
Silver	3050BM/6010A	2	ND	ND	ND
Thallium	3050BM/6010A	5	ND	ND	ND
Vanadium	3050BM/6010A	1	21	41	ND
Zinc	3050BM/6010A	2	450	610	ND



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

**Client:** THE GAUNTLETT GROUP, LLC  
**Project:** 50604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700370  
**Date Collected:** 3/4/97  
**Date Received:** 3/4/97  
**Date Extracted:** NA  
**Date Analyzed:** NA

Surrogate Recovery Summary  
BTEX  
EPA Method 8020

Sample Name	Lab Code	Percent Recovery 1,4-Difluorobenzene
WP2-3	S9700370-001	101
WP1-1	S9700370-002	85
Method Blank	S970305-SB1	103

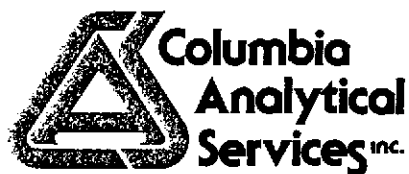
CAS Acceptance Limits:

80-120

PROJECT NAME <u>#SUG04.01.01</u>					NUMBER OF CONTAINERS	ANALYSIS REQUESTED											REMARKS			
PROJECT MGR. <u>P. Lacey</u>						PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>		H <sub>2</sub> SO <sub>4</sub>	NaOH	
COMPANY <u>The Gauntlett Group, LLC</u>						Base/New/Acid Organics GC/MS 625/8270	Volatile Organics GC/MS 624/8240/8260	Halogenated or Aromatic Volatiles 601/8010	TPH as Gas (EPA) DHS LUFT (8020)	TPH as Diesel/HBHC DHS LUFT (8020)	TRPH (418.1) Oil and Grease Method List Below	Metals (total or dissolved) pH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS	NH <sub>3</sub> -N, COD, Total-P, TKN, Total Organic Carbon	Total Phenols Method Cyanide	<u>96 Hour Fish Toxicity screen</u> <u>SEE 700311</u>					
ADDRESS <u>111 W. Evelyn Suite 305 Sunnyvale CA 94086</u>						PH	COND	CL	SO <sub>4</sub>	F	TDS	TSS	Total-P	TKN						Total Organic Carbon
PHONE <u>328-0814</u>					WP2-3	3/4/97	1515			X	X	X								
FAX <u>774-6757</u>					WP1-1	3/4/97	1620			X	X	X								
SAMPLER'S SIGNATURE <u>[Signature]</u>																				
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX																

<b>RELINQUISHED BY:</b> Signature: <u>[Signature]</u> Printed Name: <u>J. Estern</u> Firm: <u>TGG</u> Date/Time: <u>3/4/97 1730</u>	<b>RECEIVED BY:</b> Signature: <u>[Signature]</u> Printed Name: <u>Russell Platt</u> Firm: <u>CAS</u> Date/Time: <u>3/4/97 1730</u>	<b>RELINQUISHED BY:</b> Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____	<b>RECEIVED BY:</b> Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____	<b>TURNAROUND REQUIREMENTS</b> <input checked="" type="checkbox"/> 1 day <input checked="" type="checkbox"/> 2 day <input type="checkbox"/> 3 day <input type="checkbox"/> 5 day <input type="checkbox"/> Other <input type="checkbox"/> Standard (10 working days) <input type="checkbox"/> Provide Preliminary Results Date Due: <u>3/6/97 pm.</u>	<b>REPORT REQUIREMENTS</b> <input checked="" type="checkbox"/> I. Routine Report <input type="checkbox"/> II. Report (includes DUP, MAS, MSD, as required, may be charged as samples) <input type="checkbox"/> III. Data Validation Report (includes All Raw Data) <input type="checkbox"/> RWOCB (MDLs/PQLs/TRACE#)
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<b>RELINQUISHED BY:</b> Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____	<b>RECEIVED BY:</b> Signature: _____ Printed Name: _____ Firm: _____ Date/Time: _____	<b>SPECIAL INSTRUCTIONS/COMMENTS:</b> Circle which metals are to be analyzed: Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn As Pb Se Ti Hg <u>TOTAL Title 22 Metals</u> <u>Fish Toxicity Title 22 screen (std TAT)</u> Please Voice Mail results ASAP. please hold remaining samples for volume for possible further analysis.
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March 14, 1997

Service Request No.: S9700371

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: S0604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 4, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", written over a light-colored background.

Steven L. Green  
Project Chemist

**COLUMBIA ANALYTICAL SERVICES, Inc.**

**Acronyms**

<b>AZLA</b>	American Association for Laboratory Accreditation
<b>ASTM</b>	American Society for Testing and Materials
<b>BOD</b>	Biochemical Oxygen Demand
<b>BTEX</b>	Benzene, Toluene, Ethylbenzene, Xylenes
<b>CAM</b>	California Assessment Metals
<b>CARB</b>	California Air Resources Board
<b>CAS Number</b>	Chemical Abstract Service registry Number
<b>CFC</b>	Chlorofluorocarbon
<b>CFU</b>	Colony-Forming Unit
<b>COD</b>	Chemical Oxygen Demand
<b>DEC</b>	Department of Environmental Conservation
<b>DEQ</b>	Department of Environmental Quality
<b>DHS</b>	Department of Health Services
<b>DLCS</b>	Duplicate Laboratory Control Sample
<b>DMS</b>	Duplicate Matrix Spike
<b>DOE</b>	Department of Ecology
<b>DOH</b>	Department of Health
<b>EPA</b>	U. S. Environmental Protection Agency
<b>ELAP</b>	Environmental Laboratory Accreditation Program
<b>GC</b>	Gas Chromatography
<b>GC/MS</b>	Gas Chromatography/Mass Spectrometry
<b>IC</b>	Ion Chromatography
<b>ICB</b>	Initial Calibration Blank sample
<b>ICP</b>	Inductively Coupled Plasma atomic emission spectrometry
<b>ICV</b>	Initial Calibration Verification sample
<b>J</b>	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
<b>LCS</b>	Laboratory Control Sample
<b>LUFT</b>	Leaking Underground Fuel Tank
<b>M</b>	Modified
<b>MBAS</b>	Methylene Blue Active Substances
<b>MCL</b>	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
<b>MDL</b>	Method Detection Limit
<b>MPN</b>	Most Probable Number
<b>MRL</b>	Method Reporting Limit
<b>MS</b>	Matrix Spike
<b>MTBE</b>	Methyl tert-Butyl Ether
<b>NA</b>	Not Applicable
<b>NAN</b>	Not Analyzed
<b>NC</b>	Not Calculated
<b>NCASI</b>	National Council of the paper industry for Air and Stream Improvement
<b>ND</b>	Not Detected at or above the method reporting/detection limit (MRL/MDL)
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppb</b>	Parts Per Billion
<b>ppm</b>	Parts Per Million
<b>PQL</b>	Practical Quantitation Limit
<b>QA/QC</b>	Quality Assurance/Quality Control
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RPD</b>	Relative Percent Difference
<b>SIM</b>	Selected Ion Monitoring
<b>SM</b>	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
<b>STLC</b>	Solubility Threshold Limit Concentration
<b>SW</b>	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
<b>TCLP</b>	Toxicity Characteristic Leaching Procedure
<b>TDS</b>	Total Dissolved Solids
<b>TPH</b>	Total Petroleum Hydrocarbons
<b>T</b>	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
<b>TRPH</b>	Total Recoverable Petroleum Hydrocarbons
<b>TSS</b>	Total Suspended Solids
<b>TTLC</b>	Total Threshold Limit Concentration
<b>VOA</b>	Volatile Organic Analyte(s)

**SUMMARY REPORT FOR AN ACUTE BIOASSAY PERFORMED UNDER TITLE 22 REQUIREMENTS**

Test Dates: 3/7 - 3/11/97

Report Issued by:  
 MEC Analytical Systems, Inc.  
 Bioassay Division  
 98 Main St #428  
 Tiburon, CA 94920

Report Issued to:  
 Columbia Analytical Services  
 2059 Junction Ave.  
 San Jose, CA 95131

Page 1 of 1

REPORT DATE: March 12, 1997  
 PROJECT #: 0652-004

**SAMPLE AND BIOASSAY INFORMATION**

**TEST INFORMATION**

Control Water: Soft water (Nanopure + Evian™ spring water)  
 Exposure volume: 10 L  
 Test chambers: 5 gal aquaria  
 Concentrations (mg/L): 250, 750  
 # Fish/chamber: 10

**SPECIES INFORMATION**

Species: *Pimephales promelas*  
 Common name: Fathead Minnows  
 Source: Thomas Fish Co. Anderson, CA  
 Age of Fish: Juvenile, Acclimated for ≥ 10 days  
 Mean weight (g): 0.26  
 Mean length (mm): 28.0

**SAMPLE INFORMATION**

Sample Type: Solid  
 Client Sample ID: WP2-3  
 Sample Preparation: Sample was shaken on shaker table for ≥ 6 hours according to CDFG guidelines.  
 Sample Date: March 4, 1997  
 Sample Received: March 6, 1997  
 MECBL #: T970306.04


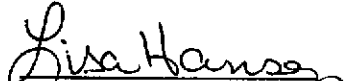
**Final Water Quality and Fish Counts**

Concentration (mg/L)	Rep	Day 0					Day 1					Day 2					Day 3					Day 4					Survival (%)
		Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	
Control	1	20.6	8.7	8.02	93	10	21.5	8.5	8.03	95	10	21.1	8.3	7.83	96	10	21.2	8.0	7.99	97	10	21.6	8.6	7.98	99	10	100
	2	20.3	8.9	8.11	94	10	20.9	8.7	8.06	95	10	20.7	8.2	7.84	96	10	21.2	8.3	7.95	97	10	21.2	8.7	7.95	98	10	100
250	1	20.3	8.7	8.17	94	10	20.9	8.9	8.12	96	10	20.8	8.2	7.93	97	10	21.2	8.4	8.02	98	10	21.0	8.6	7.99	99	10	100
	2	20.3	8.7	8.13	94	10	20.9	8.5	8.08	95	10	20.8	8.1	7.89	96	10	21.1	8.5	7.97	97	10	20.9	8.6	8.01	99	10	100
750	1	20.2	8.8	8.14	95	10	20.8	8.7	8.04	97	10	20.8	8.3	7.87	99	10	21.0	8.4	8.02	100	10	20.5	9.1	8.00	102	10	100
	2	20.0	8.9	8.19	95	10	20.4	8.9	8.12	97	10	20.7	8.4	7.97	98	10	20.9	8.5	8.10	100	10	20.3	9.4	8.09	102	10	100

Conc (mg/L)	Day 0		Day 4	
	Alkalinity (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
Control	44	44	36	36
750	42	44	36	36

**RESULTS:**

Since survival in the 750 mg/L concentration of the WP2-3 sample was >60%, this sample would qualify for a nonhazardous designation on the basis of aquatic toxicity.

 Paul R. Krause, Ph.D. Project Manager	 Lisa Hansen Laboratory Manager
---	--

Reference: Polisini and Miller. 1988. Static acute bioassay procedures for hazardous waste samples. California Department of Fish and Game, Water Pollution Control Laboratory.

**SUMMARY REPORT FOR AN ACUTE BIOASSAY PERFORMED UNDER TITLE 22 REQUIREMENTS**  
**Test Dates: 3/7 - 3/11/97**

Report Issued by:  
 MEC Analytical Systems, Inc.  
 Bioassay Division  
 98 Main St #428  
 Tiburon, CA 94920

Report Issued to:  
 Columbia Analytical Services  
 2059 Junction Ave.  
 San Jose, CA 95131

Page 1 of 1

REPORT DATE: March 12, 1997  
 PROJECT #: 0652-004

**SAMPLE AND BIOASSAY INFORMATION**

**TEST INFORMATION**

Control Water: Soft water (Nanopure + Evian™ spring water)  
 Exposure volume: 10 L  
 Test chambers: 5 gal aquaria  
 Concentrations (mg/L): 250, 750  
 # Fish/chamber: 10

**SPECIES INFORMATION**

Species: *Pimephales promelas*  
 Common name: Fathead Minnows  
 Source: Thomas Fish Co. Anderson, CA  
 Age of Fish: Juvenile, Acclimated for ≥ 10 days  
 Mean weight (g): 0.26  
 Mean length (mm): 28.0

**SAMPLE INFORMATION**

Sample Type: Solid  
 Client Sample ID: WPI-1  
 Sample Preparation: Sample was shaken on shaker table for ≥ 6 hours according to CDFG guidelines.  
 Sample Date: March 4, 1997  
 Sample Received: March 6, 1997  
 MECBL #: T970306.05


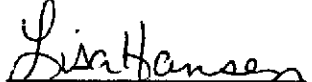
**Final Water Quality and Fish Counts**

Concentration (mg/L)	Rep	Day 0					Day 1					Day 2					Day 3					Day 4					Survival (%)
		Temp °C	D.O. mg/L	pH units	Cond µS/cm	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	Temp	D.O.	pH	Cond	# Alive	
Control	1	20.6	8.7	8.02	93	10	21.5	8.5	8.03	95	10	21.1	8.3	7.83	96	10	21.2	8.0	7.99	97	10	21.6	8.6	7.98	99	10	100
	2	20.3	8.9	8.11	94	10	20.9	8.7	8.06	95	10	20.7	8.2	7.84	96	10	21.2	8.3	7.95	97	10	21.2	8.7	7.95	98	10	100
250	1	20.1	8.8	8.10	96	10	20.7	8.8	8.03	98	10	20.3	8.3	7.85	99	10	20.3	8.5	7.96	100	10	20.9	9.3	8.04	101	10	100
	2	20.3	8.8	8.10	96	10	20.9	8.9	8.11	98	10	20.3	8.4	7.90	99	10	20.6	8.5	7.99	100	10	21.0	9.2	8.04	101	10	100
750	1	20.3	8.8	8.09	99	10	20.8	9.0	8.2	104	10	20.5	8.1	7.94	105	10	20.8	8.4	7.88	104	10	21.0	8.0	7.90	107	10	100
	2	20.1	8.8	8.15	99	10	20.9	9.0	8.23	103	10	20.6	8.1	7.98	104	10	20.9	8.2	8.02	105	10	21.1	8.9	8.01	105	10	100

Conc (mg/L)	Day 0		Day 4	
	Alkalinity (mg/L)	Hardness (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
Control	44	44	36	36
750	44	46	36	32

**RESULTS:**

Since survival in the 750 mg/L concentration of the WPI-1 sample was >60%, this sample would qualify for a nonhazardous designation on the basis of aquatic toxicity.

 Paul R. Krause, Ph.D. Project Manager	 Lisa Hansen Laboratory Manager
---	--

Reference: Polisini and Miller. 1988. Static acute bioassay procedures for hazardous waste samples. California Department of Fish and Game, Water Pollution Control Laboratory.

PROJECT NAME #S0604.01.01  
 PROJECT MGR. P. Lacey  
 COMPANY The Gaultlett Group, LLC  
 ADDRESS 111 W. Evelyn Suite 305  
Sunnyvale CA 94086 PHONE 328-0814  
 FAX 774-6757  
 SAMPLER'S SIGNATURE [Signature]

PRESERVATIVE	ANALYSIS REQUESTED															REMARKS
	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH				
Base/Neutral/Acid Organics GC/MS 625/8270																
Volatile Organics GC/MS 624/8240/8260																
Halogens or Aromatic Volatiles 601/8010 7																
TPH as Gas (BLEX) DHS LUFT / 8020																
TPH as Diesel/HEHC DHS LUFT																
TPH (418.1) Oil and Grease Method List Below																
pH, Cond. Cl, SO <sub>4</sub> , F, NH <sub>3</sub> -N, NO <sub>2</sub> , NO <sub>3</sub> -N, COD, TDS, TSS																
Total Organic Carbon TOC																
Total Phenols Method Cyanide																

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS
WP2-3	3/4/97	1515		9011	2
WP1-1	3/4/97	1620		Soil	2

96 Hour Fish Toxicity Screen

S9700371

RELINQUISHED BY:  
[Signature]  
 Signature  
[Printed Name]  
 Printed Name  
[Firm]  
 Firm  
3/4/97 1730  
 Date/Time

RECEIVED BY:  
Russell Platt  
 Signature  
Russell Platt  
 Printed Name  
CAS  
 Firm  
3/4/97 1730  
 Date/Time

RELINQUISHED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

RECEIVED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

TURNAROUND REQUIREMENTS  
 1 day  2 day  3 day   
 5 day  Other   
 Standard (10 working days)  
 Provide Preliminary Results  
 Date Due 3/6/97 pm

REPORT REQUIREMENTS  
 I. Routine Report  
 II. Report (includes DUP MAS MSD, as required, may be charged as samples)  
 III. Data Validation Report (includes All Raw Data)  
 RWQCB  
 (MDLs/POLs TRACE\*)

RELINQUISHED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

RECEIVED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

SPECIAL INSTRUCTIONS/COMMENTS: Please Voice Mail results ASAP.  
 Circle which metals are to be analyzed:  
 Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn  
As Pb Se Ti Hg  
TOTAL Title 22 Metals  
Fish Toxicity Title 22 screen (Std TAT)  
please hold remaining samples for volume for further analysis



March 11, 1997

Service Request No.: S9700383

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: S0604.01.01

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 4, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 5, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", written over a white background.

Steven L. Green  
Project Chemist



**COLUMBIA ANALYTICAL SERVICES, Inc.**

**Acronyms**

AZLA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700383  
**Date Collected:** 3/4/97  
**Date Received:** 3/4/97  
**Date Digested:** 3/10/97

Metals  
 Units: mg/L (ppm) in WET Extract  
 Soluble Threshold Limit Concentration (STLC)

Sample Name:	<b>WP2-1</b>	<b>WP2-2</b>	<b>WP2-3</b>
Lab Code:	S9700383-001	S9700383-002	S9700383-003
Date Analyzed:	3/10-11/97	3/10-11/97	3/10-11/97

Analyte	EPA	STLC	MRL	WP2-1	WP2-2	WP2-3
	Method	Limits*				
Antimony	3005/6010A	15	0.5	ND	-	-
Barium	3005/6010A	100	5	-	14	-
Chromium	3005/6010A	5	0.1	2.2	3.9	3.5
Copper	3005/6010A	25	0.1	18	18	41
Lead	3005/6010A	5.0	0.5	12	23	20
Mercury	7470	0.2	0.004	ND	ND	0.008

\* State of California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24 and Article 5, Section 66261.126, Appendix II.

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** S0604.01.01  
**Sample Matrix:** Soil

**Service Request:** S9700383  
**Date Collected:** 3/4/97  
**Date Received:** 3/4/97  
**Date Digested:** 3/10/97

Metals  
 Units: mg/L (ppm) in WET Extract  
 Soluble Threshold Limit Concentration (STLC)

**Sample Name:** WP1-1      **Method Blank**  
**Lab Code:** S9700383-004      9700383-WETMB  
**Date Analyzed:** 3/10-11/97      3/10-11/97

Analyte	EPA	STLC	MRL		
	Method	Limits*			
Antimony	3005/6010A	15	0.5	-	ND
Barium	3005/6010A	100	5	-	ND
Chromium	3005/6010A	5	0.1	1.1	ND
Copper	3005/6010A	25	0.1	10	ND
Lead	3005/6010A	5.0	0.5	12	ND
Mercury	7470	0.2	0.004	ND	ND

\* State of California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24 and Article 5, Section 66261.126, Appendix II.



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

2059 Junction Avenue • San Jose, CA 95131 • (408) 437-2400 • FAX (408) 437-9356

SERVICE REQUEST NO. S9700383 P.O.# \_\_\_\_\_

PAGE 1 OF 1

PROJECT NAME # 50604.01.01  
 PROJECT MGR. Pat Lacey  
 COMPANY The Gauntlett Group, LLC  
 ADDRESS 111 W. Evelyn Suite 305  
Sunnyvale, Ca 94086 PHONE 328-0914  
 FAX 774-6757  
 SAMPLER'S SIGNATURE \_\_\_\_\_

PRESERVATIVE	ANALYSIS REQUESTED												REMARKS
	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		
Base/Neutral/Acid Organics GC/MS 625/8270	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		
Volatile Organics GC/MS 624/8240/8260	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		
Halogenated or Aromatic Volatiles 601/8010	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		
TPH as Gas/BTEX DHS LUFT / 8020	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		
TPH as Diesel/HBHC DHS LUFT	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		
TRPH - 418.1 Oil and Grease Method	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		
Metals (total or dissolved) List Below	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		
pH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		
Aik, NO <sub>3</sub> , NO <sub>2</sub> (circle)	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		
NH <sub>3</sub> -N, COD, Total-P, TKN, NO <sub>3</sub> /NO <sub>2</sub> (circle)	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		
Total Organic Carbon	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		
TOC	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		
Total Phenols Method	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		
Cyanide	NP	HCl	HCl	HCl	NP	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub> /H <sub>2</sub> SO <sub>4</sub>	NaOH		

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS
WP2-1	3/4/97		①	Soil	
WP2-2	3/4/97		②	Soil	
WP2-3	3/4/97		③	Soil	
WP1-1	3/4/97		④	Soil	

<b>RELINQUISHED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____	<b>RECEIVED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____	<b>RELINQUISHED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____	<b>RECEIVED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____	<b>TURNAROUND REQUIREMENTS</b> <input type="checkbox"/> 1 day <input checked="" type="checkbox"/> 2 day <input checked="" type="checkbox"/> 3 day <input type="checkbox"/> 5 day <input type="checkbox"/> Other _____ <input type="checkbox"/> Standard (10 working days) <input type="checkbox"/> Provide Preliminary Results Date Due <u>3/10/97 AM</u> <u>3/4/97</u>	<b>REPORT REQUIREMENTS</b> <input checked="" type="checkbox"/> I. Routine Report <input type="checkbox"/> II. Report (includes DUP.MAS. MSD, as required, may be charged as samples) <input type="checkbox"/> III. Data Validation Report (includes All Raw Data) <input type="checkbox"/> RWQCB (MDS/PQLs/TRACE#)
---	---	---	---	--	--

<b>RELINQUISHED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____	<b>RECEIVED BY:</b> Signature _____ Printed Name _____ Firm _____ Date/Time _____	<b>SPECIAL INSTRUCTIONS/COMMENTS:</b> Circle which metals are to be analyzed: Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn As Pb Se Ti Hg <u>Samples WP2-1 &amp; WP2-2 originally rec'd 3/1/97 under SR# S9700383. Additional analyses requested 3/6/97 ML</u> <u>Samples WP2-3 and WP1-1 originally rec'd 3/1/97 under SR# S9700370. Additional analyses requested 3/6/97 by Pat Lacey ML 3/6/97</u>
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# Intertek Testing Services Environmental Laboratories

JIM BUTERA  
THE GAUNTLETT GROUP  
111 W. EVELYN AVENUE  
SUNNYVALE CA 94086

ITS Group # : 663  
Date Received: 05/16/97  
Project ID : 50604.01.06

The following samples were received at Intertek for analysis :

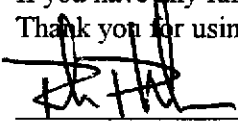
ITS ID	CLIENT SAMPLE ID
97051295	WP2-1-5-1.5
97051296	WP2-3-13-2.6
97051297	WP2-2-9-4.1

This report is organized in sections according to the specific Intertek laboratory group which performed the analysis(es) and generated the data.

The results contained within this report relate to only the sample(s) tested. Additionally, these data should be considered in their entirety and Intertek cannot be responsible for the detachment, separation, or otherwise partial use of this report.

Intertek is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234.

If you have any further questions or comments on this report, please call your project manager as soon as possible. Thank you for using Intertek Testing Services.



Project Manager

6/11/97  
Date

This report consists of 29 pages

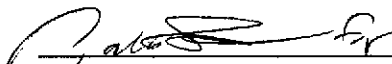
CASE NARRATIVE

GROUP No. 663

PROJECT No. 50604.01.06

**QUALITY CONTROL PROBLEMS:**

- All holding times have been met for the analyses reported in this section.

  
\_\_\_\_\_  
Michael A. Hoban  
Inorganics Manager

6/11/97  
Date

**INCHCAPE TESTING SERVICES  
SAN JOSE LABORATORIES  
(408) 432-8192  
DATA REPORT**

Analyte-Method: **pH-9045**  
Client Project Number: **50604.01.06**  
Matrix - Units: **SOLID - pH units**  
Group #: **663**

SDG #: **NA**  
Prep. Batch: **16209**  
Analyst: *S*  
Supervisor: *[Signature]*

ITS-SJ Sample ID	Client Sample ID	Prep. Method	Instr. ID	Date Sampled	Date Prepared	Date Analyzed	D.F.	Reporting Limit	Results	Q
97051295	WP2-1-5-1.5	9045	MET3	05/16/97	05/19/97	05/19/97	1	+/-0.1	8.3	
97051296	WP2-3-13-2.6	9045	MET3	05/16/97	05/19/97	05/19/97	1	+/-0.1	7.8	
97051297	WP2-2-9-4.1	9045	MET3	05/16/97	05/19/97	05/19/97	1	+/-0.1	7.8	

COMMENTS:

**INCHCAPE TESTING SERVICES  
SAN JOSE LABORATORIES  
(408) 432-8192  
SAMPLE DUPLICATE REPORT**

ITS-SJ Sample ID: 97050003DU  
Client Sample ID: PM-TR2-0'  
Client Project Number: E&ESF  
Matrix: SOLID  
Group #: 478

SDG #: N/A  
Analyst: *[Signature]*  
Supervisor: *[Signature]*

Analyte	Prep. Method	Prep. Batch	Analyt. Method	Instr. ID	Date Prepared	Date Analyzed	Dil. Factor	Units	Sample Conc.	Sample Duplicate Conc.	RPD	Q
pH	150.1	16615	150.1	MET3	05/01/97	05/01/97	1	pH	8.0	8.0	0.0	

COMMENTS:



**CUSTOMER: ITS/San Jose**  
**PROJECT: 663 S0604.01.06**

**REPORT NUMBER: D97-6172**  
**SAMPLES RECEIVED: 20-May-1997**

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(D97-6172)

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**Intertek Testing Services**  
Environmental Laboratories

## **CASE NARRATIVE**

**ITS** Intertek Testing Services  
Environmental Laboratories

DATE RECEIVED: 20-MAY-1997

REPORT NUMBER: D97-6172

REPORT DATE: 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Suite E  
San Jose, Ca 95131  
ATTENTION : Mr. Michael Malveda  
PROJECT : 663 S0604.01.06

---

CASE NARRATIVE COMMENTS:

This is a QC Level 3 data package. Please find enclosed results for the analysis of total lead and TCLP lead by EPA methodology.

Metals Analysis

No issues were noted during the total lead and TCLP lead analysis for this task.

If you have any questions, please feel free to call Mr. John (J.T.) Todd at (972) 238-5591.



Gregory K. Horton  
Data Review



# Intertek Testing Services Environmental Laboratories

JOB ID : D97-6172  
 CUSTOMER : ITS/San Jose  
 PROJECT : 663 S0604.01.06

SAMPLE ID : D97-6172-1		DATE SAMPLED : 16-MAY-1997			
ID MARKS : WP2-1-5-1.5 97051295					
ANALYSIS	PRP	PRP DATE	ANL	ANL DATE	QC BATCH NUMBER
M_PB_TC_I /1	SPF	22-MAY-1997	MPE	23-MAY-1997	17279
M_PB_T_S_P /1	HMR	21-MAY-1997	MPE	21-MAY-1997	17142
SOLID_TPER /1			SAB	23-MAY-1997	1060561

SAMPLE ID : D97-6172-2		DATE SAMPLED : 16-MAY-1997			
ID MARKS : WP2-3-13-2.6 97051296					
ANALYSIS	PRP	PRP DATE	ANL	ANL DATE	QC BATCH NUMBER
M_PB_TC_I /1	SPF	22-MAY-1997	MPE	23-MAY-1997	17279
M_PB_T_S_P /1	HMR	21-MAY-1997	MPE	21-MAY-1997	17142
SOLID_TPER /1			SAB	23-MAY-1997	1060561

SAMPLE ID : D97-6172-3		DATE SAMPLED : 16-MAY-1997			
ID MARKS : WP2-2-9-4.1 97051297					
ANALYSIS	PRP	PRP DATE	ANL	ANL DATE	QC BATCH NUMBER
M_PB_TC_I /1	SPF	22-MAY-1997	MPE	23-MAY-1997	17279
M_PB_T_S_P /1	HMR	21-MAY-1997	MPE	21-MAY-1997	17142
SOLID_TPER /1			SAB	23-MAY-1997	1060561

ANALYSIS	DESCRIPTION
M_PB_TC_I	Lead, TCLP , by ICP
M_PB_T_S_P	Lead, Total, Solid, by PE-ICP
SOLID_TPER	Total Solids, Soil/Sludge, %



**Intertek Testing Services**  
Environmental Laboratories

## **CHAIN OF CUSTODY**

Intertek Testing Services NA Inc.  
1089 East Collins Boulevard Richardson, TX 75081  
Telephone (972) 238-5591 Fax (972) 238-5592

# CHAIN-OF-CUSTODY RECORD

PROJECT NUMBER		PROJECT NAME				Number of Cntrs	Type of Containers	Type of Analysis				Condition of Samples	Initial
663		SO 604.01.06						Total Pb	TCIP Pb				
Send Report Attention of:		Report Due		Verbal Due									
Michael Mulveda		5/30/97		/ /									
Sample Number	Date	Time	Comp	Matrix	Station Location								
WP2-5-1.5	5/16/97	1045		S	97051295	1	#2(5)	✓	✓			6/9-2	-1
WP2-3-1326	↓	1110		↓	97051296	↓	↓	✓	✓				2
WP2-2-941	✓	1055		✓	97051297	✓	✓	✓	✓				3
<b>ORIGINAL</b>													
<b>SCREENED FOR RADIOACTIVITY</b>						<b>COOLER TEMPERATURE WHEN RECEIVED</b>							
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time		Remarks: PLEASE SEND RAW DATA AND ORIGINAL CHAIN OF CUSTODY ALONG WITH THE REPORT. <i>Subtotal to Dallas</i>					
<i>[Signature]</i>		5-19-97 1400		<i>Kim Hamey</i>		5-20-97/1130							
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time							
Relinquished by: (Signature)		Date/Time		Received by Lab:		Date/Time		COMPANY: INCHCAPE TESTING SERVICES ADDRESS: 1961 CONCOURSE DRIVE, SUITE E SAN JOSE, CA 95131 PHONE: (408) 432 8192 FAX: (408) 432 8198					



# Intertek Testing Services Environmental Laboratories

## SUBCONTRACT PURCHASE ORDER

ITS Contact : MICHAEL MALVEDA

To: ITS-DANAS Lab Contact : J.T.

PO # : 662/643

Turnaround Time : STD

QTY	ANALYSES REQUESTED	COST / SAMPLE	EXTENDED PRICE
13	TOTAL LEAD	35	<del>350</del> 455
13	TCLP LEAD	110	<del>1430</del> 1430

TOTAL COST ~~\$1450~~ \$1885

ADDITIONAL COMMENTS :

THE GAURETT GROUP

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**Intertek Testing Services**  
Environmental Laboratories

## **ANALYTICAL RESULTS**



# Intertek Testing Services Environmental Laboratories

## ANALYTICAL REPORT

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6172

REPORT DATE : 27-MAY-1997

ATTENTION : Michael Malveda  
SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
San Jose, CA 95131

PROJECT : 663 S0604.01.06  
PURCHASE ORDER NO : 663

Included in this data package are the analytical results for the sample group which you have submitted to Intertek Testing Services for analysis. These results are representative of the samples as received by the laboratory.

The information contained herein has undergone extensive review and is deemed accurate and complete. Sample analysis and quality control were performed in accordance with all applicable protocols. Please refrain from reproducing this report except in its entirety.

If you have any questions regarding this report and its associated materials please call your Project Manager at (972) 238-5591.

We appreciate the opportunity to serve you and look forward to providing continued service in the future.

Martin Jeffas  
General Manager



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6172-1  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP2-1-5-1.5  
: 97051295  
PROJECT : 663 S0604.01.06  
PURCHASE ORDER NO : 663  
DATE SAMPLED : 16-MAY-1997

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.50 mg/Kg	404 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 21-MAY-1997 by HMR Analyzed using EPA 6010A on 21-MAY-1997 by MPE QC Batch No : 17142		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6172-1  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP2-1-5-1.5  
: 97051295  
PROJECT : 663 S0604.01.06  
PURCHASE ORDER NO : 663  
DATE SAMPLED : 16-MAY-1997

TCLP METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.200 mg/L	0.408 mg/L
Dilution Factor : 1 Prepared using EPA 1311/3015 on 22-MAY-1997 by SPF Analyzed using EPA 6010A on 23-MAY-1997 by MPE QC Batch No : 17279		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6172-1  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP2-1-5-1.5  
: 97051295  
PROJECT : 663 S0604.01.06  
PURCHASE ORDER NO : 663  
DATE SAMPLED : 16-MAY-1997

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Total Solids /1	0.01 %	91.4 %
Analyzed using ASTM D2216 mod. on 23-MAY-1997 by SAB QC Batch No : 1060561		

**ITS** Intertek Testing Services  
Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6172-2  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP2-3-13-2.6  
: 97051296  
PROJECT : 663 S0604.01.06  
PURCHASE ORDER NO : 663  
DATE SAMPLED : 16-MAY-1997

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.50 mg/Kg	333 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 21-MAY-1997 by HMR Analyzed using EPA 6010A on 21-MAY-1997 by MPE QC Batch No : 17142		



**Intertek Testing Services**  
**Environmental Laboratories**

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6172-2  
 REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
 ADDRESS : 1961 Concourse Dr., Ste. E  
 : San Jose, CA 95131  
 ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
 ID MARKS : WP2-3-13-2.6  
 : 97051296  
 PROJECT : 663 S0604.01.06  
 PURCHASE ORDER NO : 663  
 DATE SAMPLED : 16-MAY-1997

TCLP METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.200 mg/L	< 0.200 mg/L
Dilution Factor : 1 Prepared using EPA 1311/3015 on 22-MAY-1997 by SPF Analyzed using EPA 6010A on 23-MAY-1997 by MPE QC Batch No : 17279		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6172-2  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP2-3-13-2.6  
: 97051296  
PROJECT : 663 S0604.01.06  
PURCHASE ORDER NO : 663  
DATE SAMPLED : 16-MAY-1997

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Total Solids /1	0.01 %	74.8 %
Analyzed using ASTM D2216 mod. on 23-MAY-1997 by SAB QC Batch No : 1060561		





# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6172-3  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP2-2-9-4.1  
: 97051297  
PROJECT : 663 S0604.01.06  
PURCHASE ORDER NO : 663  
DATE SAMPLED : 16-MAY-1997

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.50 mg/Kg	236 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 21-MAY-1997 by HMR Analyzed using EPA 6010A on 21-MAY-1997 by MPE QC Batch No : 17142		



# Intertek Testing Services Environmental Laboratories

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6172-3  
REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
ADDRESS : 1961 Concourse Dr., Ste. E  
: San Jose, CA 95131  
ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
ID MARKS : WP2-2-9-4.1  
: 97051297  
PROJECT : 663 S0604.01.06  
PURCHASE ORDER NO : 663  
DATE SAMPLED : 16-MAY-1997

TCLP METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Lead /1	0.200 mg/L	2.12 mg/L
Dilution Factor : 1 Prepared using EPA 1311/3015 on 22-MAY-1997 by SPF Analyzed using EPA 6010A on 23-MAY-1997 by MPE QC Batch No : 17279		



**Intertek Testing Services**  
**Environmental Laboratories**

DATE RECEIVED : 20-MAY-1997

REPORT NUMBER : D97-6172-3  
 REPORT DATE : 27-MAY-1997

SAMPLE SUBMITTED BY : ITS/San Jose  
 ADDRESS : 1961 Concourse Dr., Ste. E  
 : San Jose, CA 95131  
 ATTENTION : Michael Malveda

SAMPLE MATRIX : Soil  
 ID MARKS : WP2-2-9-4.1  
 : 97051297  
 PROJECT : 663 S0604.01.06  
 PURCHASE ORDER NO : 663  
 DATE SAMPLED : 16-MAY-1997

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Total Solids /1	0.01 %	88.8 %
Analyzed using ASTM D2216 mod. on 23-MAY-1997 by SAB QC Batch No : 106056I		

## **QUALITY CONTROL SUMMARY**



# Intertek Testing Services Environmental Laboratories

REPORT DATE : 27-MAY-1997

REPORT NUMBER : D97-6172

SAMPLE SUBMITTED BY : ITS/San Jose  
ATTENTION : Michael Malveda  
PROJECT : 663 S0604.01.06

## LABORATORY QUALITY CONTROL REPORT

ANALYTE	Lead	Lead
BATCH NO.	17142	17279
LCS LOT NO.	AB300-72,74	AB300-72,74
PREP METHOD	EPA 3051	EPA 1311/3015
PREPARED BY	HMR	SPF
ANALYSIS METHOD	EPA 6010A	EPA 6010A
ANALYZED BY	MPE	MPE
UNITS	mg/Kg	mg/L
METHOD BLANK	< 0.500	< 0.200
SPIKE LEVEL	100	1.00
SPK REC LIMITS	75.0 - 125	80.0 - 120
SPK RPD LIMITS	25.0	20.0
MS RESULT	102	1.29
MS RECOVERY %	102	99.4
MSD RESULT	101	1.29
MSD RECOVERY %	101	99.4
MS/MSD RPD %	0.99	0.00
BS RESULT	NA	NA
BS RECOVERY %	NA	NA
BSD RESULT	NA	NA
BSD RECOVERY %	NA	NA
BS/BSD RPD %	NA	NA
DUP RPD LIMITS	---	20.0
DUPLICATE RPD %	NC	0.34
LCS LEVEL	100	1.00
LCS REC LIMITS	75.0 - 125	80.0 - 120
LCS RESULT	95.9	0.990
LCS RECOVERY %	95.9	99.0
SPIKE SAMPLE ID	6101-2	6146-1
SAMPLE VALUE	< 0.500	0.296
DUP SAMPLE ID	6101-2	6146-1
DUP SAMPLE VAL/1	---	0.297
DUP SAMPLE VAL/2	---	0.296

NA  
NC

Not applicable  
Not calculable

Intertek Testing Services NA Inc.  
1089 East Collins Boulevard Richardson, TX 75081  
Telephone (972) 238-5591 Fax (972) 238-5592

Report to:  
 Company: The Gaultlett Group  
 Address: 111 W. Evelyn Avenue  
Suite 305, Sunnyvale  
CA 94086  
 Contact: \_\_\_\_\_  
 Phone: Jim Butera 328-2814  
 Fax: 774-6757  
 Contract/  
 Quote #: 76055

Invoice to  
 Company: Same  
 Address: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 PO/SO #: NA

ANALYSIS  
 REQUESTED

Lab use only  
 Due Date: \_\_\_\_\_  
 Temp. of coolers  
 when received (C°):  
 1 2 3 4 5  
 Custody Seal N / Y  
 Intact N / Y  
 Screened  
 For Radioactivity

Sampler's Name \_\_\_\_\_ Sampler's Signature \_\_\_\_\_

Proj. No.		Project Name				No./Type of Containers <sup>2</sup>			
Matrix <sup>1</sup>	Date	Time	C o m p	G r a b	Identifying Marks of Sample(s)	VOA	A/G 1 Lt.	250 ml	P/O
SD	5-16	1045			WP2-1-5-1.5				X
SD	5-16	1110			WP2-3-13-2.6				X
SD	5-16	1055			WP2-2-9-4.1				X

X TOTAL CUP  
 X X TOLP LEAD  
 X X PH

Lab Sample ID (Lab Use Only)  
 97051295  
 97051296  
 97051297

Turn around time  Priority 1 or Standard  Priority 2 or 50% \*  Priority 3 or 100% \*  Priority 4 ERS (Dallas Only) \* Must Coordinate with Project Manager Shipment For Case Complete  Yes  No

Relinquished by: (Signature) <u>[Signature]</u>	Date: <u>5-16-97</u> Time: <u>1210</u>	Received by: (Signature) _____	Date: _____ Time: _____
Relinquished by: (Signature) _____	Date: _____ Time: _____	Received by: (Signature) _____	Date: _____ Time: _____
Relinquished by: (Signature) _____	Date: _____ Time: _____	Received by: (Signature) <u>[Signature]</u>	Date: <u>5-16-97</u> Time: <u>1710</u>

Remarks  
 Client's delivery of samples constitutes acceptance of ITS Environmental Laboratories terms and conditions contained in the Price Schedule.

<sup>1</sup> Matrix WW - Wastewater W - Water S - Soil SD - Solid L - Liquid A - Air Bag C - Charcoal tube SL - Sludge O - Oil  
<sup>2</sup> Container VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other 16 oz Glass

ITS cannot accept verbal changes.  
 Please Fax written changes to  
 (408) 432-8198



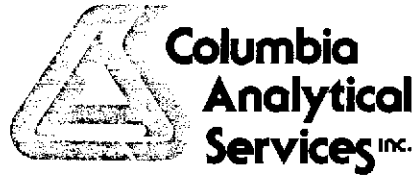
# Intertek Testing Services Environmental Laboratories

## SAMPLE RECEIVING CHECKLIST

<b>Workorder Number:</b> 6603	<b>Client Project ID:</b> 50604.01.06	<b>Quote Number:</b>
<b>Cooler</b>		
Shipping documentation present? If YES, enter Carrier and Airbill #:	YES	NO <input checked="" type="radio"/> N/A
Custody Seal on the outside of cooler? Condition: Intact Broken	YES	NO <input checked="" type="radio"/> N/A
Temperature of sample(s) within range? List temperatures of cooler(s): 4°C Note: If all samples taken within previous 4 hr, circle N/A and place in sample storage area as soon as possible.	<input checked="" type="radio"/> YES	NO <input type="radio"/> N/A
	IR-1	Temp Blank
<b>Samples</b>		
Chain of custody seal present for each container? Condition: Intact Broken	YES	NO <input checked="" type="radio"/> N/A
Samples arrived within holding time?	<input checked="" type="radio"/> YES	NO <input type="radio"/> N/A
Samples in proper containers for methods requested? Condition of containers: <input checked="" type="radio"/> Intact <input type="radio"/> Broken If NO, were samples transferred to proper container(s)? Yes No	<input checked="" type="radio"/> YES	NO <input type="radio"/>
VOA containers received with zero headspace or bubbles < 6 mm?	YES	NO <input checked="" type="radio"/> N/A
Container labels complete? (ID, date, time, preservative)	<input checked="" type="radio"/> YES	NO <input type="radio"/> N/A
Samples properly preserved? If NO, was the preservative added at time of receipt? Yes No	YES	NO <input checked="" type="radio"/> N/A
pH check of samples required at time of receipt?(volatiles checked at analysis) If YES, pH checked and recorded by:	YES	<input checked="" type="radio"/> NO
Sufficient amount of sample received for methods requested? If NO, has the client or PM been notified? Yes No	<input checked="" type="radio"/> YES	NO <input type="radio"/>
Field blanks received with sample batch?	YES	NO <input checked="" type="radio"/> N/A
Trip blanks received with sample batch?	YES	NO <input checked="" type="radio"/> N/A
<b>Chain of Custody</b>		
Chain of custody form received with samples?	<input checked="" type="radio"/> YES	NO <input type="radio"/>
Has it been filled out completely and in ink?	<input checked="" type="radio"/> YES	NO <input type="radio"/>
Sample IDs on chain of custody form agree with labels?	<input checked="" type="radio"/> YES	NO <input type="radio"/>
Number of containers on chain agree with number received?	<input checked="" type="radio"/> YES	NO <input type="radio"/>
Analysis methods specified?	<input checked="" type="radio"/> YES	NO <input type="radio"/>
Sampling date and time indicated?	<input checked="" type="radio"/> YES	NO <input type="radio"/>
Proper signatures of sampler, courier and custodian in appropriate spaces? With time and date? <input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> YES	NO <input type="radio"/>
Turnaround time? <input checked="" type="radio"/> Standard <input type="radio"/> Rush		

Any NO responses and/or any BROKEN that was checked must be detailed in a Corrective Action Form.

Sample Custodian: JP Date: 5-20-97 Project Manager: Michael M. M. M. Date: 5/21/97



October 1, 1997

Service Request No.: S9701769

Mr. Pat Lacey  
THE GAUNTLETT GROUP  
111 West Evelyn Avenue  
Suite 305  
Sunnyvale, CA 94086

RE: 604.01.07

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on September 11, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 14, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. Green", written in a cursive style.

Steven L. Green  
Project Chemist



COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701769  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Total Metals  
Lead

**Prep Method:** EPA 3050BM  
**Analysis Method:** 6010A  
**Test Notes:**

**Units:** mg/Kg (ppm)  
**Basis:** NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
WP2-1-4-1.1	S9701769-001	5	1	9/15/97	9/15/97	240	
WP2-2-8-1.5	S9701769-002	5	1	9/15/97	9/15/97	220	
WP2-3-10-2.0	S9701769-003	5	1	9/15/97	9/15/97	470	
WP2-4-11-1.5	S9701769-004	5	1	9/15/97	9/15/97	300	
Method Blank	S970915-MB	5	1	9/15/97	9/15/97	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701769  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Lead  
Determination of Maximum Solubility in Fresh Water\*

**Sample Name:** WP2-1-4-1.1  
**Lab Code:** S9701769-001  
**Test Notes:**

**Units:** ug/L(ppb) in Extractant  
**Basis:** NA

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 18-19, 1997	EPA 3005	7421	5	83	1	9/19/97	9/19/97	ND	
September 24-25, 1997	EPA 3005	7421	5	83	1	9/25/97	9/25/97	ND	

\* See attached method for extraction procedure.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701769  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Lead

Determination of Maximum Solubility in Fresh Water\*

**Sample Name:** WP2-2-8-1.5 **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S9701769-002 **Basis:** NA  
**Test Notes:**

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 18-19, 1997	EPA 3005	7421	5	83	1	9/19/97	9/19/97	8	
September 24-25, 1997	EPA 3005	7421	5	83	1	9/25/97	9/25/97	7	

\* See attached method for extraction procedure.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701769  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Lead

Determination of Maximum Solubility in Fresh Water\*

**Sample Name:** WP2-3-10-2.0 **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S9701769-003 **Basis:** NA  
**Test Notes:**

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 18-19, 1997	EPA 3005	7421	5	83	1	9/19/97	9/19/97	10	
September 24-25, 1997	EPA 3005	7421	5	83	1	9/25/97	9/25/97	6	

\* See attached method for extraction procedure.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701769  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Lead

Determination of Maximum Solubility in Fresh Water\*

Sample Name: WP2-4-11-1.5 Units: ug/L(ppb) in Extractant  
Lab Code: S9701769-004 Basis: NA  
Test Notes:

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 18-19, 1997	EPA 3005	7421	5	83	1	9/19/97	9/19/97	ND	
September 24-25, 1997	EPA 3005	7421	5	83	1	9/25/97	9/25/97	ND	

\* See attached method for extraction procedure.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701769  
**Date Collected:** NA  
**Date Received:** NA

Lead

Determination of Maximum Solubility in Fresh Water\*

**Sample Name:** Method Blank **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S97mmdd-MB **Basis:** NA  
**Test Notes:**

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 18-19, 1997	EPA 3005	7421	5	83	1	9/19/97	9/19/97	ND	
September 24-25, 1997	EPA 3005	7421	5	83	1	9/25/97	9/25/97	ND	

\* See attached method for extraction procedure.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701769  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Lead  
Determination of Maximum Solubility in Sea Water\*

**Sample Name:** WP2-1-4-1.1  
**Lab Code:** S9701769-001  
**Test Notes:**

**Units:** ug/L(ppb) in Extractant  
**Basis:** NA

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 20-21, 1997	EPA 3005	7421	5	83	10	9/22/97	9/22/97	<50	M1

\* See attached method for extraction procedure.  
M1 The MRL was elevated because of matrix interferences.



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701769  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Lead

Determination of Maximum Solubility in Sea Water\*

**Sample Name:** WP2-2-8-1.5 **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S9701769-002 **Basis:** NA  
**Test Notes:**

<b>Date Extracted</b>	<b>Prep Method</b>	<b>Analysis Method</b>	<b>MRL</b>	<b>Soluble Limits*</b>	<b>Dilution Factor</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Result</b>	<b>Result Notes</b>
September 20-21, 1997	EPA 3005	7421	5	83	10	9/22/97	9/22/97	<50	M1

\* See attached method for extraction procedure.  
M1 The MRL was elevated because of matrix interferences.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701769  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Lead

Determination of Maximum Solubility in Sea Water\*

**Sample Name:** WP2-3-10-2.0 **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S9701769-003 **Basis:** NA  
**Test Notes:**

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 20-21, 1997	EPA 3005	7421	5	83	10	9/22/97	9/22/97	<50	M1

\* See attached method for extraction procedure.  
M1 The MRL was elevated because of matrix interferences.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701769  
**Date Collected:** 9/11/97  
**Date Received:** 9/11/97

Lead

Determination of Maximum Solubility in Sea Water\*

**Sample Name:** WP2-4-11-1.5 **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S9701769-004 **Basis:** NA  
**Test Notes:**

Date Extracted	Prep Method	Analysis Method	MRL	Soluble Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
September 20-21, 1997	EPA 3005	7421	5	83	10	9/22/97	9/22/97	<50	M1

\* See attached method for extraction procedure.  
M1 The MRL was elevated because of matrix interferences.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

**Client:** Gauntlett Group, LLC  
**Project:** 604.01.07  
**Sample Matrix:** Solid

**Service Request:** S9701769  
**Date Collected:** NA  
**Date Received:** NA

Lead

Determination of Maximum Solubility in Sea Water\*

**Sample Name:** Method Blank **Units:** ug/L(ppb) in Extractant  
**Lab Code:** S97mmdd-MB **Basis:** NA  
**Test Notes:**

<b>Date Extracted</b>	<b>Prep Method</b>	<b>Analysis Method</b>	<b>MRL</b>	<b>Soluble Limits*</b>	<b>Dilution Factor</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Result</b>	<b>Result Notes</b>
September 20-21, 1997	EPA 3005	7421	50	83	1	9/22/97	9/22/97	ND	

\* See attached method for extraction procedure.



2059 Junction Avenue • San Jose, CA 95131 • (408) 437-2400 • FAX (408) 437-9356

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SERVICE REQUEST NO. S9701769

P.O.# \_\_\_\_\_

PAGE 1 OF 1

PROJECT NAME # 604.01.07  
 PROJECT MGR. P. Lacey  
 COMPANY The Gavett Group  
 ADDRESS 111 W. Evelyn Avenue, #305  
Sunnyvale, CA 94086 PHONE 328-084  
 FAX 774-6757  
 SAMPLER'S SIGNATURE [Signature]

NUMBER OF CONTAINERS

ANALYSIS REQUESTED												REMARKS				
PRESERVATIVE	HCl	HCl	HCl	NP	NP	NP	HCl	HCl	HNO <sub>3</sub>	NP	H <sub>2</sub> SO <sub>4</sub>		H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Volatile Organics GC/MS 624/8240/8260 601/8010	Halogenated or Aromatic Volatiles TPH as Gas/BTEX DHS LUFT / 8020	TPH as Gas/BTEX DHS LUFT / 8020	TPH as Diesel/HBHC DHS LUFT	Base/New/Acid Organics GC/MS 625/8270	Pesticides / PCBs 608/8080	TRPH - 418.1	Oil and Grease Method	Metals (Total) or dissolved List Below	pH, Cond, Cl, SO <sub>4</sub> , F, TDS, TSS Alk, NO <sub>3</sub> , NO <sub>2</sub> (circle)	NH <sub>3</sub> -N, COD, Total-P, TKN, NO <sub>3</sub> / NO <sub>2</sub> (circle)	Total Organic Carbon TOC	Total Phenols	Cyanide	Maximum Pb Solubility - Hex	Maximum Pb Solubility - Hex	
WP2-1-4-1.1	9-11-97	1140	1	Solid	2											
WP2-2-8-1.5	9-11-97	1210	2	Solid	2											
WP2-3-10-2.09	9-11-97	1225	3	Solid	2											
WP2-4-11-1.5	9-11-97	1255	4	Solid	2											
<b>LAST ENTRY</b>																

RELINQUISHED BY:  
[Signature]  
P. Lacey  
 Printed Name  
TGG  
 Firm  
9-11-97 1645  
 Date/Time

RECEIVED BY:  
[Signature]  
Kristina Lovelice  
 Signature  
CAS  
 Firm  
9/11/97 1645  
 Date/Time

RELINQUISHED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

RECEIVED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

TURNAROUND REQUIREMENTS  
 \_\_\_ 1 day  2 day \_\_\_ 3 day  
 \_\_\_ 5 day \_\_\_ Other  
 Standard (10 working days)  
 Results Due ASAP  
Run Attached

REPORT REQUIREMENTS  
 I. Routine Report  
 \_\_\_ II. Report (includes MS, MSD, as required, may be charged as samples)  
 \_\_\_ III. Data Validation Report (includes All Raw Data)  
 \_\_\_ MDLs/PQLs/Trace #  
 \_\_\_ Electronic Data Deliverables

RELINQUISHED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time  
 Shipped Via/Tracking #

RECEIVED BY:  
 Signature  
 Printed Name  
 Firm  
 Date/Time

SAMPLE RECEIPT: Condition \_\_\_\_\_ Custody Seals \_\_\_\_\_

SPECIAL INSTRUCTIONS/COMMENTS:  
 Circle which metals are to be analyzed:  
 Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn  
 As Pb Se Ti Hg

Please see attached guidance for maximum solubility testing protocol. Please hold addtl sample

Storage: R20/571

**APPENDIX E**

**FEBRUARY 1997 WASTE RECLASSIFICATION GUIDANCE**

## Waste Classification Petition (Application) Checklist

Formal administrative decisions issued by the Department of Toxic Substances Control (DTSC) associated with concurrences, reclassifications, and special waste designations pursuant to sections 66260.200 and 66261.124, Title 22, California Code of Regulations (22 CCR), require a generator to submit a formal petition (application) to DTSC for review. These petitions contain basic information and analytical data which the generator believes supports his/her position as to the waste's proper characterization. To assist a generator in putting together a formal petition (application) for DTSC to review, the following checklist guidance describes the types of basic information required of a generator to be included in his/her submittal [Note: These information requirements are specifically outlined in 22 CCR section 66260.200(m)].

It is strongly recommended that particular attention be paid to the organization of the required information submitted to DTSC for review. Irrelevant information and/or data, excessive verbage, or analytical testing results which are not organized nor presented in a logical manner (i.e., in tables) will only hinder staff in reviewing the petition (application) resulting in unnecessary delays.

---

### Introduction

- Cover Letter which includes a brief description of the following:
  - The nature of the petition (i.e., concurrence, reclassification, etc.);
  - Name of the facility generating the waste;
  - Mailing address of the facility generating the waste;
  - Contact person and phone number of the generating facility.
- Executive Summary which briefly describes the overall project and contents of the submitted petition.
- Table of Contents (if petition consists of more than 15 pages)

### Background Information

- Site History/Background/Map of the site (relevant to the generated waste in question).
- Waste Description which includes the following information:
  - Physical description of the waste (i.e., describe its appearance);
  - How was the waste generated (i.e., from an industrial process, excavation, etc.)?;
  - How much or what volume of waste was generated (i.e., amount generated per unit time, stockpile volume, etc.)?;
  - How is the waste presently managed/disposed?

## Technical Information

- Waste Sampling information which includes the following:
  - Detailed description and justification of the sampling methodology used to collect representative samples of the waste (i.e., random, stratified, etc.). The sampling methodology chosen must be in conformance with Chapter 9 of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, 3rd Edition, U. S. Environmental Protection Agency, 1986;
  - Detailed map/diagram showing the exact locations that the waste samples were taken from. Each waste sample location must be labeled with its respective sample identification number.
  - Date(s) waste samples were taken;
  - Waste sample handling and preservation procedures used;
  - Name and address of person(s) who performed the waste sample collection and their affiliation.
  
- Waste Characterization information which includes the following:
  - Detailed summary describing the primary constituents of concern in the waste(s);
  - Laboratory results (each identified by sample number) from the analysis of representative samples of the waste(s) summarized in table form (copies of the actual laboratory data sheets which contain the raw data from the analysis of the waste(s) should be included in an appendices section at the back of the submitted report);
  - The laboratory testing should address all of the appropriate hazardous waste characteristics:
    - Ignitability (22 CCR section 66261.21)
    - Corrosivity (22 CCR section 66261.22)
    - Reactivity (22 CCR section 66261.23)
    - Toxicity (22 CCR section 66261.24)
    - Optional testing (for reclassification petitions - DTSC can provide guidance) to demonstrate that the hazard is mitigated:
      - Modified leaching test using DI water;
      - Modified leaching test using simulated ocean water; and,
      - Test to estimate the movement of the constituent of concern to an aquifer.

In the case where certain hazardous characteristics are not addressed, the generator should provide justification/information which shows why such analytical testing was not applicable.



## Technical Information (continued)

- Statistical Analysis performed on the analytical testing results (in accordance with Chapter 9 of SW-846) includes the following:
  - Appropriate number of samples analyzed for each constituent of concern present at a significant concentration in the waste. In the case where there were not enough samples, how many additional samples are required;
  - Mean concentration of each constituent(s) of concern;
  - Standard deviation for each constituent(s) of concern;
  - 80% Upper Confidence Limit for each constituent(s) of concern;
- Other statistical methods of analysis which may be required in situations where more than one or multiple populations of data are suspected (due to sampling differences, suspected multiple wastes present, process or waste management changes, etc.), OR when analytical data do not exhibit a normal distribution :
  - Analysis of Variance (ANOVA)
  - Transformation (specify type & provide justification)
  - Other applicable statistical methods (specify type & justification)

## Discussion

- Summary and discussion of the analytical results from testing representative samples of the waste;
- Provide a detailed discussion on why the results of the analytical testing support the specific waste classification request (i.e., concurrence, reclassification, or special waste);
  - For reclassification petitions submitted pursuant to 22 CCR section 66260.200(f), include a detailed discussion regarding the mitigating physical/chemical characteristic of the waste which renders it insignificant as a hazard to human health and safety, livestock and wildlife.
  - For special waste petitions submitted pursuant to 22 CCR section 66261.124, include a detailed discussion which supports the special waste designation in light of the criteria and requirements pursuant to 22 CCR section 66261.122.

## Requirements for the Reclassification of WET-Soluble Lead $\geq 5.0$ mg/l

Specific Environmental Threats: Toxicity due to the potential for exposure to aquatic organisms and drinking water supplies.

Tests Required to Demonstrate that the Substance Poses an Insignificant Threat:

Method to estimate the pollution of an aquifer by the mixing of the waste with ground or surface waters

1

**DETERMINATION OF MAXIMUM SOLUBILITY IN FRESH WATER**  
A minimum of four representative samples of as-generated waste must be composited and subjected to multiple extractions pursuant to a modified EPA method 1320. Extractions must be continued only until analysis reveals that the further addition of sample will yield no additional lead in the extractant. Report the results of these analyses to the Department in the final laboratory report. EPA method 1320 is modified by substituting soft water<sup>2</sup> as an extraction fluid instead of sulfuric and nitric acid. The extraction fluid used for the first extraction will be reintroduced as the extraction fluid for the second and all subsequent extractions. No additional reagent water, other than that initially introduced prior to the first extraction, may be added before an extraction. After an extraction, discard the solid material remaining in the test vessel. Add a new sample of waste (100 g minimum) between each extraction. No pH adjustment should be performed during this procedure. The extractant should be filtered through a 0.45 $\mu$ m filter prior to analysis. *Threshold Which Shows that the Substance Possesses an Insignificant Threat: Total Lead in the Final Extraction <82 $\mu$ g/l.*

2

**DETERMINATION OF THE MAXIMUM SOLUBILITY IN SEA WATER**  
A minimum of four representative samples of as-generated waste must be composited and subjected to multiple extractions pursuant to a modified EPA method 1320. Extractions must be continued only until analysis reveals that the further addition of sample will yield no additional lead in the extractant. Report the results of these analyses to the Department in the final laboratory report. EPA method 1320 is modified by substituting simulated ocean water, prepared pursuant to ASTM Standard D 1141 as an extraction fluid instead of sulfuric and nitric acid. The extraction fluid used for the first extraction will be reintroduced as the extraction fluid for the second and all subsequent extractions. No additional simulated ocean water, other than that initially introduced prior to the first extraction, may be added before an extraction. After an extraction, discard the solid material remaining in the test vessel. Add a new sample of waste (100 g minimum) between each extraction. No pH adjustment should be performed during this procedure. The extractant should be filtered through a 0.45 $\mu$ m filter prior to analysis. *Threshold Which Shows that the Substance Possesses an Insignificant Threat: Total Lead in the Final Extraction <140 $\mu$ g/l.*

Estimation of the dissolving of lead from the leaching action of acidic leachate and the movement of the lead from the disposal area.

3

**ESTIMATION OF THE MOVEMENT OF LEAD TO AN AQUIFER**  
A minimum of four representative samples of as-generated waste must be subjected to analysis by the Toxicity Characteristic Leaching Procedure (TCLP), test method 1311 in Tests Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-848. *Threshold Which Shows that the Substance Possesses an Insignificant Threat: 80% upper confidence level of the mean of all analyzed samples <1.5 mg/l.*

<sup>2</sup> See attachment 1 for soft water standard

SECTION 66260.200(F), TITLE 22, CALIFORNIA CODE OF REGULATIONS, DOES NOT CONTAIN SPECIFIC TEST PROCEDURES FOR AN APPLICANT TO USE FOR THE RECLASSIFICATION OF AN IDENTIFIED HAZARDOUS WASTE. THERE, THE PROCEDURES CONTAINED HEREIN ARE NOT REQUIRED TO BE PERFORMED, BUT HELP AN APPLICANT TO IDENTIFY PROCEDURES WHICH THE DEPARTMENT WILL ALLOW TO INDICATE THAT THE WASTE POSSESSES AN INSIGNIFICANT THREAT TO HUMAN HEALTH AND SAFETY, LIVESTOCK, AND WILDLIFE.

### Attachment 1 - Soft Water Standard

Soft water is prepared by adding reagent-grade chemicals to glass-distilled and/or deionized water as shown in the following table:

Salts required mg/l					Water Quality	
NaHCO <sub>3</sub>	CaSO <sub>4</sub> 2H <sub>2</sub> O	MgSO <sub>4</sub>	KCl	pH	Hardness mg CaCO <sub>3</sub> /l	Alkalinity mg CaCO <sub>3</sub> /l
48	30	30	2.0	7.2-7.6	10-13	10-13

Determine that the distilled and/or deionized water contains less than the indicated constituents:

Conductivity	1 µg/l
Total organic carbon or chemical oxygen demand	1 mg/l
Boron, fluoride	2 mg/l
Un-ionized ammonia	100 µg/l each
Aluminum, arsenic, chromium, cobalt, copper, iron, lead, nickel, zinc	20 µg/l
Total residual chlorine	1 µg/l each
Cadmium, mercury, silver	3 µg/l
Total organophosphorous pesticides	100 µg/l each
Total organochlorine pesticides plus polychlorinated biphenyls	50 ng/l*
	50 ng/l*

Carbon-filtered deionized water usually is acceptable. Determine conductivity of distilled and/or deionized water for each batch of reconstituted water. Check other constituents periodically.

\*No individual pesticide should exceed the allowable concentration limit set in the National Water Quality Guidelines, EPA as set in accordance with the federal Pollution Control Act 92-500 as amended in 1972.

**APPENDIX F**

**NOVEMBER 17, 1997, WASTE RECLASSIFICATION  
APPROVAL LETTER**



November 17, 1997



Cal/EPA

Department of  
Toxic Substances  
Control

400 P Street,  
4th Floor  
P.O. Box 806  
Sacramento, CA  
95812-0806

Mr. Stephen Wilson, Manager  
Environmental Affairs  
Crowley Marine Services, Incorporated  
2401 Fourth Avenue  
Seattle, Washington 98121

Pete Wilson  
Governor

Peter M. Rooney  
Secretary for  
Environmental  
Protection

**SUBJECT: REQUEST TO MANAGE HAZARDOUS WASTE AS  
NONHAZARDOUS - FORMER PACIFIC DRY DOCK COMPANY  
SITES (WASTE EVALUATION UNIT FILE #F-165)**

Dear Mr. Wilson:

**HISTORY AND STATUS OF APPLICATION**

On July 31, 1997, you submitted to the Department of Toxic Substances Control (DTSC) a request to classify and manage lead-contaminated soils, stockpiled at the former Pacific Dry Dock and Repair Company Yards I and II, as nonhazardous waste, pursuant to Section 66260.200(f), Title 22, California Code of Regulations (22 CCR). On October 23, 1997, DTSC acknowledged receipt of the application. Additional information was requested in a letter dated October 23, 1997. Your response was received by DTSC on October 24, 1997.

Analytical data submitted with the application demonstrate that contaminated soils at two separate locations exhibit the characteristic of toxicity because the concentrations of soluble lead are greater than the Soluble Threshold Limit Concentration (STLC) contained in Section 66261.24(a)(2)(A), 22 CCR. Per the provisions of Section 66260.200(f), 22 CCR, wastes which are non-RCRA hazardous wastes may be classified as nonhazardous, upon approval from DTSC, if the waste can be shown to possess mitigating physical and/or chemical characteristics which render it insignificant as a hazard to human health and safety, livestock, and wildlife. This letter is a notification that DTSC approves your application to classify and manage the lead-contaminated soils stockpiled at Yards I and II as nonhazardous wastes pursuant to Section 66260.200(f), 22 CCR.

**ANALYTICAL TESTING, RESULTS OF ANALYSIS, AND DISCUSSION**

The accumulated data, obtained from samples of the stockpiles, combined with generator knowledge of the waste stream, have yielded the following results:

1. **Corrosivity:** The soils do not exhibit the characteristic of corrosivity pursuant to 13 analytical tests<sup>1</sup> conducted pursuant to the provisions of Section 66261.22(a)(4), 22 CCR.
2. **Reactivity:** The soils are not expected to exhibit the characteristic of reactivity.
3. **Ignitability:** The soils are not expected to exhibit the characteristic of ignitability.
4. **Acute Oral, Dermal, Inhalation, and Aquatic Toxicity:** Acute oral, dermal, and inhalation toxicity are not expected to be exhibited by the stockpiled soils. The soils do not exhibit the characteristic of acute aquatic toxicity. This information was obtained as a result of the analyses of 12 samples<sup>2</sup> which were analysed for acute aquatic toxicity pursuant to Section 66261.24(a)(6), 22 CCR.
5. **Toxicity Caused by Persistent and Bioaccumulative Toxic Substances:** Analyses indicate that the total concentrations of persistent and bioaccumulative inorganic toxic substances are less than established Total Threshold Limit Concentrations (TTLCs). At Yard I, Waste Extraction Test (WET)-soluble lead was found in the stockpiles at an 80% upper confidence level (UCL) of 12.88 mg/l<sup>3</sup>. At Yard II, WET-soluble lead was found in the stockpiles at an 80% UCL of 22.44 mg/l<sup>4</sup>. These concentrations both exceed the STLC of 5.0 mg/l. No additional substance was present at a soluble concentration which is equal to or greater than an STLC. Analytical results from samples subjected to the Toxicity Characteristic Leaching Procedure (TCLP) show that soluble lead was detected at an 80% UCL of 0.23 mg/l at Yard I and 1.20 mg/l at Yard II. No additional substance was present at a soluble concentration which is

---

<sup>1</sup> Ten samples were analyzed from Yard I and three samples from Yard II. Although the minimum number of samples (4) were not analyzed at Yard II, the submitted analytical data indicates that the characteristic of corrosivity is not expected to be exhibited by the soils at the site.

<sup>2</sup> Nine samples were analyzed from Yard I and three samples from Yard II. Although the minimum number of samples (4) were not analyzed at Yard II, the submitted analytical data indicates that the characteristic of acute aquatic toxicity is not expected to be exhibited by the soils at the site.

<sup>3,4</sup> These figures were derived after a square-root transformation of the data prior to deriving the upper confidence limit. Transformation was necessitated since the abnormal distribution of the data produced a variance which was greater than the mean, thus causing the non-transformed analytical results to fail the SW-846-mandated two-tail test.

equal to or greater than a federal Toxicity Characteristic (TC) regulatory threshold.

6. **Method to Estimate the Potential Pollution of Fresh or Saline Surface Waters:** Analytical results obtained after subjecting eight samples (four from each site) of the waste to a modified EPA method 1320 using soft water showed that lead was not detected in an amount higher than 50µg/l. Analytical results obtained after subjecting eight samples (four from each site) of the waste to a modified EPA method 1320 using simulated ocean water showed that lead was not detected in an amount higher than 100µg/l. This information was obtained from the following analytical testing:
  - a) Eight samples were analysed for soluble lead after preparation by a modified EPA Method 1320 using soft water as the extraction fluid and by reintroducing the extraction fluid from the first extraction into a test vessel containing fresh sample for the second and all subsequent extractions. Extractions are continued until an analysis reveals that the further addition of fresh sample will yield no additional lead in the extractant. Analytical results from the final extractant are obtained to indicate the ability of the sample to leach lead in a fresh water environment.
  - b) Eight samples were analysed for soluble lead after preparation by a modified EPA Method 1320 using simulated ocean water (prepared pursuant to ASTM Standard D 1141) as the extraction fluid and by reintroducing the extraction fluid from the first extraction into a test vessel containing fresh sample for the second and all subsequent extractions. Extractions are continued until an analysis reveals that the further addition of fresh sample will yield no additional lead in the extractant. Analytical results from the final extractant are obtained to indicate the ability of the sample to leach lead in a marine environment.

## DISCUSSION

Analytical results show that the soils possess a mitigating physical or chemical characteristic which will not allow lead from the waste to become soluble at levels which are equal to or greater than federal ambient water quality criteria for fresh (82 µg/l) or marine (140 µg/l) environments. Additionally, since the soils, when subjected to the TCLP, did not leach lead greater than 100 times the federal action level for lead in drinking water (1.5 mg/l), the waste has been shown to be an insignificant threat when allowed to contact a drinking water supply.

Mr. Stephen Wilson, Manager  
November 17, 1997  
Page 4

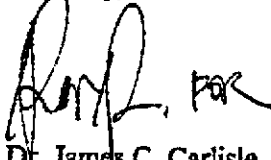
### CONCLUSION

Based upon the review of all information and analytical data submitted with your application, DTSC has determined that the soils stockpiled at Yards I and II possess mitigating physical and/or chemical characteristics which render them insignificant as a hazard to human health and safety, livestock, and wildlife. DTSC, therefore, grants approval to Crowley Marine Services, Inc. to classify and manage the lead-contaminated soils stockpiled at Yards I and II as nonhazardous waste pursuant to Section 662600.200(f), 22 CCR.

This nonhazardous waste classification is contingent upon the representativeness and accuracy of the analytical data submitted to DTSC for review. The classification of wastes is not to be confused with the establishment of cleanup levels for soils. Waste classification determines only whether a waste shall be managed as a hazardous waste. Approval for other uses of the waste, which are not otherwise allowed by law, or for proposed remedial actions shall be sought and obtained from the appropriate DTSC regional office, regional water quality control board, and any other State or local regulatory agency which has authority over waste management and disposal. Irrespective of the classification of this material, the management and disposal of contaminated soils is subject to the statutes and regulations of the regional water quality control board and/or any federal, State, or local authority with appropriate jurisdiction.

Should you have any questions regarding the above letter, please contact Mr. Chris Marxen of my staff at the letterhead address or by telephone at (916) 327-2525.

Sincerely,



Dr. James C. Carlisle  
Senior Toxicologist  
Human and Ecological Risk Division

cc: Jeffrey Wong, Ph.D.  
Chief, Human and Ecological Risk Division  
Department of Toxic Substances Control  
P.O. Box 806  
Sacramento, California 95812-0806



Mr. Stephen Wilson, Manager  
November 17, 1997  
Page 5

Ron Pilorin  
Human and Ecological Risk Division  
Department of Toxic Substances Control  
P.O. Box 806  
Sacramento, California 95812-0806

Larry Matz, Chief  
Statewide Compliance Division  
Department of Toxic Substances Control  
P.O. Box 806  
Sacramento, California 95812-0806

Paula Rasmussen, Chief  
State Regulatory Program Division  
Department of Toxic Substances Control  
P.O. Box 806  
Sacramento, California 95812-0806

**APPENDIX G**

**NONHAZARDOUS WASTE DISPOSAL DOCUMENTATION**

**Altamont Landfill and Resource Recovery Facility**  
10840 Altamont Pass Road  
Livermore, California 94550  
Tel: 415/449-6349 • FAX: 510/455-7381



A Waste Management Company

January 14, 1998

Mr. Jim Butera  
The Gauntlett Group  
111 W. Evelyn Ave, Suite 305  
Sunnyvale, CA 94086

Fax (408) 774-6757

Subject: Crowley Marine Services, Oakland, CA

Dear Jim,

Altamont Landfill and Resource Recovery Facility (Altamont) is pleased to assist The Gauntlett Group manage the materials generated from the Crowley Marine Services project in Oakland, CA.

As discussed, Altamont accepted three types of material from the project; grit/soil, debris, and concrete. The grit/soil material was used as daily cover in the class II landfill cell to cover municipal solid waste (garbage). This is a re-use of otherwise virgin soil materials.

The concrete was also re-used at the landfill face. The materials were put into a stockpile for later use as a base for the tipper pad. The tipping equipment offloads the large transfer trucks, so a firm base is needed to support the weight.

The debris materials were disposed in the class II landfill cell.

I hope this information satisfies all your questions regarding the management of materials from this project. If I can be of further assistance, please contact me at (510) 455-7320.

Sincerely,  
Altamont Landfill and Resource Recovery Facility

Carole D. Harper  
Sales Manager



# GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File?  YES  NO

Profile Number: WMI

509162

Renewal Date: 1 / 1

### A. Waste Generator Information

- 1. Generator Name: CROWLEY MARINE SERVICES, INC. 2. SIC Code: 373
- 3. Facility Street Address: 321 EMBARCADERO 4. Phone: (206) 443-8042
- 5. Facility City: OAKLAND 6. State/Province: CA / USA
- 7. Zip/Postal Code: 94607 8. Generator USEPA/Federal ID #: N/A
- 9. County: ALAMEDA 10. State/Province ID #: N/A
- 11. Customer Name: SAME AS ABOVE 12. Customer Phone: (408) 328-0814
- 13. Customer Contact: PATRICK A. LACEY 14. Customer Fax: 774-6757

### B. Waste Stream Information

- 1. Name of Waste: SPEND SANDBLAST GRIT/N/CLAVE DEBRIS 2. State Waste Code: NONE
- 3. Process Generating Waste: MAINTENANCE AND REPAIR OF BOATS AND SEA GOING VESSELS
- 4. Estimated Annual Volume: 500  Tons  Yards  Other (specify) \_\_\_\_\_
- 5. Personal Protective Equipment Requirements: LEVEL D
- 6. Transporter/Transfer Station: PROVIDED BY WMI
- 7. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip 8, 9, & 10).....  YES  NO
- 8. Reportable Quantity (lbs.; kgs.): N/A 9. Hazard Class/ID #: N/A
- 10. USDOT Shipping Name: N/A

Check if additional information is attached. Indicate the number of attached pages:

### C. Generator's Certification (Please check appropriate responses, sign, and date below.)

- 1. Is the waste represented by this waste profile sheet a "Hazardous Waste," as defined by USEPA, Canadian, Mexican and/or state/province regulation, in the location where generated or ultimately managed?.....  YES  NO  
*DTSC WASTE RECLASSIFICATION LETTER WILL BE SUBMITTED UNDER SEPARATE COVER*
- 2. Does the waste represented by this waste profile sheet contain regulated radioactive material or regulated concentrations of Polychlorinated Biphenyls (PCBs)?.....  YES  NO
- 3. Does this waste profile sheet and all attachments contain true and accurate descriptions of the waste material?.....  YES  NO
- 4. Has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor?.....  YES  NO
- 5. Is the analytical data attached hereto derived from testing a representative sample in accordance with 40 CFR 261.20 (c) or equivalent rules?.....  NA  YES  NO
- 6. Will all changes that occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor?.....  YES  NO

Certification Signature: R. Stephen Wilson

Name (Type or Print): R. STEPHEN WILSON

Title: Manager, Environmental Affairs

Company Name: CROWLEY MARINE SERVICES Date: 11/7/97

### D. WMI Management's Decision

FOR WMI USE ONLY

- 1. Management Method:  Landfill  Solidify  Bioremediation  Other (Specify) \_\_\_\_\_
- 2. Proposed Ultimate Management Facility: \_\_\_\_\_ 3. Hours of acceptance: \_\_\_\_\_  NA
- 4. Supplemental Information: \_\_\_\_\_
- 5. Precautions, Special Handling Procedures, or Limitations on Approval: \_\_\_\_\_

Special Waste Decision.....  Approved  Disapproved

Salesperson's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Division Approval Signature (Optional): \_\_\_\_\_ Date: \_\_\_\_\_

Special Waste Approvals Person Signature: \_\_\_\_\_ Date: \_\_\_\_\_



# GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File?  YES  NO

Profile Number: WMI

509167

Renewal Date: 1 / 1

### A. Waste Generator Information

- 1. Generator Name: CROWLEY MARINE SERVICES, Inc.
- 2. SIC Code: 373
- 3. Facility Street Address: 144 EMBARCADERO
- 4. Phone: (206) 443-8042
- 5. Facility City: OAKLAND
- 6. State/Province: CA / USA
- 7. Zip/Postal Code: 94607
- 8. Generator USEPA/Federal ID #: N/A
- 9. County: ALAMEDA
- 10. State/Province ID #: N/A
- 11. Customer Name: SAME AS ABOVE
- 12. Customer Phone: (408) 328-0814
- 13. Customer Contact: PATRICK A. LACEY
- 14. Customer Fax: 774-6757

### B. Waste Stream Information

- 1. Name of Waste: SPENT SANDBLAST GRIT w/CLAY & DEBRIS
- 2. State Waste Code: NONE
- 3. Process Generating Waste: MAINTENANCE AND REPAIR OF BOATS AND SEA-GOING VESSELS
- 4. Estimated Annual Volume: 4,500  Tons  Yards  Other (specify) \_\_\_\_\_
- 5. Personal Protective Equipment Requirements: LEVEL D
- 6. Transporter/Transfer Station: PROVIDED BY WMI
- 7. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip 8, 9, & 10).....  YES  NO
- 8. Reportable Quantity (lbs.; kgs.): N/A
- 9. Hazard Class/ID #: N/A
- 10. USDOT Shipping Name: N/A

Check if additional information is attached. Indicate the number of attached pages:

### C. Generator's Certification (Please check appropriate responses, sign, and date below.)

- 1. Is the waste represented by this waste profile sheet a "Hazardous Waste," as defined by USEPA, Canadian, Mexican and/or state/province regulation, in the location where generated or ultimately managed?.....  YES  NO  
*DTSC WASTE RECLASSIFICATION ACCEPTANCE LETTER WILL BE SUBMITTED UNDER SEPARATE COVER.*
- 2. Does the waste represented by this waste profile sheet contain regulated radioactive material or regulated concentrations of Polychlorinated Biphenyls (PCBs)?.....  YES  NO
- 3. Does this waste profile sheet and all attachments contain true and accurate descriptions of the waste material?.....  YES  NO
- 4. Has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor?.....  YES  NO
- 5. Is the analytical data attached hereto derived from testing a representative sample in accordance with 40 CFR 261.20 (c) or equivalent rules?.....  NA  YES  NO
- 6. Will all changes that occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor?.....  YES  NO

Certification Signature: R. Stephen Wilson  
Name (Type or Print): R. STEPHEN WILSON

Title: Manager Environmental Affairs  
Company Name: CROWLEY MARINE SERVICES Date: 11/7/97

### D. WMI Management's Decision

FOR WMI USE ONLY

- 1. Management Method:  Landfill  Solidify  Bioremediation  Other (Specify) \_\_\_\_\_
- 2. Proposed Ultimate Management Facility: \_\_\_\_\_
- 3. Hours of acceptance: \_\_\_\_\_  NA
- 4. Supplemental Information: \_\_\_\_\_
- 5. Precautions, Special Handling Procedures, or Limitations on Approval: \_\_\_\_\_

Special Waste Decision.....  Approved  Disapproved

Salesperson's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Division Approval Signature (Optional): \_\_\_\_\_ Date: \_\_\_\_\_

Special Waste Approvals Person Signature: \_\_\_\_\_ Date: \_\_\_\_\_

# ALTAMONT LANDFILL WASTE ACCEPTANCE FORM

CUSTOMER NAME: CROWLEY MARINE SERVICES, INC.

CUSTOMER # 36785

MATERIAL DESCRIPTION: CLASS II COVER SOIL

PROFILE# 509167

WASTE SOURCE (County / City location) - OAKLAND

FLAG COLOR: YELLOW

The Information listed above is necessary for acceptance of special waste at the Altamont Landfill.

- A copy of this form must be presented with each load to the Altamont scale house collector.
- This form is for Altamont waste tracking use and is not intended to serve as a customer shipping document.
- Drivers will receive a weight ticket for confirmation of disposal.
- An alternative shipping record may be used in lieu of this form if it includes the above information.
- If shipping form is a multiple part form, please notify landfill of which copies to return with the driver, if not otherwise noted on the form.

---

FOR ALTAMONT COLLECTOR USE ONLY:

FILL IN TAG# ASSOCIATED WITH LOAD (USE OUTBOUND# FOR UNTARED LOADS)

SCALE HOUSE TAG # - \_\_\_\_\_

DATE \_\_\_\_\_

TRUCK # \_\_\_\_\_

# ALTAMONT LANDFILL WASTE ACCEPTANCE FORM

CUSTOMER NAME: CROWLEY MARINE SERVICES, INC.

CUSTOMER # 36785

MATERIAL DESCRIPTION: CLASS II COVER SOIL

PROFILE# 509162

WASTE SOURCE (County / City location) - OAKLAND

FLAG COLOR: YELLOW

The Information listed above is necessary for acceptance of special waste at the Altamont Landfill.

- A copy of this form must be presented with each load to the Altamont scale house collector.
- This form is for Altamont waste tracking use and is not intended to serve as a customer shipping document.
- Drivers will receive a weight ticket for confirmation of disposal.
- An alternative shipping record may be used in lieu of this form if it includes the above information.
- If shipping form is a multiple part form, please notify landfill of which copies to return with the driver, if not otherwise noted on the form.

-----  
**FOR ALTAMONT COLLECTOR USE ONLY:**

FILL IN TAG# ASSOCIATED WITH LOAD (USE OUTBOUND# FOR UNTARED LOADS)

SCALE HOUSE TAG # - \_\_\_\_\_

DATE \_\_\_\_\_

TRUCK # \_\_\_\_\_