



August 3, 1999

Mr. Barney Chan  
Alameda County Health Division  
Division of Environmental Protection  
Department of Environmental Health  
1131 Harbor Bay Parkway, Second Floor  
Alameda, CA 94502

Dear Mr. Chan:

**Subject:** Subsurface Investigation Report  
AC Transit, 1100 Seminary Avenue, Oakland

AC Transit hereby submits the enclosed report, Subsurface Investigation Report for the AC Transit Facility, 1100 Seminary Avenue, Oakland, California. The report was prepared by our consultant, Environmental Decision Group, Inc. It contains a summary of historical data, activities and the results of a 1999 subsurface investigation performed in the vicinity of underground fuel tanks, waste oil tanks, and mechanics pits that existed prior to facility renovations in the late 1980s. The work was performed in response to your September 18, 1998, letter and a subsequent request made in a May 20, 1999, on-site meeting.

Soil and ground water samples collected from eight soil borings drilled in the vicinity of the former gasoline and diesel underground storage tanks were analyzed for total petroleum hydrocarbons (TPH) as diesel, TPH as gasoline, and benzene, toluene, ethylbenzene and xylenes (BTEX). Laboratory analyses of soil samples indicated TPH levels below 100 ppm. Laboratory analyses of ground water samples showed the highest diesel and gasoline concentrations to be 316,200 ppb and 5,960 ppb, respectively. Ground water collected from soil boring SB-7 had a benzene concentration of 27,000 ppb, toluene concentration of 4,700 ppb, ethylbenzene concentration of 2,900 ppb, and xylenes concentration of 18,000.

Soil and ground water samples collected from three soil borings drilled at the former location of waste oil tanks were analyzed for TPH, volatile organic compounds, BTEX, and methyl-tert-butylether (MTBE). Laboratory analyses of soil samples indicated that concentrations of chemicals were below those of regulatory concern. Concentrations in ground water were limited to 1,100 ppb motor oil and 85.4 ppb diesel.

The results of soil and ground water analyses of samples collected from three soil borings in the vicinity of the former mechanics pits indicated that motor oil was present in soil at a concentration of 412 ppm and in ground water at a concentration of 9,250 ppb. Acetone was found to be present at 53 ppm in the soil sample collected from soil boring SB-13.

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Based on the results of this subsurface investigation, AC Transit proposes to install four ground water wells in the area of the former fuel tanks to further delineate the extent of TPH and BTEX in ground water. Quarterly ground water monitoring of the new and existing wells will be performed to obtain information regarding contaminant degradation and containment. The proposed locations of these monitoring wells are depicted on Figure 4 of the enclosed report.

If you have any comments or questions regarding our proposed course of action or on the report, please call me at (510) 577-8869.

Sincerely,



Suzanne Patton, P.E.  
Environmental Engineer

enclosure

SUBSURFACE INVESTIGATION REPORT  
FOR THE AC TRANSIT FACILITY  
1100 SEMINARY AVENUE, OAKLAND CALIFORNIA

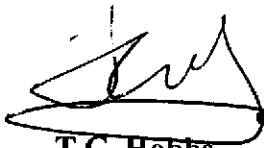
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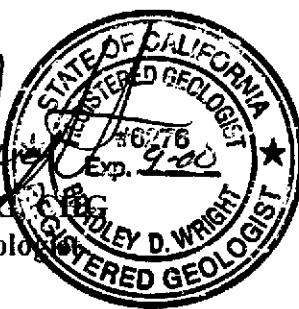
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## **Introduction**

On behalf of AC Transit, Environmental Decision Group (EDG) has prepared this report to present the results of subsurface investigations performed at the AC Transit facility located at 1100 Seminary Avenue in Oakland, California (the site). Alameda County Health Care Services Agency (ACHCS), in a letter dated September 18, 1998, requested submittal of a workplan to perform additional subsurface investigation at the site. The workplan was submitted to ACHCS on November 6, 1998, and was conditionally approved by ACHCS on November 12, 1998. Figure 1 is a site location map and Figure 2 is a site map which shows the location of current and previous site features.

The scope of work detailed in the workplan was designed to further define the extent of total petroleum hydrocarbons (TPH) in both soil and groundwater in the vicinity of five former underground storage tanks (USTs) that were removed from the site in January 1987. The workplan was implemented in January 1999. Eight soil borings (SB-1 through SB-8) were drilled in the vicinity of the former USTs. Both soil and groundwater samples were collected for laboratory analysis by United States Environmental Protection Agency (USEPA) Method 8015 for gasoline and diesel. In addition, the three existing monitoring wells were assessed for the presence of free phase petroleum hydrocarbons and measured for static water levels. The two wells with no measurable product layer (MW-1 and MW-3) were redeveloped and samples collected for analysis by USEPA Method 8015 for gasoline and diesel and USEPA Method 8260 for benzene, toluene, ethylbenzene, xylene (BTEX) and methyl-tert-butylether (MTBE). In addition, the samples taken from these two monitoring wells were analyzed for the bio-indicator parameters; dissolved oxygen, oxidation-reduction potential, nitrate, sulfate and ferrous iron.

Shortly after completing the subsurface investigation, Mr. Barney Chan of the ACHCS informed EDG that he had acquired dated files from the Regional Water Quality Control Board (RWQCB), including environmental reports for the site. These reports revealed that two other areas (a former waste oil UST vault and mechanic pits associated with the building demolished

between 1987 and 1988) had impacted subsurface soils. On May 20, 1999, a meeting was held between Mr. Chan, representatives from AC Transit and EDG. Based on the review of past investigation reports, it was determined that additional testing in these two newly identified areas was warranted. A revised scope of work was developed and agreed to during the meeting and summarized in a May 24, 1999, letter from AC Transit to ACHCS. In addition, Mr. Chan approved removal of the free phase petroleum layer measured in monitor well MW-2 with subsequent recovery measurements to be taken 24 and 48 hours, seven days and one month after removal to assess the need for future product removal in this well.

The additional scope of work was performed on June 8, 1999 and included drilling three soil borings (SB-9 through SB-11) south of the existing facility maintenance building and within the reported area of waste oil tanks that were removed in 1985. Both soil and groundwater samples were collected from these borings for analysis by USEPA Method 8015 for TPH, USEPA Method 8260 for volatile organic compounds (VOCs), BTEX and MTBE, USEPA Method 8270 for semi-VOCs and five metals. To investigate the area of the former mechanic pits, three borings (SB-12 through SB-14) were drilled west of the existing maintenance building. Soil and groundwater samples were collected from these borings for analysis using USEPA Method 8015 for motor oil using a silica gel cleanup, with additional analysis including USEPA Methods 8260 and 8270 performed on the soil and groundwater samples with the highest reported motor oil concentrations.

This report summarizes the results of historic investigations and activities, discusses the investigation methodologies, presents results and provides conclusions and recommendations.

## **Historic Investigations and Activities**

The site began operations associated with bus maintenance in the 1940s. Between 1984 and 1988, a comprehensive reconstruction project including removal and replacement of the facility USTs, fuel island and maintenance buildings was completed. UST removal, soil excavation

and subsequent environmental investigations performed at the site are detailed in the following documents:

1. Letter to Mr. Peter Johnson of the RWQCB, describing the removal of three waste oil tanks and surrounding backfill, Kaiser Engineers California, February 7, 1985.
2. Results of Soil Sampling Activities Near Underground Fuel Storage Tanks, Baseline Environmental Consulting, October 1, 1986.
3. "A Plan of Correction for AC Transit Facility", Division 4, December 4, 1986.
4. "Reporting on Monitoring Well Installation", Baseline Environmental Consulting, March 9, 1987.
5. "Results of Hydrological and Geo-Chemical Activities", Kaiser Engineers, April 13, 1987.
6. "Soil and Ground Water Investigation", Weiss Associates, May 28, 1987.
7. Letter to California Regional Water Quality Control Board, Contamination Found During Removal of Underground Storage Tanks, AC Transit, June 5, 1987.
8. Letter to California Regional Water Quality Control Board, Notification of Contamination, AC Transit, June 16, 1987.
9. Letter to California Regional Water Quality Control Board, Report of Subsurface Conditions, AC Transit, July 24, 1987.
10. Letter to California Regional Water Quality Control Board, Requested Analyses of Six Soils Stockpiles - Sampling August 26, 1987, AC Transit, September 1, 1987.
11. Letter to California Regional Water Quality Control Board, Further Testing Regarding Soils Stockpiles Sampling of August 16, 1987, AC Transit, September 14, 1987.
12. Regional Water Quality Control Board - Internal Memo, Meeting with Kaiser Engineers and AC Transit to Discuss Proper Disposal of Stockpiled Soils at the AC Transit Facility, 1100 Seminary Dr. Oakland, September 16, 1987.
13. Letter to Alameda County Health Agency Community Health Services, Stockpiled Soils, AC Transit Seminary Road Site, Kaiser Engineers, September 23, 1987.
14. Letter to California Regional Water Quality Control Board, Transmittal of Remediation Plan, AC Transit, October 29, 1987.

15. Regional Water Quality Control Board - Internal Memo, AC Transit Site, 1100 Seminary, Oakland, November 10, 1987.
16. Letter to Alameda County Health Agency Community Health Services, Stockpiled Soils, Maintenance Building Notification of Contamination, Kaiser Engineers, October 7, 1988.

Laboratory analytical data collected during the historic investigation is presented in Table 1. Provided below is a summary of information presented in the above documents:

**Document 1**

Kaiser Engineers excavated three waste oil USTs at the site. At the time of excavation, one tank was actively used while the other two were abandoned. Surrounding backfill was observed to be saturated with water and oil. Visually impacted soil was excavated and removed. The excavation was backfilled with clean fill material.

**Documents 2 through 8**

These seven documents contain information regarding the discovery and subsequent investigation of subsurface contamination in the vicinity of underground storage tanks.

Five USTs were removed at the site in January 1987. Four of the tanks were used to store diesel fuel and one was used to store gasoline. During removal of the USTs, soil containing concentrations of TPH in excess of 1,000 milligrams per kilogram (mg/kg) were excavated and transported offsite. Following the UST removals, three groundwater monitor wells (MW-1 through MW-3) were installed in January 1987. Groundwater samples obtained from these wells showed that groundwater contained measurable concentrations of TPH, benzene, toluene and xylene. To further define the extent of TPH detected in groundwater, four additional monitoring wells (MW-4, 5, 7 and 8) were installed in March 1987. Laboratory analysis of water samples collected from the monitoring wells showed that TPH was present in wells

located west to southwest of the former USTs. To assess if TPH observed in monitoring wells MW-4 and MW-5 would affect excavation associated with construction of the new maintenance building, four soil borings (B-10 through B-13) were installed for purposes of collecting soil samples for analysis.\*

Three geologic units were defined in the subsurface consisting of fill to about three feet below ground surface (bgs), bay mud deposits underlying the fill to depths of five to nine feet bgs and fine grained alluvium below the bay muds. Permeable channel deposits within the alluvium were reported to be the primary water-bearing zones in the subsurface.

The 1987 groundwater samples indicated that TPH as fuel (TPH-F), benzene, toluene, ethylbenzene and xylene were present in groundwater with concentrations up to 29 milligrams per liter (mg/l), 20 mg/l, 9.4 mg/l, 2.0 mg/l and 20 mg/l, respectively.

#### Documents 9 through 16

These eight documents report on TPH impacted soil uncovered between June 1987 and October 1988 during the demolition of the former maintenance building. During the removal of mechanic pits and sumps associated with the former maintenance building, TPH was observed to be present within the aggregate base underlying concrete slabs and immediately overlying native bay muds. On October 29, 1987, AC Transit submitted to the RWQCB a Remediation Plan (Document 14) for handling of TPH-containing soils. The RWQCB required that all soil with concentrations greater than 1,000 parts per million (ppm) be transported offsite to a RCRA-permitted disposal facility and allowed for soils with concentrations between 100 ppm and 1000 ppm to be used as engineered fill during the construction of the new maintenance building. As of October 29, 1987, 950 cubic yards of soil had been shipped offsite for disposal and 2,500 cubic yards of soil had been reused onsite as fill. In October 1988, during the final phase of building demolition, additional TPH-containing soil was discovered. This material was reportedly excavated and sampled prior to offsite disposal. The quantity of this soil shipped offsite is not known.

## **Methodologies**

Prior to EDG implementing the workplan, the following activities were performed:

- A site specific Health and Safety Plan was prepared in accordance with California Occupational Health and Safety Administration requirements.
- Underground Service Alert (USA) was notified of impending activities. Additionally, a professional underground utility locator cleared each boring location.
- Drilling permits were obtained from Alameda County Public Works Agency (ACPWA) (Appendix A).

### **Soil Boring Locations**

The locations of the soil borings drilled for the investigation (soil borings 1 through 14) are depicted on Figure 2. Soil borings 1 through 4 were located to assess the extent of BTEX and TPH in soil and groundwater downgradient from the former fuel USTs. Soil borings 1 through 4 were placed a distance from the former USTs based on calculations that estimated the distance of potential benzene migration since 1987. Since benzene has a high solubility in groundwater and low State of California Maximum Contaminant Level (MCL), it was used as a *worse case* migration parameter. Preliminary calculations made using historic site data (including a reported southwesterly flow direction) and standard assumptions for Bay Area sediments indicated that benzene in groundwater could have migrated from the former UST area to distances of up to 180 to 220 feet since the tanks were removed. Assuming that hydrocarbon releases occurred prior to removal of the USTs, the actual migration distance was expected to be greater. Soil borings 5 through 8 were located to assess concentrations nearer the USTs for purposes of defining potential migration pathways and natural degradation. In addition to collecting groundwater samples, soil samples were collected from each boring to assess residual concentrations of TPH.

Soil borings nine through eleven were located in the vicinity of the waste oil UST excavation (Document 1). Soil and groundwater samples were collected and submitted for laboratory analysis of waste oil constituents including VOCs, semi-VOCs, BTEX, MTBE, gasoline, diesel, cadmium (Cd), chromium (Cr), lead (Pb), nickel (Ni) and zinc (Zn).

Soil borings twelve through fourteen were installed at the location of the mechanic pits associated with the former maintenance facility. The location of the mechanic pits was determined by the map contained in Document 9 and following direction provided by an AC Transit employee who worked at the facility when the pits were in operation. Soil and groundwater samples were collected for analysis of TPH using a silica gel cleanup. In addition, the soil and groundwater sample with the highest TPH concentration were analyzed for VOCs, semi-VOCs, BTEX, MTBE, Cd, Cr, Pb, Ni and Zn.

#### Soil Boring Installation

Soil borings were drilled using a Geoprobe hydraulically-driven drilling rig. During boring advancement, soil cores were continuously collected to estimate lithologic characteristics and for field screening. The lithologic logs for each soil boring are contained in Appendix B. Headspace readings of soil samples were recorded using a photoionization detector (PID) to determine if volatile compounds were present. Positive PID readings and evidence of a past hydrocarbon release (i.e. staining, odor) were used to determine the soil interval to submit for laboratory analysis.

Soil cores were retrieved in clear acetate sleeves, which allowed the field geologist to view the soil lithology and note any visual staining. A portion of each core interval was placed in a plastic bag for headspace analysis using a PID. Portions of the soil core being submitted for laboratory analysis were immediately sealed with teflon tape and plastic end caps and placed in a cooler containing ice. A unique sample identification number was attached to each soil sample and documented on a chain-of-custody form.

Groundwater sampling involved temporarily placing ¾-inch polyvinyl chloride (PVC) well screen and casing into the borehole to depths of approximately two-feet below first encountered groundwater. Groundwater samples were collected using a peristaltic pump and bailer. Groundwater was collected in appropriate laboratory provided containers and a unique sample identification number was assigned to each container. The sample identification number was documented on the chain-of-custody form. Upon completion of sample collection, each borehole was backfilled with neat cement and topped with appropriate material to match the surrounding surface.

Reusable equipment was thoroughly decontaminated between boreholes. Soil cuttings and water generated during sampling was placed in containers for storage and disposal in accordance with local, state and federal regulations.

Soil and groundwater samples were submitted to a California State-certified laboratory, under chain-of-custody documentation for analysis by approved USEPA methods. One trip blank was submitted for analysis using USEPA Method 8260.

#### Monitor Wells

The existing monitoring wells (MW-1 through MW-3) were assessed to confirm well construction integrity. The well assessment included opening each well, measuring static water level (including measurement for free product), measuring the total depth for comparison to the original construction depth and redeveloped by surging and pumping. Groundwater samples were collected after redevelopment.

During the initial assessment, 2.27 feet of product was measured in well MW-2. A sample of the product was collected for laboratory analysis for diesel, gasoline, VOCs, BTEX and MTBE. For purposes of assessing rate of product recovery, the product layer was removed

and product layer thickness was measured 24 and 48 hours, seven days and one month after removal. Measured product layer thickness and static water levels are presented on Table 2.

Groundwater samples from wells MW-1 and MW-3 were submitted for laboratory analysis of gasoline, diesel, VOCs, BTEX, MTBE, nitrate and sulfate. In addition, field analysis for dissolved oxygen, oxidation-reduction potential and iron were performed.

## **Investigation Results**

The results of the laboratory analysis are summarized in Tables 3 and 4. Certified analytical reports are presented in Appendix C. Hydrogeologic data collected during the investigation suggest that shallow groundwater exists in silty sands located within fine grained bay mud deposits. During the investigation, first encountered groundwater was recorded at depths of 3.5 to 16 feet bgs, while some soil borings were dry to depths of 17 feet bgs. Based on the limited data collected during the investigation, the first groundwater zone has been defined as those saturated intervals encountered between depths of 3.5 to 16 feet bgs. The following investigation results will be discussed by source area: Fuel USTs, Waste Oil USTs and Mechanic Pits.

### **Fuel USTs**

Eight soil borings (SB-1 through SB-8) were installed in the vicinity of the former gasoline and diesel USTs for purposes of assessing the extent of residual contamination in both soil and groundwater. The soil borings were advanced to a depth of approximately two feet beyond first encountered groundwater or to a maximum depth of 17 feet bgs. Lithologic units encountered during soil boring installation were, in general, consistent with historic descriptions. The first native material encountered was comprised of bay mud to depths of six to 14 feet bgs. First encountered groundwater was recorded in a thin (0.5 to 1.5 feet thick) silty sand layer at depths of approximately nine feet bgs. Saturated conditions were not

encountered within this layer in soil borings SB-3 and SB-5. These borings were left open for approximately two hours to allow groundwater to collect in the temporary PVC casing. An electronic water level sounder was used to determine that ~~no water~~ had entered the casing, therefore groundwater samples were not collected from these borings. Similarly, the silty sand layer encountered at depths of 11 to 12.5 feet bgs in soil boring SB-7 was not saturated. However, silty sands encountered at a depth of 16 feet bgs in soil boring ~~SB-7~~ yielded sufficient groundwater for sample collection.

Laboratory analysis of soil samples collected from immediately above first encountered water or at soil horizons with elevated PID readings, show TPH concentrations below levels of regulatory concern (100 ppm).

Laboratory analysis of groundwater samples collected from both soil borings and monitor wells show elevated concentrations of gasoline, diesel and BTEX are present in groundwater. As shown on Figure 3 and based on water level data collected from the three existing monitor wells during January 1999, the inferred direction of groundwater flow in the vicinity of the former fuel USTs is to the northwest at a gradient of 0.004 feet/foot. This places monitor well MW-2 and soil boring SB-7 directly downgradient from the former UST location. The presence of free product in MW-2 and concentrations detected in soil boring SB-7 support the northwest flow direction. However, the absence of shallow groundwater in soil borings SB-3, SB-5 and SB-7 suggest that groundwater zones are not laterally continuous across the site. Shallow groundwater probably occurs only in more permeable material which may or may not be in hydraulic communication, therefore, calculated groundwater gradients and flow directions may not represent actual conditions.

Laboratory results of groundwater samples collected from soil borings SB-1, SB-2, SB-4 and SB-8 define the extent of TPH and BTEX in groundwater. The absence of shallow groundwater in soil borings SB-3 and SB-5 suggest restricted contaminant transport to the west. The calculated groundwater flow direction suggest that MW-1 is located appropriately

for monitoring upgradient groundwater quality. In addition, concentrations BTEX detected in monitor well MW-3 support its location as a cross-gradient monitoring point.

Laboratory and field analysis for the bio-indicator parameters dissolved oxygen, oxidation-reduction potential, nitrate, sulfate and ferrous iron suggest that the environment is favorable for natural biodegradation of fuel hydrocarbons.

#### Waste Oil USTs

Three soil borings (SB-9 through SB-11) were drilled at the location of the former waste oil USTs. Bay muds were encountered during drilling of the soil borings. Backfill from the USTs was not encountered, suggesting the soil borings were not installed within the UST excavation. Groundwater was encountered at a depth of four feet bgs in soil boring SB-9 within a thin silty sand lens. Soil borings SB-10 and SB-11, which were installed to depths of 15 feet bgs, did not encounter saturated conditions and water did not enter the temporary casing after waiting five and four hours, respectively.

How far off are these borings?

Laboratory analysis of soil and groundwater samples collected from the vicinity of the former waste oil USTs showed low concentrations of diesel and motor oil in the groundwater sample collected from soil boring SB-9 and motor oil in the soil sample collected from SB-9. In addition, low levels of acetone (<1 ppm) were detected in the soil samples collected from soil borings SB-9 and SB-11.

#### Mechanic Pits

Three soil borings (SB-12 through SB-14) were installed at the location of the mechanic pits. Lithology encountered during soil boring installation consisted of sands and silty sands with saturation encountered at depths of 3.5 to 5.5 feet bgs. This suggests that the borings were installed within material used to backfill the excavations associated with removal of the former mechanic pits. In accordance with the June 2, 1999, ACHCS letter submitted to AC Transit,

soil and groundwater samples collected from these borings were submitted for initial laboratory analysis of motor oil using USEPA Method 8015, with a silica gel cleanup. As recorded on the soil boring log for SB-13, groundwater sample collection was unsuccessful after a three hour wait.

Concentrations of motor oil detected in the soil samples ranged from 240 to 412 ppm. In accordance with the June 2, 1999, letter, the sample from SB-13 (412 ppm motor oil) was analyzed for additional parameters using USEPA Methods 8260 and 8270. Detectable concentrations in the additional laboratory analyses was limited to 53 ppm of acetone.

Concentrations of motor oil detected in the groundwater samples were 73.7 and 9,250 ppb for soil borings SB-12 and SB-14, respectively. In accordance with the June 2, 1999, letter, the sample from SB-14 was analyzed for additional parameters using USEPA Methods 8260, 8270 and five metals. There were no concentrations above laboratory reporting limits for the additional analyses.

### **Conclusions/Recommendations**

The following conclusions are based on data collected during this and past investigations. The proposed recommendations are based on the conclusions presented herein and typical regulatory agency actions taken on similar sites.

#### **Fuel USTs**

Concentrations of benzene in excess of the MCL were detected in the three existing site monitor wells and free phase product was measured in monitor well MW-2. Hydrogeologic data collected during the investigation suggest that shallow groundwater exist within silty sand deposits located within fine grained bay mud deposits. Based on the limited data collected during the investigation, the first groundwater zone has been defined as those saturated

intervals encountered between depths of 3.5 to 16 feet bgs. Inferred groundwater flow, using measurements recorded at the three onsite monitor wells, is to the northwest at a gradient of 0.004 feet/foot. Based on the inferred groundwater flow direction, MW-1 is located upgradient, MW-2 is downgradient and MW-3 is cross-gradient of the former fuel USTs.

Concentrations of benzene in excess of the MCL were detected in the grab groundwater sample collected from downgradient soil boring SB-7 and slightly above the MCL in cross-gradient soil boring SB-6. The extent of TPH and BTEX in groundwater was defined by the grab groundwater samples collected from downgradient soil boring SB-1, down to cross-gradient boring SB-2, cross-gradient soil boring SB-4 and upgradient soil boring SB-8. Shallow groundwater was not encountered in cross gradient soil borings SB-3 and SB-5.

The results of the free phase product removal and recovery assessment performed at monitor well MW-2, concluded that product recovery at this location would not be a technically feasible remedial alternative. During the 30-day monitoring period, the thickest product layer recorded was 0.42 feet or 0.07 gallons.

Laboratory and field analysis of bio-indicator parameters suggest that the hydrogeologic environment is favorable for biodegradation. Biodegradation and the groundwater flow direction should result in containment of the TPH/benzene plume within the site property lines.

Based on these conclusions, it is recommended that additional monitor wells be installed and periodic monitoring of the new and existing monitor wells be performed. The proposed monitor well network and periodic monitoring are designed to provide data demonstrating plume biodegradation and containment. The location of the proposed monitor wells is shown on Figure 4. Proposed wells include, two downgradient monitor wells located approximately 50 feet northeast and 50 feet south of soil boring SB-1, one down to cross-gradient monitor well located approximately 30 feet south of soil boring SB-2 and one cross-gradient well located between soil borings SB-3 and SB-4. The proposed cross-gradient well has been

located to assess groundwater quality in the vicinity of abandoned monitor well MW-5, which historically showed concentrations of benzene greater than the MCL.

The static water level (including measurement for free product) will be measured and recorded on a quarterly basis. If free product is encountered, a bailer or peristaltic pump will be used to remove the layer. Recovered product will be transferred to the facility's waste oil containment system. Groundwater sampling of all site monitor wells will be performed on a quarterly basis for one year followed by semi-annual sampling. The semi-annual groundwater sampling will be conducted during the first quarter (rainy season) and third quarter (dry season) of each year. It is anticipated that biodegradation of benzene to concentrations approaching MCLs will take several years. Sample collection during the first and third quarters will provide additional information on the affects of seasonal groundwater level fluctuation on contaminant transport. Samples will be submitted for laboratory analysis by USEPA Method 8015 for gasoline/diesel and USEPA Method 8260 for BTEX and MTBE. *Add bio-indicator parameters*

### Waste Oil USTs

Shallow groundwater was encountered in only one of the three soil borings installed in the vicinity of the former waste oil USTs. Bay muds encountered during installation suggest that the soil borings were not located within the UST excavation. Concentrations of chemicals detected in soil samples are below those of regulatory concern. Concentrations in groundwater were limited to 1,100 ppb motor oil and 85.4 ppb diesel. These data suggest that the majority of contamination was removed during UST excavation. The residual contamination is not above regulatory criteria and no further action is recommended for this area.

*↓  
There is no reg. criteria established for m.o.*

*Sif location  
is OK.*

### Mechanic Pits

Lithologic material (sand to silty sand) suggest that the borings installed in the vicinity of the former mechanic pits encountered backfill associated with pit removal. Groundwater was

encountered at depths of 3.5 to 5.5 feet bgs, however groundwater sample collection was unsuccessful at soil boring SB-13. The highest concentrations of motor oil detected in soil and groundwater samples was 412 ppm and 9,250 ppb, respectively. The results of additional laboratory analysis by USEPA Methods 8260 and 8270 was limited to 53 ppm acetone in soil. These data suggest that the requirements of the facility Remediation Plan (Document 14) were followed during removal of the mechanic pits. No further action is recommended for this area.

**TABLE 1**  
**HISTORIC ANALYTICAL DATA**  
**AC Transit Facility**  
**1100 Seminary Avenue, Oakland, California**

**Groundwater (ppb)**

Well	Date	TPH	Benzene	Toluene	Ethyl Benzene	Xylene
MW-1	3-Feb-87	3,200	150	400	NA	640
MW-2	3-Feb-87	5,000	1,300	600	NA	290
MW-3	3-Feb-87	2,900	530	680	NA	540
MW-4	11-Mar-87	29,000	6,200	9,400	<100	20,000
MW-5	20-Mar-87	6,400	700	4,800	2,000	6,500
MW-7	20-Mar-87	<100	<1	<1	<1	<1
MW-8	20-Mar-87	<100	<1	1	<1	<1
SB-1*	1-Jul-87	<1000	NA	NA	NA	NA
SB-2*	7-Jul-87	<100	<5	<5	NA	<5

**Soil (ppm)**

Boring	Depth (feet)	Date	TPH	Benzene	Toluene	Ethyl Benzene	Xylene
B-1	1.5	Sep-86	<81	NA	NA	NA	NA
	3.5	Sep-86	140	NA	NA	NA	NA
	10.5	Sep-86	3,100	NA	NA	NA	NA
B-1A**	4.8	Sep-86	13,000	NA	NA	NA	NA
B-2	1.5	Sep-86	<65	NA	NA	NA	NA
	3.5	Sep-86	<100	NA	NA	NA	NA
	10.5	Sep-86	3,700	NA	NA	NA	NA
B-10	4.5	Apr-87	NA	<.01	<.01	<.01	<.01
B-11	7	Apr-87	NA	<.01	<.01	<.01	<.01
B-12	6.5	Apr-87	NA	<.01	<.01	<.01	<.01
SB-3*	Base	Jul-87	110	<.5	<.5	NA	<.5
SB-4*	Clay	Jul-87	<10	<.5	<.5	NA	<.5
SB-5*	Base	Jul-87	770	<.5	<.5	NA	<.5
SB-6*	Clay	Jul-87	<10	<.5	<.5	NA	<.5
MW-1	6-6.5	Jan-87	<10	NA	NA	NA	NA
	8-8.5	Jan-87	<10	NA	NA	NA	NA
MW-2	8-8.5	Jan-87	2,200	NA	NA	NA	NA
	13.5-14	Jan-87	100	NA	NA	NA	NA
MW-3	9-9.5	Jan-87	13	NA	NA	NA	NA
	11.5-12	Jan-87	110	NA	NA	NA	NA

**Notes:**

- \* sample collected from pit excavation
- \*\* sample collected from within UST vault
- ppb: parts per billion
- ppm: parts per million
- TPH: total petroleum hydrocarbons
- NA: not analyzed

**TABLE 2**  
**GROUNDWATER LEVEL MEASUREMENTS**  
**AC Transit Facility**  
**1100 Seminary Avenue, Oakland, California**

Well	Date	Top of Casing Elevation (ft-msl)*	Product Thickness (feet)	DTW (feet)	Measured Groundwater Elevation (ft-msl)	Groundwater Elevation Corrected for Product Thickness**
MW-1	7-Jan-99	6.25	None	5.13	1.12	
MW-2	7-Jan-99	5.53	2.27	6.91	-1.38	0.44
	8-Jun-99		2.23	5.83	-0.3	1.48
	9-Jun-99		0	3.9	1.63	1.63
	10-Jun-99		0	3.9	1.63	1.63
	15-Jun-99		0.42	3.92	1.61	1.95
	8-Jul-99		0.2	4.3	1.23	1.39
MW-3	7-Jan-99	4.76	None	4.11	0.65	

Notes:

\* Surveyed 1/7/99

\*\* used 0.8 specific gravity of product

ft-msl: feet-mean sea level.

DTW: Depth to Water

**TABLE 3**  
**ANALYTICAL RESULTS OF SOIL SAMPLES (ppm)**  
**AC Transit Facility**  
**1100 Seminary Avenue, Oakland, California**

Boring	Date	Depth (feet)	TPH-G	TPH-D	TPH-MO	Benzene	Toluene	Ethyl Benzene	Xylenes	Acetone	Cd	Cr	Pb	Ni	Zn
SB-1	8-Jan-99	8-8.5	<2.5	6.43	NA	<.059	<.059	<.059	<.059	NA	NA	NA	NA	NA	NA
SB-2	8-Jan-99	7.5-8	<2.5	15	NA	<.057	<.057	<.057	<.057	NA	NA	NA	NA	NA	NA
SB-3	8-Jan-99	13.5-14	<2.5	3.73	NA	<.06	<.06	<.06	<.06	NA	NA	NA	NA	NA	NA
SB-4	8-Jan-99	6.5-7	<2.5	2.53	NA	<.06	<.06	<.06	<.06	NA	NA	NA	NA	NA	NA
SB-5	8-Jan-99	7-7.5	<2.5	72.1	NA	<.058	<.058	<.058	<.058	NA	NA	NA	NA	NA	NA
SB-6	8-Jan-99	8-8.5	<2.5	3.29	NA	<.058	<.058	<.058	<.058	NA	NA	NA	NA	NA	NA
SB-7	8-Jan-99	11-11.5	9.36	89.3	NA	<.057	<.057	0.52	3.50	NA	NA	NA	NA	NA	NA
SB-8	8-Jan-99	8-8.5	<2.5	3.44	NA	<.058	<.058	<.058	<.058	NA	NA	NA	NA	NA	NA
SB-9	8-Jun-99	3.5-4	<10	<2.5	14	<10	<10	<10	<10	0.096	<0.25	25	8.1	20	23
SB-11	8-Jun-99	5.5-6	<10	<2.5	<2.5	<10	<10	<10	<10	0.033	<0.25	24	4.1	50	41
SB-12	8-Jun-99	3-3.5	NA	NA	261	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-13	8-Jun-99	4-4.5	NA	NA	412	<10	<10	<10	<10	53	NA	NA	NA	NA	NA
SB-14	8-Jun-99	5-5.5	NA	NA	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

ppm: parts per million

TPH-G: total petroleum hydrocarbons as gasoline

TPH-D: total petroleum hydrocarbons as diesel

TPH-MO: total petroleum hydrocarbons as motor oil

S/B O.O | e ppm

**TABLE 4**  
**ANALYTICAL RESULTS OF GROUNDWATER SAMPLES (ppb)**  
**AC Transit Facility**  
**1100 Seminary Avenue, Oakland, California**

Well/Boring	Date	TPH-G	TPH-D	TPH-MO	Benzene	Ethyl Benzene			MTBE	Nitrate	Sulfate	Dissolved	
						1	150	700				O <sup>2</sup> Ppb	Fe
MCL (ppb)													
MW-1	7-Jan-99	<100	470	NA	17	2	31	18	<50	15	3,400	(36 ppb)	53
MW-2 (Product)	8-Jun-99	11,000 ↳ ppb ?	434,000	117,000	1,000,000	<100,000	260,000	<300,000	<5,000,000	NA	NA	NA	NA
MW-3	7-Jan-99	199	2,680	NA	450	<10	250	190	<500	17	3,300	(1,18 ppb)	0
SB-1	8-Jan-99	<100	<100	NA	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
SB-2	8-Jan-99	<100	<100	NA	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
SB-4	8-Jan-99	<100	<100	NA	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
SB-6	8-Jan-99	<100	1,510	NA	8	<5.0	50	52	NA	NA	NA	NA	NA
SB-7	8-Jan-99 ↳ ppb ?	5,960	316,200	NA	(27,000)	4,700	2,900	18,000	NA	NA	NA	NA	NA
SB-8	8-Jan-99	<100	<100	NA	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
SB-9	8-Jun-99	<200	85.4	1,100	<5.0	<1.0	<1.0	<3.0	<50	NA	NA	NA	NA
SB-12	8-Jun-99	NA	NA	73.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-14	8-Jun-99	NA	NA	9,250	<5.0	<1.0	<1.0	<3.0	<50	NA	NA	NA	NA

Notes:

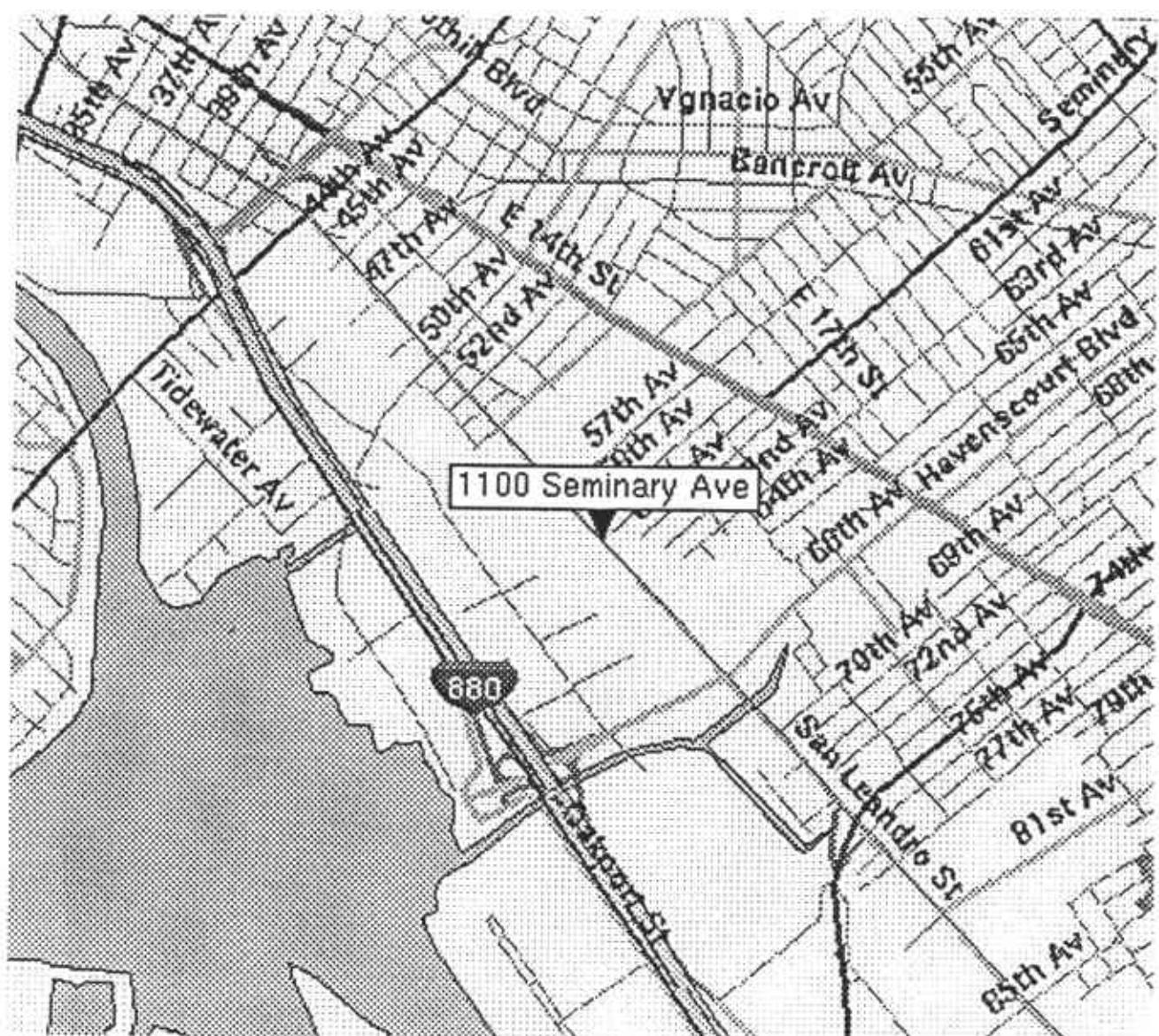
ppb: parts per billion

TPH-G: total petroleum hydrocarbons as gasoline

TPH-D: total petroleum hydrocarbons as diesel

TPH-MO: total petroleum hydrocarbons as motor oil

MCL: Maximum Contaminant Level



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Innovative Services • Advanced Technology

A Babbitt Group Company

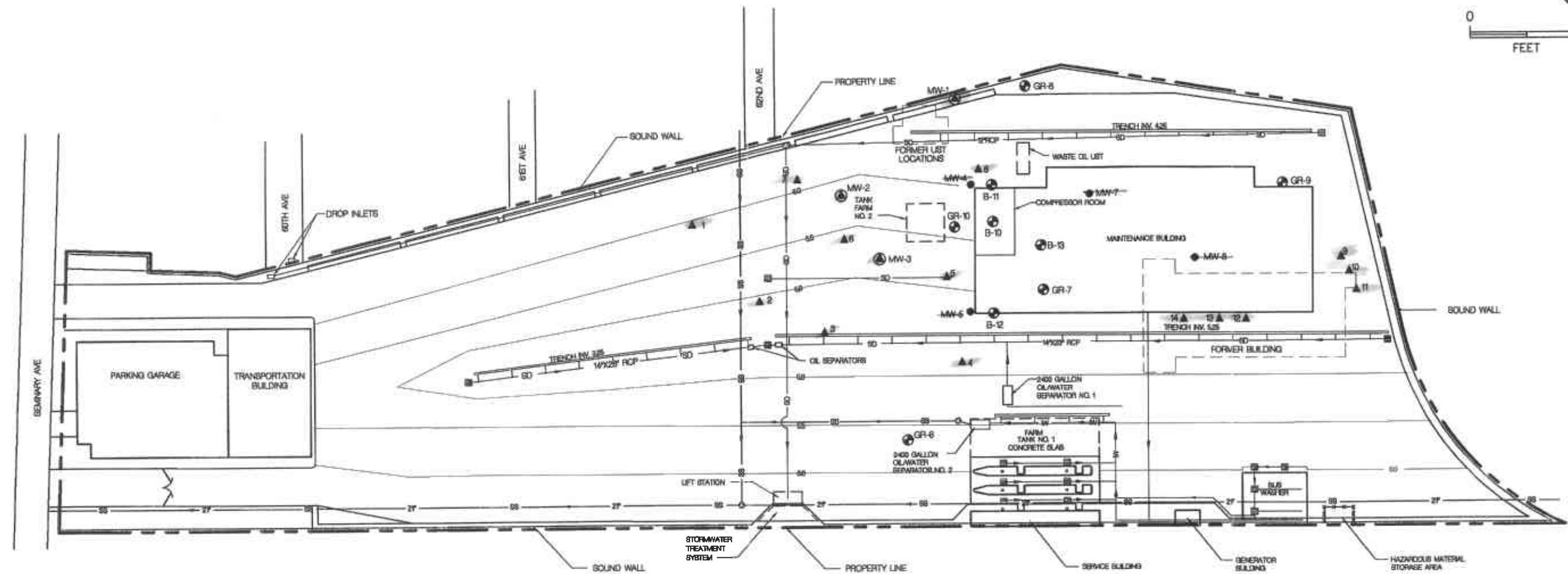
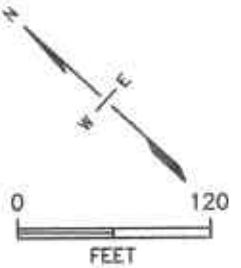
AC TRANSIT - OAKLAND, CALIFORNIA

FIGURE 1  
SITE LOCATION MAP  
1100 SEMINARY ROAD

SCALE  
NTS

DATE

7/14/99



### LEGEND:

- |         |                                  |
|---------|----------------------------------|
| ○       | MANHOLE                          |
| □       | CATCH BASIN                      |
| — 6.0 — | CONTOUR                          |
| — SD —  | STORM DRAIN PIPELINE             |
| — SS —  | SANITARY SEWER PIPELINE          |
| — IW —  | INDUSTRIAL WASTE PIPELINE        |
| — — —   | SURFACE DRAINAGE TRENCH          |
| ●       | EXISTING MONITORING WELL         |
| ●       | ABANDONED MONITORING WELL        |
| ●       | PREVIOUSLY INSTALLED SOIL BORING |
| ▲       | NEWLY INSTALLED SOIL BORING      |

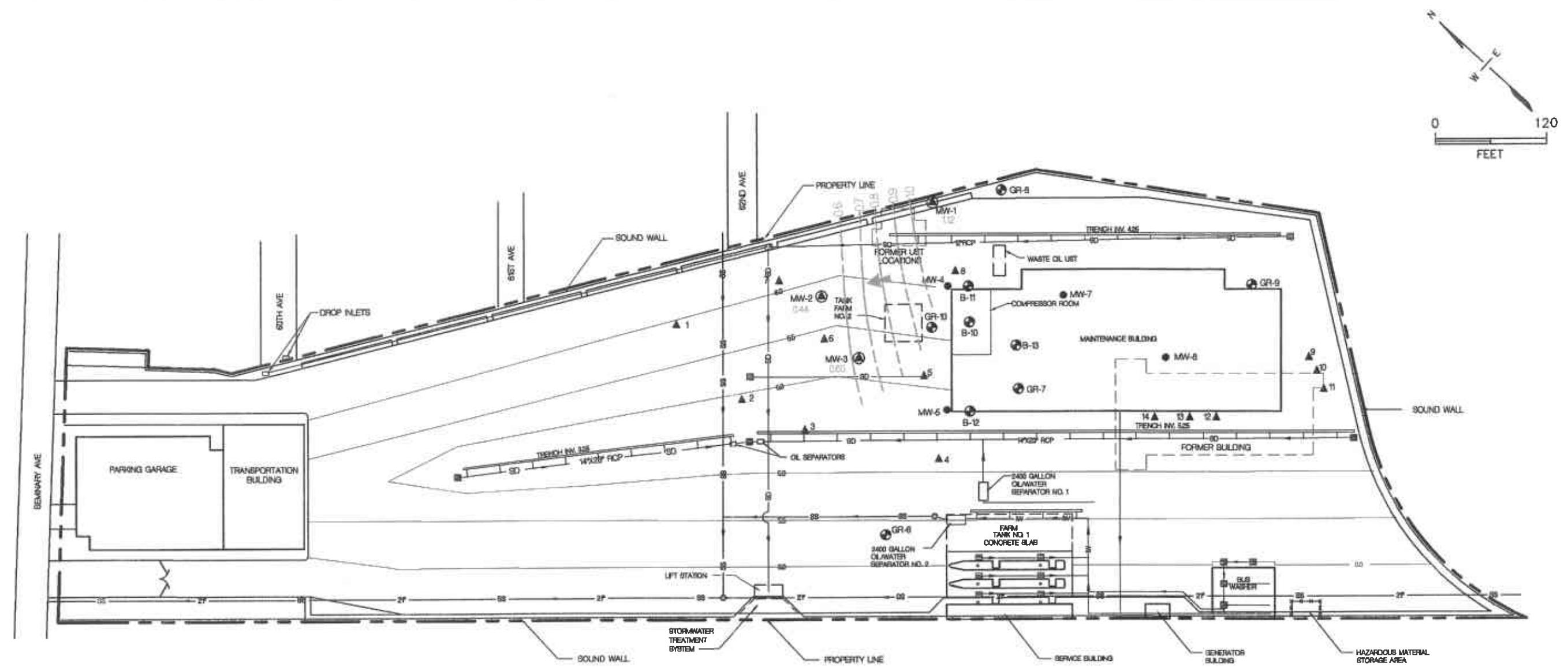
BY	DATE
DRAWN CJJ	7/26/99
CHECKED	
APPROVED	
APPROVED	
APPROVED	

**ENVIRONMENTAL DECISION GROUP, INC.**  
Innovative Services • Advanced Technology  
A Safety-Kleen Company

AC TRANSIT - OAKLAND, CALIFORNIA

FIGURE 2  
1100 SEMINARY ROAD - SITE BASE MAP

SCALE: 1' = 120' DWG. NO: 792489-0004



## LEGEND

- |        |                           |      |                                      |
|--------|---------------------------|------|--------------------------------------|
| ○      | MANHOLE                   | ▲    | EXISTING MONITORING WELL             |
| ■      | CATCH BASIN               | ●    | ABANDONED MONITORING WELL            |
| — 60 — | CONTOUR                   | ●    | PREVIOUSLY INSTALLED SOIL BORING     |
| — SD — | STORM DRAIN PIPELINE      | ▲    | NEWLY INSTALLED SOIL BORING          |
| — SS — | SANITARY SEWER PIPELINE   | —    | GROUNDWATER CONTOUR INTERVAL         |
| — IW — | INDUSTRIAL WASTE PIPELINE | 0.44 | GROUNDWATER ELEVATION 1-7-99         |
| —      | SURFACE DRAINAGE TRENCH   | ◀    | INFERRRED GROUNDWATER FLOW DIRECTION |

BY	DA
DRAWN	C.U.
CHIEVED	7/20
APPROVED	
APPROVED	
APPROVED	

**ENVIRONMENTAL  
DECISION GROUP, INC.**

*Innovative Services • Advanced Technology*

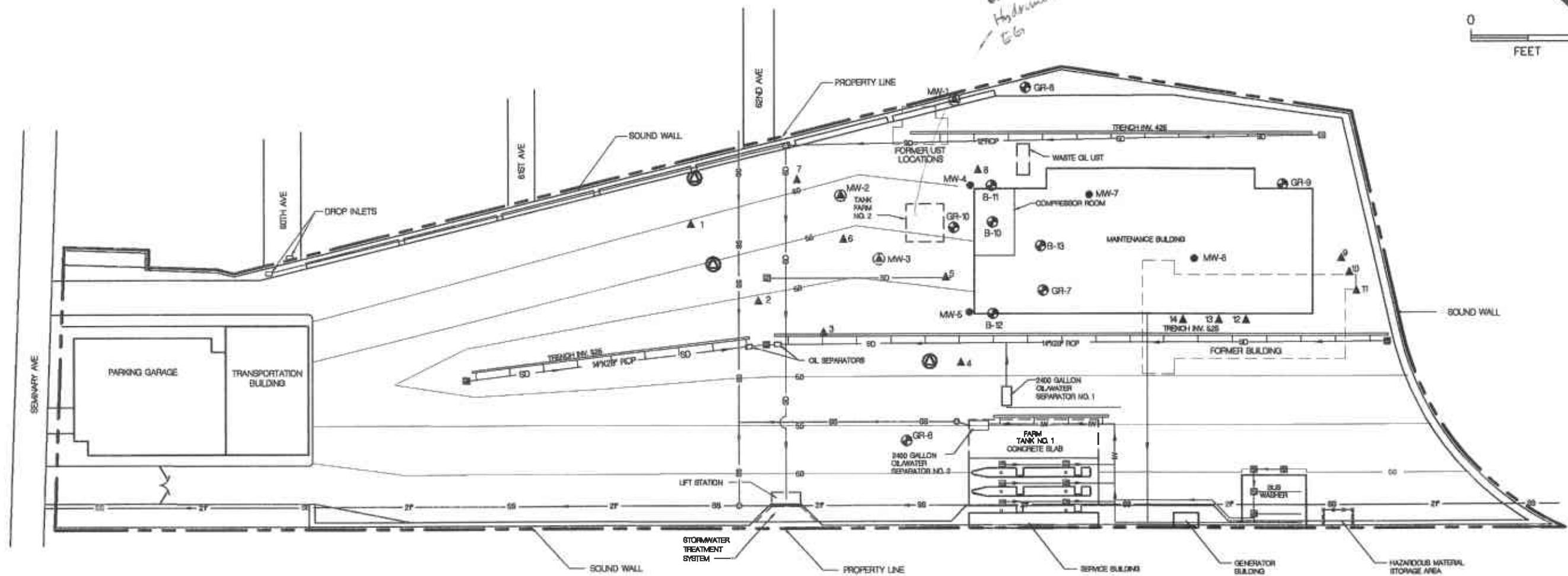
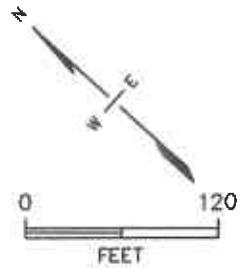
A **Schiff-Klein Company**

AC TRANSIT - OAKLAND, CALIFORNIA

**FIGURE 3**

## 1100 SEMINARY ROAD - POTENTIOMETRIC SURFACE MAP

SCALE 1" = 120' DWG. NO: 792489-0005



### LEGEND:

◎	MANHOLE
■	CATCH BASIN
—	CONTOUR
—	STORM DRAIN PIPELINE
—	SANITARY SEWER PIPELINE
—	INDUSTRIAL WASTE PIPELINE
—	SURFACE DRAINAGE TRENCH
▲	EXISTING MONITORING WELL
●	PROPOSED MONITORING WELL
●	ABANDONED MONITORING WELL
⊕	PREVIOUSLY INSTALLED SOIL BORING
▲	NEWLY INSTALLED SOIL BORING

BY	DATE
DRAWN C.J.	7/26/99
CHECKED	
APPROVED	
APPROVED	
APPROVED	

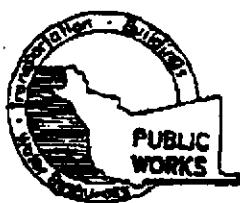
**ENVIRONMENTAL DECISION GROUP, INC.**  
Innovative Services • Advanced Technology  
A Bechtel-Green Company

**AC TRANSIT - OAKLAND, CALIFORNIA**

**FIGURE 4**  
**1100 SEMINARY ROAD - PROPOSED MONITORING WELLS**

SCALE: 1" = 120' DWG. NO: 792489-0006

**APPENDIX A**  
**DRILLING PERMITS**



## ALAMEDA COUNTY PUBLIC WORKS AGENCY

## WATER RESOURCES SECTION

951 TURNER COURT, SUITE 380, HAYWARD, CA 94545-3651  
 PHONE (510) 678-5573 ANDREAS GODFREY FAX (510) 678-5262  
 (510) 678-5348 ALVIN KAN

## DRILLING PERMIT APPLICATION

## FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1100 Seminary Ave  
Oakland Ca 94603

California Coordinates Source \_\_\_\_\_ R. Accuracy \_\_\_\_\_  
 CCN \_\_\_\_\_ R. CCE \_\_\_\_\_  
 APN 41 - 40 98 - 1

CLIENT  
 Name AC Transit (Submarine Portion)  
 Address 10636 E. 14th St. Phone 577-2864  
 City Oakland Ca Zip 94603

APPLICANT  
 Name EDS For KUithang Well Drilling  
 Address 2225 Santa Clara St. Fax 222-3740  
 City Alameda Ca Zip 94501

## TYPE OF PROJECT

Well Construction	<input type="checkbox"/>	Geotechnical Investigation	<input type="checkbox"/>
Cathodic Protection	<input type="checkbox"/>	General	<input type="checkbox"/>
Water Supply	<input type="checkbox"/>	Contamination	<input checked="" type="checkbox"/>
Monitoring	<input type="checkbox"/>	Well Destruction	<input type="checkbox"/>

## PROPOSED WATER SUPPLY WELL USE

New Domestic	<input type="checkbox"/>	Replacement Domestic	<input type="checkbox"/>
Municipal	<input type="checkbox"/>	Irrigation	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Other	<input type="checkbox"/>

## DRILLING METHOD:

Mad Rotary	<input type="checkbox"/>	All Rotary	<input type="checkbox"/>	Auger	<input type="checkbox"/>
Cable	<input type="checkbox"/>	Other	<input checked="" type="checkbox"/>	Geoprobe	<input type="checkbox"/>

DRILLER'S LICENSE NO CS 7 482390

## WELL PROJECTS

Drill Hole Diameter	in.	Maximum Depth	ft.
Casing Diameter	in.	Depth	ft.
Surface Seal Depth	ft.	Number	

## GEOTECHNICAL PROJECTS

Number of Borings	<u>6</u>	Maximum Depth	ft.
Hole Diameter	<u>3</u> in.	Depth	<u>15</u> ft.

ESTIMATED STARTING DATE 1-8-98  
 ESTIMATED COMPLETION DATE 1-8-98

I hereby agree to comply with all requirements of this permit and  
 Alameda County Ordinance No. 73-65.

APPLICANT'S  
 SIGNATURE Brad Wright

DATE 12-20-97

NOV 24 '97 14:37

DEC 30 1998 13:22

## FOR OFFICE USE

PERMIT NUMBER 98WR545  
 WELL NUMBER \_\_\_\_\_  
 APN \_\_\_\_\_

## PERMIT CONDITIONS

Circled Permit Requirements Apply

## A. GENERAL

1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project has begun within 90 days of approval date.

## B. WATER SUPPLY WELLS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 30 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS  
 INCLUDING PIEZOMETERS

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

## D. GEOTECHNICAL

Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material.  
 [In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.]

## E. CATHODIC

Fill hole above grade zone with concrete placed by tremie.

## F. WELL DESTRUCTION

See trashed.

## G. SPECIAL CONDITIONS

APPROVED A.L.K. DATE 12/31/98



## ALAMEDA COUNTY PUBLIC WORKS AGENCY

### WATER RESOURCES SECTION

751 TURNER COURT, SUITE 300, HAYWARD, CA 94545-3651  
PHONE (510) 678-5375 ANDREAS GODFREY FAX (510) 678-5262  
(510) 678-5248 ALVIN KAN

### DRILLING PERMIT APPLICATION

#### FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1100 Seminary Ave  
Oakland Calif. 94601

California Coordinates Source \_\_\_\_\_ R. Accuracy = \_\_\_\_\_ ft.  
CCN \_\_\_\_\_ R. CCE \_\_\_\_\_ R.  
APN \_\_\_\_\_

CLIENT  
Name AC Transit  
Address 1084 E 14th St Phone 510-577-0849  
City Oakland Zip 94603

APPLICANT  
Name Environmental Decision Group (EDG) Wright  
For 322-3574  
Address 2232 San Clara Ave Phone 737-8660  
City Alameda Zip 94521

#### TYPE OF PROJECT

Well Construction	GEOtechnical Investigation
Cathodic Protection	<input type="checkbox"/> General
Water Supply	<input type="checkbox"/> Commission
Monitoring	<input type="checkbox"/> Well Destruction

#### PROPOSED WATER SUPPLY WELL USE

New Domestic	<input type="checkbox"/>	Replacement Domestic	<input type="checkbox"/>
Municipal	<input type="checkbox"/>	Irrigation	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Other	<input type="checkbox"/>

#### DRILLING METHOD:

Mud Rotary	<input type="checkbox"/>	Air Rotary	<input type="checkbox"/>	Auger	<input type="checkbox"/>
Cable	<input type="checkbox"/>	Other	<input checked="" type="checkbox"/>	Geo Probe	<input type="checkbox"/>

DRILLER'S LICENSE NO. 657 482,370

#### WELL PROJECTS

Drill Hole Diameter	in.	Maximum	
Casing Diameter	in.	Depth	ft.
Surface Seal Depth	ft.	Number	

#### GEOTECHNICAL PROJECTS

Number of Borings	<u>67</u>	Maximum	
Hole Diameter	<u>2</u> in.	Depth	<u>20</u> ft.

ESTIMATED STARTING DATE 6-8-99  
ESTIMATED COMPLETION DATE 6-9-99

I hereby agree to comply with all requirements of this permit and  
Alameda County Ordinance No. 72-68.

APPLICANT'S  
SIGNATURE Bruce Wright DATE May 28/97

NOV 24 '97 14:37

MAY 28 1999 09:38

#### FOR OFFICE USE

PERMIT NUMBER 99 WR 244  
WELL NUMBER \_\_\_\_\_  
APN \_\_\_\_\_

#### PERMIT CONDITIONS

Circled Permit Requirements Apply

##### A. GENERAL

1. A permit application should be submitted as early as possible at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is valid if project not begun within 90 days of approval date.

##### B. WATER SUPPLY WELLS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 30 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

##### C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS

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

##### D. GEOTECHNICAL

Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, treated cement grout shall be used in place of compacted cuttings.

##### E. CATHODIC

Fill hole above anode zone with concrete placed by tremie.

##### F. WELL DESTRUCTION

See attached.

##### G. SPECIAL CONDITIONS SEE ATTACHED

APPROVED

Jayne DATE 6-2-99

ENVIRONMENTAL  
DECISION GROUP, INC.

SOIL BORING/WELL LOG

BORING NO. SB-1

Page 1 of 1

CLIENT: AC TRANSIT				JOB NUMBER: 792488				
PROJECT: UST INVESTIGATION				LOCATION: 1100 SEMINARY AVE., OAKLAND, CA				
EXCAVATED BY: KVILHAUG DRILLING		OPERATOR: DON EVANS		METHOD: GEOPROBE MACROCORE				
DATE START: 1-8-99		DATE COMP: 1-8-99		REF. EL.: FT	TOTAL DEPTH: 10.5 FT			
LOGGED BY: BRAD WRIGHT			APPROVED BY: BRAD WRIGHT		DEPTH TO WATER: 8.5 FT			
WELL COMP	DPT	BLWS	GRAPHIC LOG USCS CODE	DESCRIPTION		OVM (ppm)	SAMPLE NUMBER	SAMPLE ANAL.
2" dia. borehole				Concrete 10-inches		0.0		
				0-6' Silty Clay; (5,15,40,40); black (N2.5/); stiff; plastic; slightly moist		0.0		
			CL/CH					
	5							
				6-8.5' Sandy Clay; (0,40,30,30); brown (I0YR 5/3); slightly stiff; plastic; moist		0.0		
			CL					
				8.5-9' Silty Sand; (20,50,20,10); grayish brown (I0YR 5/2); loose; well rounded, fine sand to fine gravel, well graded; saturated		0.0		
			SM					
				9-10.5' Sandy Clay; (0,40,30,30); brown (I0YR 5/3); slightly stiff; plastic; moist		0.0		
			CL					
	10							
	15							
	20							
JOB NUMBER: 792488								

## ENVIRONMENTAL DECISION GROUP, INC.

## **SOIL BORING/WELL LOG**

Page 1 of 1

**BORING NO. SB-2**

ENVIRONMENTAL  
DECISION GROUP, INC.

SOIL BORING/WELL LOG

BORING NO. SB-3

Page 1 of 1

CLIENT: AC TRANSIT					JOB NUMBER: 792489				
PROJECT: UST INVESTIGATION				LOCATION: 1100 SEMINARY AVE., OAKLAND, CA					
EXCAVATED BY: KVILHAUG DRILLING			OPERATOR: DON EVANS		METHOD: GEOPROBE MACROCORE				
DATE START: 1-8-99		DATE COMP: 1-8-99		REF. EL.: FT		TOTAL DEPTH: 17 FT			
LOGGED BY: BRAD WRIGHT			APPROVED BY: BRAD WRIGHT		DEPTH TO WATER: DRY HOLE				
WELL COMP	DPT	S BLOWS	GRAPHIC LOG USCS CODE	DESCRIPTION			OVM (ppm)	SAMPLE NUMBER	SAMPLE ANAL.
2" dia borehole				Concrete 10-inches					
neat cement				0-7' Silty Sand with gravel; (30,30,30,10); yellowish brown (IYR 5/6); well graded fine sand to fine gravel; angular; slightly moist			0.0		
				@ 3' gravel size increases to 2 inches					
			SM						
10				7-13' Sandy Clay; (0,30,40,30); dark yellowish brown (IYR 4/4); medium plastic; stiff; moist			0.0		
				@ 8' gravel (10,30,30,30)					
				@ 9' no gravel (0,30,30,40); very stiff; slightly moist					
			CL	11-13' intermittent gravelly layers					
15				13-15' Silty Sand; (20,40,30,10); dark yellowish brown (IYR 4/4); well graded, fine sand to medium gravel, surrounded to angular; moist			0.0		
			SM						
				15-17' Silty Clay; (5,20,40,35); dark yellowish brown (IYR 4/4); very stiff; plastic; slightly moist			0.0		
			CL/CH						
20									
JOB NUMBER: 792489									

Soil  
13.5-  
14

8015  
8020

**ENVIRONMENTAL  
DECISION GROUP, INC.**

**SOIL BORING/WELL LOG**

**BORING NO. SB-4**

*Page 1 of 1*

CLIENT: AC TRANSIT						JOB NUMBER: 792489			
PROJECT: UST INVESTIGATION				LOCATION: 1100 SEMINARY AVE., OAKLAND, CA					
EXCAVATED BY: KVILHAUG DRILLING			OPERATOR: DON EVANS		METHOD: GEOPROBE MACROCORE				
DATE START: 1-8-99		DATE COMP: 1-8-99		REF. EL.: FT		TOTAL DEPTH: 10.5 FT			
LOGGED BY: BRAD WRIGHT			APPROVED BY: BRAD WRIGHT			DEPTH TO WATER: 7.0 FT			
WELL COMP	DPT	SOIL ELEM	GRAPHIC LOG USCS CODE	DESCRIPTION			OVM (ppm)	SAMPLE NUMBER	SAMPLE ANAL.
				Concrete 10-Inches  0-6' Silty Clay; (0,20,40,40); black (N2.5/); stiff; high plastic; moist			0.0	Soil 6.5-7 Water 7-8	8015 8200
				CH  @ 4' greenish gray (SG611) mottles					
				6-8' Silty Sand; (0,50,40,10); dark gray (IOYR 4/I); fine to coarse sand; rounded; loose; moist to very moist at 7'					
				SM  8-10.5' Silty Clay; (0,20,40,40); dark gray (N4/); stiff; plastic; moist @ 9' slightly moist; yellowish brown (IOYR 5/B)					
JOB NUMBER: 792489									

ENVIRONMENTAL  
DECISION GROUP, INC.

## SOIL BORING/WELL LOG

BORING NO. SB-5

Page 1 of 1

CLIENT: AC TRANSIT					JOB NUMBER: 792489				
PROJECT: UST INVESTIGATION				LOCATION: 1100 SEMINARY AVE., OAKLAND, CA					
EXCAVATED BY: KVILHAUG DRILLING			OPERATOR: DON EVANS		METHOD: GEOPROBE MACROCORE				
DATE START: 1-8-99		DATE COMP: 1-8-99		REF. EL.: FT		TOTAL DEPTH: 17 FT			
LOGGED BY: BRAD WRIGHT			APPROVED BY: BRAD WRIGHT			DEPTH TO WATER: DRY HOLE			
WELL COMP	DPT	S. BLOWS	GRAPHIC LOG USCS CODE	DESCRIPTION			OVM (ppm)	SAMPLE NUMBER	SAMPLE ANAL.
2" dia. borehole  heat cement									
	4			Concrete 12-Inches			0.0		
	5			0-6' Silty Clay: (0,20,40,40); black (N2.5Y); stiff; plastic; moist			0.0		
	6			CL/CH					
	7			6-7.5' Sandy Clay: (0,40,30,30); dark yellowish brown (I0YR 4/4); plastic; slightly stiff; fine to coarse grained sand; moist			0.0		
	8			CL					
	9			7.5-9' Clayey Sand: (I0,50,20,20); dark yellowish brown (I0YR 4/4); fine sand to fine gravel; subrounded; loose; moist			0.0		
	10			SC					
	11			9-11' Sandy Clay: (0,40,30,30); dark yellowish brown (I0YR 4/4); soft; moist @ 10' stiff; slightly moist			0.0		
	12								
13			After 2.5 hours no water had entered the borehole. Discrete water sampler probe was driven to 17 feet. No water was encountered to 17 feet.			0.0			
14									
15									
16									
17									
18									
19									
20									

**ENVIRONMENTAL  
DECISION GROUP, INC.**

**SOIL BORING/WELL LOG**

**BORING NO. SB-6**

*Page 1 of 1*

CLIENT: AC TRANSIT					JOB NUMBER: 792489				
PROJECT: UST INVESTIGATION				LOCATION: 1100 SEMINARY AVE., OAKLAND, CA					
EXCAVATED BY: KVILHAUG DRILLING			OPERATOR: DON EVANS		METHOD: GEOPROBE MACROCORE				
DATE START: 1-8-99		DATE COMP: 1-8-99		REF. EL.: FT		TOTAL DEPTH: 10 FT			
LOGGED BY: BRAD WRIGHT			APPROVED BY: BRAD WRIGHT			DEPTH TO WATER: 8.5 FT			
WELL COMP	DPT	BLOWS	GRAPHIC LOG USCS CODE	DESCRIPTION			OVM (ppm)	SAMPLE NUMBER	SAMPLE ANAL.
2" dia borehole  heat cement	5		CL/CH	Concrete 10-inches			0.0	Soil 8-8.5 Water 8.5-10	8015 8020
				0-8.5' Silty Clay; (0,30,40,30); black (N2.5Y); medium plastic; stiff; slightly moist					
	7			8-8.5' greenish gray (SBG 5/1); moist					
	10		SM	8.5-10' Silty Sand; (10,80,20,10); yellowish brown (I0YR 5/4); fine to coarse sand; subrounded; loose; well graded; saturated; strong odor					
	15								
	20								

# ENVIRONMENTAL DECISION GROUP, INC.

## **SOIL BORING/WELL LOG**

**BORING NO. SB-7**

Page 1 of 1

CLIENT: AC TRANSIT						JOB NUMBER: 792489			
PROJECT: UST INVESTIGATION						LOCATION: 100 SEMINARY AVE., OAKLAND, CA			
EXCAVATED BY: KVILHAUG DRILLING			OPERATOR: DON EVANS			METHOD: GEOPROBE MACROCORE			
DATE START: 1-8-99		DATE COMP: 1-8-99		REF. EL.: FT		TOTAL DEPTH: 17 FT			
LOGGED BY: BRAD WRIGHT			APPROVED BY: BRAD WRIGHT			DEPTH TO WATER: 16.0 FT			
WELL COMP	OPT	BLOWS	GRAPHIC LOG USCS CODE	DESCRIPTION				OVM (ppm)	
								SAMPLE NUMBER	
								SAMPLE ANAL.	
2" dia. borehole  Heat cement				Concrete 10-Inches				Soil 11-15 8015 8020	
				0-8' Silty Clay; (0,20,40,40); black (N2.5Y); high plastic; stiff; moist					
				CH					
				8-11' Sandy Clay; (0,40,30,30); dark yellowish brown (10YR 4/4); fine to coarse sand; stiff; moist @ 7.5' trace gravel; (10,40,30,20); olive (5Y 4/3)					
				CL					
				11-12.5' Silty Sand; (10,60,30,10); dark yellowish brown (10YR 4/4); fine to coarse sand; well graded; loose; moist; strong odor					
				12.5-16' Sandy Clay; (0,30,40,30); dark yellowish brown (10YR 4/4); stiff; low to medium plastic; moist				Water 16-17 8015 8020	
				CL					
				16-17' Silty Sand; (0,60,30,0); dark yellowish brown (10YR 4/4); fine to coarse sand; well graded; loose; saturated; strong odor					
20						50			

**ENVIRONMENTAL  
DECISION GROUP, INC.**

**SOIL BORING/WELL LOG**

*Page 1 of 1*

**BORING NO. SB-8**

CLIENT: AC TRANSIT					JOB NUMBER: 792489																																																																																																																																																										
PROJECT: UST INVESTIGATION				LOCATION: 1100 SEMINARY AVE., OAKLAND, CA																																																																																																																																																											
EXCAVATED BY: KVLHAUG DRILLING			OPERATOR: DON EVANS		METHOD: GEOPROBE MACROCORE																																																																																																																																																										
DATE START: 1-8-99		DATE COMP: 1-8-99		REF. EL.: FT		TOTAL DEPTH: 11 FT																																																																																																																																																									
LOGGED BY: BRAD WRIGHT			APPROVED BY: BRAD WRIGHT			DEPTH TO WATER: 8.5 FT																																																																																																																																																									
WELL COMP	DPT	BLWS	GRAPHIC LOG USCS CODE	DESCRIPTION			OVM (ppm)	SAMPLE NUMBER	SAMPLE ANAL.																																																																																																																																																						
																																																																																																																																																															<img alt="Soil log diagram showing a 2-inch diameter borehole. At the top, there is a vertical line with an arrow

**ENVIRONMENTAL  
DECISION GROUP, INC.**

**SOIL BORING/WELL LOG**

**BORING NO. SB-9**

*Page 1 of 1*

CLIENT: AC TRANSIT				JOB NUMBER: 782489					
PROJECT: UST INVESTIGATION				LOCATION: 1100 SEMINARY AVE., OAKLAND, CA					
EXCAVATED BY: KVILHAUG DRILLING		OPERATOR: DON EVANS		METHOD: GEOPROBE MACROCORE					
DATE START: 8-8-99		DATE COMP: 8-8-99		REF. EL.: FT	TOTAL DEPTH: 8 FT				
LOGGED BY: CHRIS WALSH		APPROVED BY: BRAD WRIGHT		DEPTH TO WATER: 4 FT					
WELL COMP	DPT	BLOWS	GRAPHIC LOG USCS CODE	DESCRIPTION	OVM (ppm)	SAMPLE NUMBER	SAMPLE ANAL.		
2" dia. borehole  near cement				0-1' Concrete and Road base	5.3	Soil 3.5-4 Water 4-4.5	8015N 8280 8270 Metals		
				1-4'				CL/CH	Silty Clay; (0,15,40,45); black (N2.5/); stiff; plastic; slightly moist
				4'				SM	4-4.5' Silty Sand; (20,50,20,10); grayish brown (10YR 5/2); loose; well rounded, fine sand to fine gravel, well graded; saturated
				5'				CL/CH	4.5-7' Silty Clay; (5,15,40,40); dark greenish gray (5Gy 4/1); stiff, plastic, slightly moist
				7'				CL	7-8' Sandy Clay; (0,40,30,30); brown (10YR 5/3); slightly stiff; plastic; moist
				10'					
15'									
20'									

ENVIRONMENTAL  
DECISION GROUP, INC.

SOIL BORING/WELL LOG

BORING NO. SB-10

Page 1 of 1

CLIENT: AC TRANSIT				JOB NUMBER: 792489				
PROJECT: UST INVESTIGATION				LOCATION: 1100 SEMINARY AVE., OAKLAND, CA				
EXCAVATED BY: KVILHAUG DRILLING		OPERATOR: DON EVANS		METHOD: GEOPROBE MACROCORE				
DATE START: 8-8-99		DATE COMP: 8-8-99		REF. EL.: FT	TOTAL DEPTH: 15 FT			
LOGGED BY: CHRIS WALSH		APPROVED BY: BRAD WRIGHT		DEPTH TO WATER: NA FT				
WELL COMP	OPT	BLOWS	GRAPHIC LOG USCS CODE	DESCRIPTION		OVM (ppm)	SAMPLE NUMBER	SAMPLE ANAL.
				0-1' Concrete and Road base				
				1-8' Silty Clay; (0,15,40,45); black (N2.5/I); stiff; plastic; slightly moist		10.4		
				@ 8' dark greenish gray (5GY 4/I)		9.4		
				@ 7' Increasing sand; trace gravel		0.0		
				8-15' Sandy Clay; (0,40,30,30); dark yellowish brown (10YR 4/4); slightly stiff; plastic; moist		0.0		
				After 5 hours no water had entered borehole. No soil or groundwater samples collected.				
2" dia. borehole								
heat cement								
15								
20								

**ENVIRONMENTAL  
DECISION GROUP, INC.**

**SOIL BORING/WELL LOG**

**BORING NO. SB-11**

*Page 1 of 1*

CLIENT: AC TRANSIT				JOB NUMBER: 792489					
PROJECT: UST INVESTIGATION				LOCATION: 1100 SEMINARY AVE., OAKLAND, CA					
EXCAVATED BY: KVILHAUG DRILLING		OPERATOR: DON EVANS		METHOD: GEOPROBE MACROCORE					
DATE START: 8-8-99		DATE COMP: 8-8-99		REF. EL: FT		TOTAL DEPTH: 15 FT			
LOGGED BY: CHRIS WALSH		APPROVED BY: BRAD WRIGHT		DEPTH TO WATER: NA FT					
WELL COMP	DPT	BLOWS	GRAPHIC LOG USCS CODE	DESCRIPTION			OVM (ppm)	SAMPLE NUMBER	SAMPLE ANAL.
				0-1' Concrete and Road base					
				1-7.5' Silty Clay; (0,15,40,45); black (N2.5/); stiff; plastic; slightly moist			3.9		
				@ 6' trace gravel; very moist					
				@ 6.5' dark greenish gray (SGY 4/1)					
				7.5-15' Sandy Clay; (0,40,30,30); dark yellowish brown (IOYR 4/4); slightly stiff; plastic; moist			0.0		
				8.5-11.5' Intermittent gravelly layers					
				After 4 hours no water had entered borehole. No groundwater samples collected.			0.0		
2" dia. borehole  heat cement									
15									
20									

**ENVIRONMENTAL  
DECISION GROUP, INC.**

**SOIL BORING/WELL LOG**

**BORING NO. SB-12**

*Page 1 of 1*

CLIENT: AC TRANSIT					JOB NUMBER: 792489			
PROJECT: UST INVESTIGATION				LOCATION: 1100 SEMINARY AVE., OAKLAND, CA				
EXCAVATED BY: KVILHAUG DRILLING		OPERATOR: DON EVANS		METHOD: GEOPROBE MACROCORE				
DATE START: 8-8-98		DATE COMP: 8-8-98		REF. EL.: FT		TOTAL DEPTH: 5 FT		
LOGGED BY: CHRIS WALSH			APPROVED BY: BRAD WRIGHT		DEPTH TO WATER: 3.5 FT			
WELL COMP	DPT	BLOWS	GRAPHIC LOG USCS CODE	DESCRIPTION		OVM (ppm)	SAMPLE NUMBER	SAMPLE ANAL.
				0-1' Concrete and Road base		NA	Soil 3-3.5 Water 3.5-4	801EN
				SM	1-5' Silty Sand with gravel; (30,30,30,10); dark brown (7.5YR 3/4); well graded, fine sand to coarse gravel, angular; moist @ 3.5' saturated			
	5							
	10							
	15							
	20							

**ENVIRONMENTAL  
DECISION GROUP, INC.**

## **SOIL BORING/WELL LOG**

**BORING NO. SB-13**

Page 1 of 1

# ENVIRONMENTAL DECISION GROUP, INC.

## **SOIL BORING/WELL LOG**

Page 1 of 1

BORING NO. SB-14

CLIENT: AC TRANSIT						JOB NUMBER: 792489									
PROJECT: UST INVESTIGATION						LOCATION: 1100 SEMINARY AVE., OAKLAND, CA									
EXCAVATED BY: KVILHAUG DRILLING			OPERATOR: DON EVANS			METHOD: GEOPROBE MACROCORE									
DATE START: 8-8-99		DATE COMP: 8-8-99		REF. EL.: FT		TOTAL DEPTH: 7.5 FT									
LOGGED BY: CHRIS WALSH			APPROVED BY: BRAD WRIGHT			DEPTH TO WATER: 5.5 FT									
WELL COMP	DPT	BLOWS	GRAPHIC LOG USCS CODE	DESCRIPTION			OVM (ppm)	SAMPLE NUMBER	SAMPLE ANAL.						
<p>2" dia. borehole</p> <p>real cement</p>	<p>0</p> <p>5</p> <p>10</p> <p>15</p> <p>20</p>	<p>0</p> <p>20</p> <p>40</p> <p>60</p> <p>80</p> <p>100</p>	<p>A &gt; A'</p> <p>&lt; N &lt; C</p>	0-1' Concrete and Road base			<p>7.7</p> <p>20.7</p> <p>57.1</p> <p>13</p>	<p>Soil 5-5.5</p> <p>Water 5.5-8</p>	<p>801SN</p>						
				SM	1-2' Silty Sand with gravel; (30,30,30,10); yellowish brown (I0YR 5/6); well graded, fine sand to coarse gravel, angular; slightly moist										
				SP	2-3' Sand; (0,90,10,0); dark olive gray (SY 3/2); poorly graded, very fine sand; loose; very moist										
				SM	3-6.5' Silty Sand with gravel; (30,30,30,10); yellowish brown (I0YR 5/6); well graded; fine sand to coarse gravel, angular; moist										
				SM	<p>• 5.5' dark greenish gray (5GY 4/1); saturated; strong odor</p> <p>• 6' black (N2.5/); Increasing clay</p>										
				CH	6.5-7.5' Silty Clay; (0,16,40,45); dark greenish gray (5GY 4/1); stiff; high plastic; slightly moist										
				<p>Water samples collected on 8/9/99</p>											

**APPENDIX C**  
**CERTIFIED ANALYTICAL REPORTS**



January 28, 1999

Tim Hobbs  
EDG (Alameda), Inc.  
2233 Santa Clara Avenue  
Suite 7  
Alameda, CA 94501

**RE: Project Number: 792489**

Please find the enclosed hard copy of the analytical report for the above referenced project received at ENCOTEC on 01/12/99. Please note the 8015 DRO and GRO analyses were subcontracted to Safety-Kleen (Tech Center) due to certification issues.

Also, please find all applicable QC including method blanks, laboratory control samples, and matrix spike and matrix duplicates for samples analyzed at ENCOTEC. Quality control forms are available upon request from SK (Tech Center). Please review at your earliest convenience and call me if you have any questions.

Sincerely,

Safety-Kleen (ENCOTEC), Inc.

A handwritten signature in black ink that appears to read "David Brokaw".

David Brokaw  
Program Manager

Enclosure

Batch #: 15725  
Project #: 90111



Allan A. Manteuffel Technical Center

January 25, 1999

Mr. David Brokaw  
Safety-Kleen (Encotec)  
3985 Research Park Drive

Ann Arbor, MI 48108

Re: SK Lab Project #99-006 & 99-007  
Project ID Name: Ann Arbor, MI

Dear David:

Enclosed please find the analytical results for the sample received by SK Environmental Laboratory on 1/11/99 and 1/15/99.

A formal Quality Control/Quality Assurance program is maintained by Safety-Kleen, which is designed to meet or exceed the EPA requirements. This information is available upon request.

This report may not be reproduced except in its entirety.

If you have any questions concerning this analysis, or if we can be of further assistance, please contact me at 773-825-7351.

Sincerely,

A handwritten signature in black ink, appearing to read "R.H. Cook".

Richard H. Cook  
Environmental Section Leader

## DATA PACKAGE COVER PAGE

This report contains 39 pages, excluding the cover letter and is only for the submitted samples.

If any pages are missing please contact Safety-Kleen (ENCOTEC), Inc. immediately.

This document is intended only for the person(s) identified in the cover letter and is to be considered **CONFIDENTIAL**.

This document cannot be reproduced, except in full, without the prior written consent of Safety-Kleen (ENCOTEC), Inc..

This analytical report does not comply with State of Utah batch QC requirements for organic extractables unless otherwise noted in the laboratory narrative.

## Flags and Definitions

U =	The analyte was not detected at or above the quantitation limit.	J =	The analyte was detected at a concentration below the quantitation limit but above the method detection limit.
E =	The analyte was detected at a concentration greater than the calibration range; therefore the result is estimated.	B =	The analyte was detected in the associated method blank.
DL =	The sample was diluted due to sample matrix, therefore QC was not recoverable.	M =	Matrix interference has resulted in an elevated quantitation limit or distorted QC result.
*	The value is outside quality control limits.	NC =	Not Calculable.
K =	Reported concentration is proportional to dilution factor and may be exaggerated.	NA =	Not Applicable.
P =	When one or both sample results are <5 times the quantitation limit, the RPD cannot be properly evaluated. It is not included in the total QC count.	A =	If the sample result is >4 times the amount spiked, the MS recovery cannot be properly evaluated. It is not included in the total QC count.
G =	Result is greater than the numerical value presented.	CA =	Combustion aid was necessary to achieve results.
W =	Result is always reported as "wet weight."	L =	The sample flashed below ambient temperature, as indicated in Quant Limit column.

SDG	A Sample Delivery Group is a grouping of samples arriving under separate Chains of Custody that are reported together.
QC Set ID	An alphanumeric identification associating appropriate QC data with sample data.
Calculation Basis	Indicates whether the results have been adjusted for moisture content.
Quant Limit	The limit at which the analyte can be reliably reported within the method- specified limits of precision and accuracy under routine operating conditions.
Dil	Dilution Factor.
Conc	The concentration, expressed in appropriate units.
LCS	Laboratory Control Sample.
LCD	Laboratory Control Sample Duplicate.
MS	Matrix Spike.
MSD	Matrix Spike Duplicate.
%Rec	The percent recovery of a fortified analyte (surrogate, matrix spike, lab control sample).
RPD	The relative percent difference for duplicate analyses.
Second Analysis Date	The date on which a sample was analyzed a second time, at a dilution different than that on the (initial) Analysis Date.

If a numerical value is very large, it will be expressed in scientific notation. For example, a concentration of 10.000.000 ug Kg will be reported as 1E7.

DATA SUMMARY RESULTS

Project ID #: NA

TPH Page 3 of 3

Project ID Name: SK (ENCOTEC), Ann Arbor, MI

SK Lab Project #: 99-007

Date Reported: 1/25/99

## ANALYTICAL RESULTS

### Total GRO and DRO in Soil

Modified EPA Method 8015

Extraction By EPA Method 3550

Work Order #	01	03	05	07	
Collector's Sample #	SB-1 8-8.5	SB-2 7.5-8	SB-4 6.5-7	SB-3 13.5-14	
Date Sampled	1/8/99	1/8/99	1/8/99	1/8/99	
Date Extracted	1/15/99	1/15/99	1/15/99	1/15/99	
Date Analyzed	1/19/99	1/19/99	1/19/99	1/19/99	
Dilution Factor	1	1	1	1	
Analyte	Report Limit mg/Kg	Concentration mg/Kg			
GRO	2.50	<2.50	<2.50	<2.50	<2.50
DRO	2.50	6.43	15.0	2.53	3.73

Gas range  
diesel range

Work Order #	08	09	11	13	
Collector's Sample #	SB-5 7-7.5	SB-6 8-8.5	SB-7 11-11.5	SB-8 8-8.5	
Date Sampled	1/8/99	1/8/99	1/8/99	1/8/99	
Date Extracted	1/15/99	1/15/99	1/15/99	1/15/99	
Date Analyzed	1/20/99	1/18/99	1/19/99	1/19/99	
Dilution Factor	1	1	1	1	
Analyte	Report Limit mg/Kg	Concentration mg/Kg			
GRO	2.50	<2.50	<2.50	9.36	<2.50
DRO	2.50	72.1	3.29	89.3	3.44

Analytical Review / Date:

*W.H.L.* 1/25/99

Project ID #: NA

TPH Page 1 of 3

Project ID Name: SK (ENCOTEC), Ann Arbor, MI

SK Lab Project #: 99-007

Date Reported: 1/25/99

## ANALYTICAL RESULTS

### Total GRO in Water

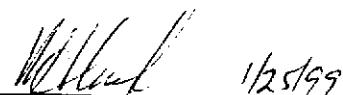
Modified EPA Method 8015

Report Limit: 100

Work Order #	Collector's Sample #	Date Sampled	Date Analyzed	Concentration ug/l
02	SB-1	1/8/99	1/15/99	<100
04	SB-2	1/8/99	1/15/99	<100
06	SB-4	1/8/99	1/15/99	<100
10	SB-6	1/8/99	1/18/99	<100 *
12	SB-7	1/8/99	1/18/99	5960 *
14	SB-8	1/8/99	1/15/99	<100

\* Result from a dilution of the sample.

Analytical Review / Date:

  
1/25/99

Project ID #: NA

TPH Page 2 of 3

Project ID Name: SK (ENCOTEC), Ann Arbor, MI

SK Lab Project #: 99-007

Date Reported: 1/25/99

## ANALYTICAL RESULTS

### Total DRO in Water

Modified EPA Method 8015

Report Limit: 100

Work Order #	Collector's Sample #	Date Sampled	Date Extracted	Date Analyzed	Concentration ug/L
02	SB-1	1/8/99	1/15/99	1/18/99	<100
04	SB-2	1/8/99	1/15/99	1/18/99	<100
06	SB-4	1/8/99	1/15/99	1/18/99	<100
10	SB-6	1/8/99	1/15/99	1/18/99	1510
12	SB-7	1/8/99	1/15/99	1/21/99	316200 *
14	SB-8	1/8/99	1/15/99	1/18/99	<100

\* Result taken from a dilution of the sample.

Analytical Review / Date:

*W. Clark* 1/25/99

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA,CA  
Sample ID: SB-1

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOOA1501W
Analysis Date:	01/15/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114043
Method Reference:	8260B	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0	U	
2	Ethylbenzene	100-41-4	5.0	1.0	U	
3	Toluene	108-88-3	5.0	1.0	U	
4	total Xylenes	1330-20-7	5.0	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA,CA  
Sample ID: SB-1 8-8.5

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VORA1501S
Analysis Date:	01/15/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114042
Method Reference:	8260B	Percent Total Solids:	85.2
Matrix:	SOIL	Calculation Basis:	Dry Weight

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	Benzene	71-43-2	5.9	1.0	U	
2	Ethylbenzene	100-41-4	5.9	1.0	U	
3	Toluene	108-88-3	5.9	1.0	U	
4	total Xylenes	1330-20-7	5.9	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA,CA  
Sample ID: SB-2

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOOA1501W
Analysis Date:	01/15/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114045
Method Reference:	8260B	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

	VOLATILE ORGANICS List	CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0	U	
2	Ethylbenzene	100-41-4	5.0	1.0	U	
3	Toluene	108-88-3	5.0	1.0	U	
4	total Xylenes	1330-20-7	5.0	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA, CA  
Sample ID: SB-2 7.5-8

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VORA1501S
Analysis Date:	01/15/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114044
Method Reference:	8260B	Percent Total Solids:	87.5
Matrix:	SOIL	Calculation Basis:	Dry Weight

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	Benzene	71-43-2	5.7	1.0	U	
2	Ethylbenzene	100-41-4	5.7	1.0	U	
3	Toluene	108-88-3	5.7	1.0	U	
4	total Xylenes	1330-20-7	5.7	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA,CA  
Sample ID: SB-3 13.5-14

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VORA1501S
Analysis Date:	01/15/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114048
Method Reference:	8260B	Percent Total Solids:	83.7
Matrix:	SOIL	Calculation Basis:	Dry Weight

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	Benzene	71-43-2	6.0	1.0	U	
2	Ethylbenzene	100-41-4	6.0	1.0	U	
3	Toluene	108-88-3	6.0	1.0	U	
4	total Xylenes	1330-20-7	6.0	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA,CA  
Sample ID: SB-4

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOOA1501W
Analysis Date:	01/15/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114047
Method Reference:	8260B	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

	VOLATILE ORGANICS List	CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0	U	
2	Ethylbenzene	100-41-4	5.0	1.0	U	
3	Toluene	108-88-3	5.0	1.0	U	
4	total Xylenes	1330-20-7	5.0	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA, CA  
Sample ID: SB-4 6.5-7

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VORA1501S
Analysis Date:	01/15/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114046
Method Reference:	8260B	Percent Total Solids:	83.6
Matrix:	SOIL	Calculation Basis:	Dry Weight

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	Benzene	71-43-2	6.0	1.0	U	
2	Ethylbenzene	100-41-4	6.0	1.0	U	
3	Toluene	108-88-3	6.0	1.0	U	
4	total Xylenes	1330-20-7	6.0	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA,CA  
Sample ID: SB-5 7-7.5

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VORA1501S
Analysis Date:	01/15/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114049
Method Reference:	8260B	Percent Total Solids:	85.5
Matrix:	SOIL	Calculation Basis:	Dry Weight

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	Benzene	71-43-2	5.8	1.0	U	
2	Ethylbenzene	100-41-4	5.8	1.0	U	
3	Toluene	108-88-3	5.8	1.0	U	
4	total Xylenes	1330-20-7	5.8	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA,CA  
Sample ID: SB-6

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOOA1501W
Analysis Date:	01/15/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114051
Method Reference:	8260B	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0	8.3	
2	Ethylbenzene	100-41-4	5.0	1.0	50	
3	Toluene	108-88-3	5.0	1.0	U	
4	total Xylenes	1330-20-7	5.0	1.0	52	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA,CA  
Sample ID: SB-6 8-8.5

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VORA1501S
Analysis Date:	01/15/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114050
Method Reference:	8260B	Percent Total Solids:	85.9
Matrix:	SOIL	Calculation Basis:	Dry Weight

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	Benzene	71-43-2	5.8	1.0	U	
2	Ethylbenzene	100-41-4	5.8	1.0	U	
3	Toluene	108-88-3	5.8	1.0	U	
4	total Xylenes	1330-20-7	5.8	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA,CA  
Sample ID: SB-7

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOOA1801W
Analysis Date:	01/18/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114053
Method Reference:	8260B	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	1000	200	27000	
2	Ethylbenzene	100-41-4	1000	200	2900	
3	Toluene	108-88-3	1000	200	4700	
4	total Xylenes	1330-20-7	1000	200	18000	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA,CA  
Sample ID: SB-7 11-11.5

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VORA1501S
Analysis Date:	01/15/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114052
Method Reference:	8260B	Percent Total Solids:	87.5
Matrix:	SOIL	Calculation Basis:	Dry Weight

	VOLATILE ORGANICS List	CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	Benzene	71-43-2	5.7	1.0	U	
2	Ethylbenzene	100-41-4	5.7	1.0	52	
3	Toluene	108-88-3	5.7	1.0	U	
4	total Xylenes	1330-20-7	5.7	1.0	350	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA,CA  
Sample ID: SB-8

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOOA1801W
Analysis Date:	01/18/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114055
Method Reference:	8260B	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0	U	
2	Ethylbenzene	100-41-4	5.0	1.0	U	
3	Toluene	108-88-3	5.0	1.0	U	
4	total Xylenes	1330-20-7	5.0	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA,CA  
Sample ID: SB-8 8-8.5

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VORA1501S
Analysis Date:	01/15/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114054
Method Reference:	8260B	Percent Total Solids:	86.1
Matrix:	SOIL	Calculation Basis:	Dry Weight

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	Benzene	71-43-2	5.8	1.0	U	
2	Ethylbenzene	100-41-4	5.8	1.0	U	
3	Toluene	108-88-3	5.8	1.0	U	
4	total Xylenes	1330-20-7	5.8	1.0	U	

Safety-Kleen (ENCOTEC), Inc.

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**QUALITY ASSURANCE/QUALITY CONTROL SUMMARY  
RESULTS**

**-AND-**

**CHAIN-OF-CUSTODY RECORD**

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA,CA  
Sample ID: TRIP BLANK

Date Sampled:	01/08/99	ENCOTEC Project ID:	90111
Date Received:	01/12/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOOA1801W
Analysis Date:	01/18/99	ENCOTEC Submission ID:	100015725
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200114056
Method Reference:	8260B	Percent Total Solids:	N/A
Matrix:	TRIP BLANK	Calculation Basis:	N/A

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/L)	DII	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0	U	
2	Ethylbenzene	100-41-4	5.0	1.0	U	
3	Toluene	108-88-3	5.0	1.0	U	
4	total Xylenes	1330-20-7	5.0	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK Analysis

<b>Extraction Date:</b>	N/A	<b>ENCOTEC Project ID:</b>	90111
<b>Analysis Date:</b>	01/15/99	<b>ENCOTEC SDG ID:</b>	N/A
<b>Second Analysis Date:</b>	N/A	<b>ENCOTEC QC Set ID:</b>	VORA1501S
<b>Method Reference:</b>	8260B	<b>ENCOTEC Submission ID:</b>	100015725
<b>Matrix:</b>	SOIL	<b>ENCOTEC Method Blank ID:</b>	200113002

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	Benzene	71-43-2	5.0	1.0	U	
2	Ethylbenzene	100-41-4	5.0	1.0	U	
3	Toluene	108-88-3	5.0	1.0	U	
4	total Xylenes	1330-20-7	5.0	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK Analysis

<b>Extraction Date:</b>	N/A	<b>ENCOTEC Project ID:</b>	90111
<b>Analysis Date:</b>	01/15/99	<b>ENCOTEC SDG ID:</b>	N/A
<b>Second Analysis Date:</b>	N/A	<b>ENCOTEC QC Set ID:</b>	VOOA1501W
<b>Method Reference:</b>	8260B	<b>ENCOTEC Submission ID:</b>	100015725
<b>Matrix:</b>	WATER	<b>ENCOTEC Method Blank ID:</b>	200113004

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0	U	
2	Ethylbenzene	100-41-4	5.0	1.0	U	
3	Toluene	108-88-3	5.0	1.0	U	
4	total Xylenes	1330-20-7	5.0	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK Analysis

<b>Extraction Date:</b>	N/A	<b>ENCOTEC Project ID:</b>	90111
<b>Analysis Date:</b>	01/18/99	<b>ENCOTEC SDG ID:</b>	N/A
<b>Second Analysis Date:</b>	N/A	<b>ENCOTEC QC Set ID:</b>	VOOA1801W
<b>Method Reference:</b>	8260B	<b>ENCOTEC Submission ID:</b>	100015725
<b>Matrix:</b>	WATER	<b>ENCOTEC Method Blank ID:</b>	200113009

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0	U	
2	Ethylbenzene	100-41-4	5.0	1.0	U	
3	Toluene	108-88-3	5.0	1.0	U	
4	total Xylenes	1330-20-7	5.0	1.0	U	

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WATER MATRIX SURROGATE RECOVERY  
VOLATILE ORGANICS

Project Name: EDG-BOULDER  
Project Number: 90111  
Report Date: 01/21/99  
QC Set I.D.: VOOA1501W

ENCOTEC Sample I.D.	% Recovery (86-118)	% Recovery D4-1,2-Dichloroethane (80-120)	% Recovery D8-Toluene (88-110)	% Recovery BFB (86-115)
200114043	104	100	101	96
200114045	102	97	100	101
200114047	101	97	100	97
200114051	102	99	99	103
200113004 MB	98	93	97	99
200113186 LCS	99	100	94	100
200114043 MS	101	111	96	105
200114043 MSD	98	110	95	106

All samples fortified with 0.05 mg/L of each surrogate analyte.

\* Value outside of established quality control windows.

DL = Sample matrix diluted, therefore surrogate recoveries are not applicable.

M = Matrix interferences caused distortion to recovery value.

RECOVERY: 0 out of 32 outside QC Windows.

Note:

Form 065VWN2G.GN1

Rev. 08/10/9

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**SOIL MATRIX SURROGATE RECOVERY  
VOLATILE ORGANICS**

Project Name: EGD-BOULDER  
Project Number: 90111  
Report Date: 01/21/99  
QC Set I.D.: VORA1501S

ENCOTEC Sample I.D.	% Recovery (80-120)	% Recovery (80-120)	% Recovery D8-Toluene (81-117)	% Recovery BFB (74-121)
Dibromofluoromethane	D4-1,2-Dichloroethane			
200114042	101	100	99	105
200114044	106	111	100	107
200114046	106	113	100	113
200114048	98	96	99	106
200114049	102	102	99	112
200114050	103	109	96	104
200114052	95	98	98	98
200114054	95	94	93	100
200113002 MB	101	102	98	98
200113184 LCS	101	103	98	99
200114042 MS	101	99	97	103
200114042 MSD	101	103	92	110

Value outside of established quality control windows.

DL = Sample matrix diluted, therefore surrogate recoveries are not applicable.

M = Matrix interferences caused distortion to recovery value.

RECOVERY: 0 out of 48 outside QC Windows.

Note:

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WATER MATRIX SURROGATE RECOVERY  
VOLATILE ORGANICS

Project Name: EDG-BOULDER  
Project Number: 90111  
Report Date: 01/21/99  
QC Set I.D.: VOOA1801W

ENCOTEC <u>Sample I.D.</u>	% Recovery <u>Dibromofluoromethane</u> (86-118)	% Recovery <u>D4-1,2-Dichloroethane</u> (80-120)	% Recovery <u>D8-Toluene</u> (88-110)	% Recovery <u>BFB</u> (86-115)
200114053	99	98	94	100
200114055	103	100	97	100
200114056	97	98	96	98
200113009 MB	106	101	95	97
200113190 LCS	102	103	99	98
200114214 MS	100	96	97	96
200114214 MSD	99	94	96	97

All samples fortified with 0.05 mg/L of each surrogate analyte.

\* Value outside of established quality control windows.

DL = Sample matrix diluted, therefore surrogate recoveries are not applicable.

M = Matrix interferences caused distortion to recovery value.

RECOVERY: 0 out of 28 outside QC Windows.

Note:

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**LABORATORY CONTROL SAMPLE (LCS)**  
**VOLATILE ORGANICS - SOIL MATRIX**

Project Name: ENCOTEC  
 Project Number: 10000  
 QC Set ID: VORA1501S

ENCOTEC ID: 200113184

Compound	Conc. Spiked ( <u>mg/Kg</u> )	Conc. LCS ( <u>mg/Kg</u> )	Percent Recovery (%)	Quality Control Windows Recovery (%)
Benzene	0.0500	0.0427	85	76-136
Bromodichloromethane	0.0500	0.0446	89	78-131
Bromoform	0.0500	0.0463	93	68-124
Carbon tetrachloride	0.0500	0.0458	92	70-136
Chlorobenzene	0.0500	0.0442	88	73-127
Chloroform	0.0500	0.0448	90	78-126
Dibromochloromethane	0.0500	0.0450	90	67-133
1,1-Dichloroethane	0.0500	0.0472	94	66-140
1,2-Dichloroethane	0.0500	0.0442	88	63-140
1,1-Dichloroethene	0.0500	0.0397	79	47-187
trans-1,2-Dichloroethene	0.0500	0.0433	87	69-143
1,2-Dichloropropane	0.0500	0.0451	90	70-122 -
Ethylbenzene	0.0500	0.0446	89	73-129
Methylene chloride	0.0500	0.0429	86	61-163
1,1,2,2-Tetrachloroethane	0.0500	0.0450	90	68-120
Tetrachloroethene	0.0500	0.0441	88	61-135
Toluene	0.0500	0.0429	86	71-133
1,1,1-Trichloroethane	0.0500	0.0443	89	67-129
1,1,2-Trichloroethane	0.0500	0.0440	88	73-125
Trichloroethene	0.0500	0.0433	87	64-152

Recovery: 0 out of 20 outside QC windows

Note:

SAVED AS: C:\HPCHEM\1\DATA\QC\VLA15S1R.XLS

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LABORATORY CONTROL SAMPLE (LCS)  
VOLATILE ORGANICS - WATER MATRIX

Project Name: ENCOTEC  
Project Number: 10000  
QC Set ID: V00A1501W

ENCOTEC ID: 200113186

<u>Compound</u>	<u>Conc.</u> <u>Spiked</u> <u>(mg/L)</u>	<u>Conc.</u> <u>LCS</u> <u>(mg/L)</u>	<u>Percent</u> <u>Recovery</u> <u>(%)</u>	<u>Quality Control</u> <u>Limits</u> <u>Recovery</u> <u>(%)</u>
Benzene	0.0500	0.0455	91	72-129
Bromodichloromethane	0.0500	0.0463	93	68-133
Bromoform	0.0500	0.0449	90	65-125
Carbon tetrachloride	0.0500	0.0491	98	59-145
Chlorobenzene	0.0500	0.0462	92	74-122
Chloroform	0.0500	0.0464	93	73-136
Dibromochloromethane	0.0500	0.0449	90	70-121
1,1-Dichloroethane	0.0500	0.0469	94	65-144
1,2-Dichloroethane	0.0500	0.0461	92	68-137
1,1-Dichloroethene	0.0500	0.0472	94	51-143
trans-1,2-Dichloroethene	0.0500	0.0468	94	57-142
1,2-Dichloropropane	0.0500	0.0468	94	66-134-
Ethylbenzene	0.0500	0.0477	95	75-120
Methylene chloride	0.0500	0.0422	84	61-163
1,1,2,2-Tetrachloroethane	0.0500	0.0458	92	73-125
Tetrachloroethene	0.0500	0.0487	97	59-129
Toluene	0.0500	0.0453	91	70-125
1,1,1-Trichloroethane	0.0500	0.0474	95	68-132
1,1,2-Trichloroethane	0.0500	0.0466	93	68-126
Trichloroethene	0.0500	0.0516	103	69-128

Recovery: 0 out of 20 outside QC windows

Note:

SAVED AS: C:\HPCHEM\1\DATA\QC\VLA15W10.XLS

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LABORATORY CONTROL SAMPLE (LCS)  
VOLATILE ORGANICS - WATER MATRIX

Project Name: ENCOTEC  
Project Number: 10000  
QC Set ID: VOOA1801W

ENCOTEC ID: 200113190

<u>Compound</u>	Conc. <u>(mg/L)</u>	Conc. <u>LCS</u>	Percent Recovery <u>(%)</u>	Quality Control Limits Recovery <u>(%)</u>
Benzene	0.0500	0.0553	111	72-129
Bromodichloromethane	0.0500	0.0527	105	68-133
Bromoform	0.0500	0.0569	114	65-125
Carbon tetrachloride	0.0500	0.0514	103	59-145
Chlorobenzene	0.0500	0.0562	112	74-122
Chloroform	0.0500	0.0551	110	73-136
Dibromochloromethane	0.0500	0.0539	108	70-121
1,1-Dichloroethane	0.0500	0.0589	118	65-144
1,2-Dichloroethane	0.0500	0.0595	119	68-137
1,1-Dichloroethene	0.0500	0.0528	106	51-143
trans-1,2-Dichloroethene	0.0500	0.0544	109	57-142
1,2-Dichloropropane	0.0500	0.0582	116	66-134
Ethylbenzene	0.0500	0.0572	114	75-120
Methylene chloride	0.0500	0.0548	110	61-163
1,1,2,2-Tetrachloroethane	0.0500	0.0564	113	73-125
Tetrachloroethene	0.0500	0.0541	108	59-129
Toluene	0.0500	0.0540	108	70-125
1,1,1-Trichloroethane	0.0500	0.0558	112	68-132
1,1,2-Trichloroethane	0.0500	0.0579	116	68-126
Trichloroethene	0.0500	0.0548	110	69-128

Recovery: 0 out of 20 outside QC windows

Note:

SAVED AS: C:\HPCHEM\1\DATA\QC\VLA18W10.XLS

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MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD)  
VOLATILE ORGANICS - SOIL MATRIX

Project Name: ENCOTEC  
Project Number: 10000  
QC Set ID: VORA1501S

ENCOTEC ID: 200114042

Compound	Conc.	Sample	Conc.	Percent	Conc.	Percent	Quality Control		
	Spiked	Result	MS	Recovery	MSD	Recovery	RPD	RPD	Limits
	(mg/Kg)	(mg/Kg)	(mg/Kg)	(%)	(mg/Kg)	(%)	(%)	(%)	Recovery (%)
1,1-Dichloroethene	0.0500	U	0.0443	89	0.0414	83	6.77	22	59-172
Trichloroethene	0.0500	U	0.0460	92	0.0456	91	0.79	24	62-137
Chlorobenzene	0.0500	U	0.0429	86	0.0450	90	4.62	21	60-133
Toluene	0.0500	U	0.0437	87	0.0427	85	2.50	21	59-139
Benzene	0.0500	U	0.0462	92	0.0466	93	0.78	21	66-142

66

RPD: 0 out of 5 outside of quality control limits.

Recovery: 0 out of 10 outside of quality control limits.

Note:

SAVED ::: C:\HPCHEM\1\DATA\QC\VMA15S1R.XLS

Safety-Kleen / ENCOTEC  
3985 Research Park Drive \* Ann Arbor, MI 48108  
313 / 761-1389

MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD)  
VOLATILE ORGANICS - WATER MATRIX

Project Name: ENCOTEC  
Project Number: 10000  
QC Set ID: VOOA1501W

ENCOTEC ID: 200114043

Compound	Conc.	Sample	Conc.	Percent	Conc.	Percent	Quality Control		
	Spiked ( <u>mg/L</u> )	Result ( <u>mg/L</u> )	MS ( <u>mg/L</u> )	Recovery ( <u>%</u> )	MSD ( <u>mg/L</u> )	Recovery ( <u>%</u> )	RPD ( <u>%</u> )	RPD ( <u>%</u> )	Recovery ( <u>%</u> )
1,1-Dichloroethene	0.0500	U	0.0476	95	0.0492	98	3.28	14	61-145
Trichloroethene	0.0500	U	0.0518	104	0.0511	102	1.28	14	71-120
Chlorobenzene	0.0500	U	0.0478	96	0.0480	96	0.35	13	75-130
Toluene	0.0500	U	0.0503	101	0.0491	98	2.50	13	76-125
Benzene	0.0500	U	0.0538	108	0.0522	104	3.17	11	76-127

CO  
CO

RPD: 0 out of 5 outside of quality control limits.  
Recovery: 0 out of 10 outside of quality control limits.

Note:

SAVED ^: C:\HPCHEM\1\DATA\QC\VMA15W1O.XLS

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313 / 761-1389

MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD)  
VOLATILE ORGANICS - WATER MATRIX

Project Name: ENCOTEC  
Project Number: 10000  
QC Set ID: VOOA1801W

ENCOTEC ID: 200114214

<u>Compound</u>	<u>Conc.</u>	<u>Sample</u>	<u>Conc.</u>	<u>Percent</u>	<u>Conc.</u>	<u>Percent</u>	Quality Control		
	<u>Spiked</u> <u>(mg/L)</u>	<u>Result</u> <u>(mg/L)</u>	<u>MS</u> <u>(mg/L)</u>	<u>Recovery</u> <u>(%)</u>	<u>MSD</u> <u>(mg/L)</u>	<u>Recovery</u> <u>(%)</u>	<u>RPD</u> <u>(%)</u>	<u>RPD</u> <u>(%)</u>	<u>Recovery</u> <u>(%)</u>
1,1-Dichloroethene	0.0500	U	0.0446	89	0.0455	91	1.98	14	61-145
Trichloroethene	0.0500	U	0.0493	99	0.0493	99	0.00	14	71-120
Chlorobenzene	0.0500	U	0.0487	97	0.0512	102	4.92	13	75-130
Toluene	0.0500	U	0.0474	95	0.0485	97	2.21	13	76-125
Benzene	0.0500	U	0.0534	107	0.0516	103	3.35	11	76-127

RPD: 0 out of 5 outside of quality control limits.  
Recovery: 0 out of 10 outside of quality control limits.

Note:

SAVED ``: C:\HPCHEM\1\DATA\QC\VMA18W1O.XLS



ANALYTIC SERVICES THROUGH CHARGE-CAPTURE ECD

Page \_\_\_\_\_ of \_\_\_\_\_

Laidlaw Environmental Inc./Encotec  
3985 RESEARCH PARK DRIVE  
ANN ARBOR, MICHIGAN 48108  
PHONE: (313) 761-1389 FAX: (313) 761-1034

No.

**CLIENT SHOULD COMPLETE THE THREE SECTIONS OUTLINED IN BLUE. LEI WILL COMPLETE SECTIONS OUTLINED IN RED.**

Name: <u>Brad Wright</u>	Title: <u>Sr. Geo</u>	ALL FIVE SECTIONS OUTLINED IN RED		
Company: <u>EDG</u>	Department: <u>Alameda</u>	Project No.: <u>90111</u>	Batch No.: <u>15725</u>	
Mailing Address: <u>2233 Santa Clara Ave. Suite 7</u>	Logged By: <u>86</u>	Date: <u>1-12-99</u>		
City, State, Zip Code: <u>Alameda, Ca 94501</u>	Checked By: <u></u>	Date: <u></u>		
Telephone: <u>510-337-8660</u>	Method of Shipment: <input checked="" type="checkbox"/> Drop Off <input type="checkbox"/> Overnight Carrier <input checked="" type="checkbox"/>			
Client Job ID: <u>792489</u>	Other <input type="checkbox"/> (Specify): <u></u>			
Special Instructions				

Sample Collected Represents:		U.S.T. Investigation		Number of Containers	ANALYSIS REQUESTED						
CERCLA Investigation		Ambient Air	X		D20 8015	G20 8015	BTEX 8020				
RCRA Investigation		Other (Specify)									
NPDES Compliance											
Drinking Water											
Waste Characterization											
Client Sample Identification		Date Sampled	Time	Preservation	Matrix/ Media						Comments
1	SB-3 13.5-14	1-8-99	10:30	ICE	Soil	1	X	X	X		
2	SB-5 7-7.5		12:45	ICE	Soil	1	X	X	X		
3	SB-6 8-8.5		16:20	ICE	Soil	1	X	X	X		
4	SB-6		16:30	HCL	Water	2			X		
5	SB-6			ICE		2			X		
6	SB-6		↓	ICE	↓	1	X				
7	SB-7 11-11.5		14:50	ICE	Soil	1	X	X	X		
8	SB-7		15:05	HCL	Water	2			X		
9	SB-7		↓	ICE	↓	2			X		
10	SB-7		↓	ICE	↓	1	X				
11	SB-8 8-8.5		13:30	ICE	Soil	1	X	X	X		
12	SB-8		13:40	HCL	Water				X		

## ANALYTICAL SERVICES INFORMATION CHAIN OF CUSTODY RECORD

Page 1 of 3

Laidlaw Environmental Inc./Encotec  
 3985 RESEARCH PARK DRIVE  
 ANN ARBOR, MICHIGAN 48108  
 PHONE: (313) 761-1389 FAX: (313) 761-1034

No.

CLIENT SHOULD COMPLETE THE THREE SECTIONS OUTLINED IN BLUE, LEI WILL COMPLETE SECTIONS OUTLINED IN RED

Name: <u>Brad Wright</u>	Title: <u>Sr. Geo</u>	Project No.: <u>9D111</u>	Batch No.: <u>15+25</u>
Company: <u>EDG</u>	Department: <u>Alameda</u>	Logged By: <u>SB</u>	Date: <u>1-12-99</u>
Mailing Address: <u>2233 Santa Clara Ave. Suite 7</u>		Checked By:	Date:
City, State, Zip Code: <u>Alameda Ca. 94501</u>		Method of Shipment: <u>Drop Off</u>	Overnight Carrier
Telephone: <u>510-337-8660</u>	Telefax: <u>510-337-3754</u>	Other    (Specify)	
Client Job ID: <u>792489</u>	Purchase Order No.:	Sample Condition Upon Receipt	Acceptable ✓ Other
Special Instructions			

STEP 1 Report Results To

Sample Collected Represents:

CERCLA Investigation  
 RCRA Investigation  
 NPDES Compliance  
 Drinking Water  
 Waste Characterization

U.S.T. Investigation  
 Ambient Air  
 Other (Specify)

Sample Identification/Analytical Service Request	Client Sample Identification	Date Sampled	Time	Preservation	Matrix/Media	Number of Containers	ANALYSIS REQUESTED				Comments
							D2O 80/15	GPD 80/15	BTEX 80/20		
1	SB-1 B-8.5	1-8-99	8:40	ICE	Soil	1	X	X	X		
2	SB-1		8:50	HCL	Water	2			X		
3	SB-1		↓	ICE	↓	2		X			
4	SB-1		↓	ICE	↓	1	X				
5	SB-2 7.5-8		9:40	ICE	Soil	1	X	X	X		
6	SB-2		9:50	HCL	Water	2			X		
7	SB-2		↓	ICE	↓	2		X			
8	SB-2		↓	ICE	↓	1	X				
9	SB-4 6.5-7		11:15	ICE	Soil	1	X	X	X		
10	SB-4		11:25	HCL	Water	2			X		
11	SB-4		↓	ICE	↓	2		X			
12	SB-4	↓	↓	ICE	↓	1	X				

1. Relinquished By: <u>Brad Wright</u>	Date/Time: <u>1-11-99 10:15</u>	3. Receipt By: <u>J. D. Deitrich</u>	Date/Time: <u>1-12-99</u>
2. Relinquished By:	Date/Time:	4. Receipt By:	Date/Time:
Authorized By: <u>Brad Wright</u>	Date: <u>1-11-99</u>	Comments:	
Client Must Sign This Request			



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PHONE: (313) 761-1389 FAX: (313) 761-1034

No.

CLIENT SHOULD COMPLETE THE THREE SECTIONS OUTLINED IN BLUE, LEI WILL COMPLETE SECTIONS OUTLINED IN RED

STEP 1  
Report Results To

Name: <u>Brad Wright</u>	Title: <u>Sr. Geo</u>
Company: <u>EDG</u>	Department: <u>Alameda</u>
Mailing Address: <u>2233 Santa Clara Ave - Suite 7</u>	
City, State, Zip Code: <u>Alameda Ca. 94501</u>	
Telephone: <u>510-337-8660</u>	Telefax: <u>510-337-3554</u>
Client Job ID: <u>792499</u>	Purchase Order No.:

Special Instructions

Project No.: <u>90111</u>	Batch No.: <u>15725</u>
Logged By: <u>86</u>	Date: <u>1-12-99</u>
Checked By: <u></u>	Date: <u></u>
Method of Shipment: Drop Off <input checked="" type="checkbox"/> Overnight Carrier <input type="checkbox"/>	
Other <input type="checkbox"/> (Specify)	
Sample Condition Upon Receipt Acceptable <input checked="" type="checkbox"/> Other <input type="checkbox"/> Explain Briefly If Other Is Checked:	

STEP 2  
Sample Identification/Analytical Service Request

Sample Collected Represents:  
 CERCLA Investigation  U.S.T. Investigation   
 RCRA Investigation  Ambient Air   
 NPDES Compliance  Other (Specify)   
 Drinking Water   
 Waste Characterization

Client Sample Identification	Date Sampled	Time	Preservation	Matrix/Media	Number of Containers	ANALYSIS REQUESTED										Comments	
						1	2	3	4	5	6	7	8	9	10	11	
1 <u>SB-8</u>	<u>1-8-99</u>	<u>13:40</u>	<u>ICE</u>	<u>Water</u>	2		X										
2 <u>SB-8</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	1	X											
3 <u>Trp Blank</u>			<u>HCl</u>	<u>Water</u>				X									
4																	
5																	
6																	
7																	
8 <u>20</u>																	
9																	
10																	
11																	
12																	

STEP 3  
Chain-of-Custody

1. Relinquished By: <u>Brad Wright</u>	Date/Time: <u>1-11-99 10:15</u>	3. Receipt By: <u>JC 1000 Dea</u>	Date/Time: <u>1/12/99</u>
2. Relinquished By:	Date/Time:	4. Receipt By:	Date/Time:
Authorized By: <u>Brad Wright</u>	Date: <u>1-11-99</u>	Comments:	
Client Must Sign This Request			



Laidlaw Environmental Inc./Encotec  
3985 RESEARCH PARK DRIVE  
ANN ARBOR, MICHIGAN 48108  
PHONE: (313) 761-1389 FAX: (313) 761-1034

Page 1 of 2

99-007

IC4 / VOA

No.

**CLIENT SHOULD COMPLETE THE THREE SECTIONS OUTLINED IN BLUE, LEI WILL COMPLETE SECTIONS OUTLINED IN RED**

STEP 1 Report Results To	Name: <u>David BROOKAU</u>	Title:	For use by ENCOTEC Personnel Only	Project No.:	Batch No.:
	Company: <u>SX (ENCOTEC)</u>	Department:		Logged By:	Date:
	Mailing Address: <u>3985 Research Park Drive</u>			Checked By:	Date:
	City, State, Zip Code:			Method of Shipment: <input checked="" type="checkbox"/> Drop Off <input type="checkbox"/> Overnight Carrier <input type="checkbox"/> Other (Specify)	
	Telephone:	Telefax:		Sample Condition Upon Receipt <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Other Explain Briefly If Other Is Checked:	
	Client Job ID:	Purchase Order No.:			
Special Instructions					

STEP 2 Sample Identification/Analytical Service Request	Sample Collected Represents:		Number of Containers	ANALYSIS REQUESTED														
	CERCLA Investigation <input type="checkbox"/>	U.S.T. Investigation <input type="checkbox"/>																
	RCRA Investigation <input type="checkbox"/>	Ambient Air <input type="checkbox"/>																
	NPDES Compliance <input type="checkbox"/>	Other (Specify) _____																
	Drinking Water <input type="checkbox"/>																	
	Waste Characterization <input type="checkbox"/>																	
	Client Sample Identification			Date Sampled	Time	Preservation	Matrix/Media											
	01 SB-1	8-8.5		1-8-99	8:40	TCE	Soil	1	✓	✓	Comments 9900625xx							
	02 SB-1				8:50		water	2	✓	✓	252							
	03 SB-2	7.5-8			9:40		soil	1	✓	✓	253							
	04 SB-2				9:50		water	2	✓	000	254							
	05 SB-2				1		1	2	✓		255							
06 SB-4	6.5-7		11:15		Soil	1	✓	✓	255									
07 SB-4			11:25		water	2	✓		256									
08 SB-4			1		1	2	✓	000	257									
09 SB-3	13.5-14		10:30		Soil	1	✓	✓	257									
10 SB-5	7-7.5		12:45		1	1	✓	✓	258									
11 SB-6	8-8.5		16:20		1	1	✓	✓	259									
12 SB-6	missing VOA		16:30		water	2	✓		260									

STEP 3 Chain-of-Custody	1. Relinquished By: <u>Skarلنوك</u>	Date/Time: <u>1-14-99</u>	3. Receipt By: <u>MIV</u>	Date/Time: <u>1/15/99 9:00 AM</u>
	2. Relinquished By:	Date/Time:	4. Receipt By:	Date/Time:
	Authorized By: _____	Date: _____	Comments: <u>t 3 4</u>	Acid was not preserved to all the VOA & 1L amber
Client Must Sign This Request				

## ANALYTICAL SERVICES AUTHORIZATION/CHAIN-OF-CUSTODY RECORD

Page 2 of 2

Laidlaw Environmental Inc./Encotec  
 3985 RESEARCH PARK DRIVE  
 ANN ARBOR, MICHIGAN 48108  
 PHONE: (313) 761-1389 FAX: (313) 761-1034

No.

CLIENT SHOULD COMPLETE THE THREE SECTIONS OUTLINED IN BLUE, LEI WILL COMPLETE SECTIONS OUTLINED IN RED

STEP 1 Report Results To	Name:	Title:	For use by ENCOTEC Personnel Only	Project No.:	Batch No.:									
	Company:	Department:		Logged By:	Date:									
	Mailing Address:			Checked By:	Date:									
	City, State, Zip Code:			Method of Shipment:	Drop Off <input type="checkbox"/> Overnight Carrier <input checked="" type="checkbox"/>									
	Telephone:	Telefax:		Other <input type="checkbox"/> (Specify)										
	Client Job ID:	Purchase Order No.:		Sample Condition Upon Receipt      Acceptable <input checked="" type="checkbox"/> Other <input type="checkbox"/> Explain Briefly If Other Is Checked:										
Special Instructions														
STEP 2 Sample Identification/Analytical Service Request	Sample Collected Represents: CERCLA Investigation <input type="checkbox"/> U.S.T. Investigation <input type="checkbox"/> RCRA Investigation <input type="checkbox"/> Ambient Air <input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Other (Specify) <input type="checkbox"/> Drinking Water <input type="checkbox"/> Waste Characterization <input type="checkbox"/>			ANALYSIS REQUESTED										
	Client Sample Identification			Number of Containers										
	1	SB-7	11-11.5		1-8-99	14:50	→	ICP	Soil	1	✓	✓		Comments 262
	2	SB-7				15:05	→		water	2		✓		263
	3	SB-7				L	→		1	21	✓	W		263
	4	SB-8	8-8.5				13:30	→	soil	1	✓	✓		264
	5	SB-8					13:40	→	water	2		✓		265
	6	SB-8				L	→	L	water	21	✓	W		265
	7	SB-6				1/8/99	16:30	→	water	1	✓			261
	8													
	9	60												
	10													
	11													
12														
STEP 3 Chain-of-Custody	1. Relinquished By:	<i>S. Laidlaw</i>		Date/Time:	1-14-99	3. Receipt By:			Date/Time:					
	2. Relinquished By:			Date/Time:		4. Receipt By:			Date/Time:					
	Authorized By:				Date:	Comments:								
	Client Must Sign This Request													



January 28, 1999

Tim Hobbs  
EDG (Alameda), Inc.  
2233 Santa Clara Avenue  
Suite 7  
Alameda, CA 94501

**RE: Project Number: AC Transit Seminary**

Please find the enclosed hard copy of the analytical report for the above referenced project received at ENCOTEC on 01/08/99. Please note the 8015 DRO and GRO analyses were subcontracted to Safety-Kleen(Tech Center) due to certification issues.

Also, please find all applicable QC including method blanks, laboratory control samples, and matrix spike and matrix duplicates for samples analyzed at ENCOTEC. Quality control forms are being requested from SK(Tech Center) and will be provided upon request. Please review at your earliest convenience and call me if you have any questions.

Sincerely,

Safety-Kleen (ENCOTEC), Inc.

A handwritten signature in black ink that appears to read "David Brokaw".

David Brokaw  
Program Manager

Enclosure

Batch #: 15704  
Project #: 90111



Allan A. Manteuffel Technical Center

January 25, 1999

Mr. David Brokaw  
Safety-Kleen (Encotec)  
3985 Research Park Drive

Ann Arbor, MI 48108

Re: SK Lab Project #99-006 & 99-007  
Project ID Name: Ann Arbor, MI

Dear David:

Enclosed please find the analytical results for the sample received by SK Environmental Laboratory on 1/11/99 and 1/15/99.

A formal Quality Control/Quality Assurance program is maintained by Safety-Kleen, which is designed to meet or exceed the EPA requirements. This information is available upon request.

This report may not be reproduced except in its entirety.

If you have any questions concerning this analysis, or if we can be of further assistance, please contact me at 773-825-7351.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard H. Cook".

Richard H. Cook  
Environmental Section Leader

## DATA PACKAGE COVER PAGE

This report contains 24 pages, excluding the cover letter and is only for the submitted samples.

If any pages are missing please contact Safety-Kleen (ENCOTEC), Inc. immediately.

This document is intended only for the person(s) identified in the cover letter and is to be considered **CONFIDENTIAL**.

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This analytical report does not comply with State of Utah batch QC requirements for organic extractables unless otherwise noted in the laboratory narrative.

## Flags and Definitions

U =	The analyte was not detected at or above the quantitation limit.	J =	The analyte was detected at a concentration below the quantitation limit but above the method detection limit.
E =	The analyte was detected at a concentration greater than the calibration range; therefore the result is estimated.	B =	The analyte was detected in the associated method blank.
DL =	The sample was diluted due to sample matrix, therefore QC was not recoverable.	M =	Matrix interference has resulted in an elevated quantitation limit or distorted QC result.
* =	The value is outside quality control limits.	NC =	Not Calculable.
K =	Reported concentration is proportional to dilution factor and may be exaggerated.	NA =	Not Applicable.
P =	When one or both sample results are <5 times the quantitation limit, the RPD cannot be properly evaluated. It is not included in the total QC count.	A =	If the sample result is >4 times the amount spiked, the MS recovery cannot be properly evaluated. It is not included in the total QC count.
G =	Result is greater than the numerical value presented.	CA =	Combustion aid was necessary to achieve results.
W =	Result is always reported as "wet weight."	L =	The sample flashed below ambient temperature, as indicated in Quant Limit column.

SDG	A Sample Delivery Group is a grouping of samples arriving under separate Chains of Custody that are reported together.
QC Set ID	An alphanumeric identification associating appropriate QC data with sample data.
Calculation Basis	Indicates whether the results have been adjusted for moisture content.
Quant Limit	The limit at which the analyte can be reliably reported within the method- specified limits of precision and accuracy under routine operating conditions.
Dil	Dilution Factor.
Conc	The concentration, expressed in appropriate units.
LCS	Laboratory Control Sample.
LCD	Laboratory Control Sample Duplicate.
MS	Matrix Spike.
MSD	Matrix Spike Duplicate.
%Rec	The percent recovery of a fortified analyte (surrogate, matrix spike, lab control sample).
RPD	The relative percent difference for duplicate analyses.
Second Analysis Date	The date on which a sample was analyzed a second time, at a dilution different than that on the (initial) Analysis Date.

If a numerical value is very large, it will be expressed in scientific notation. For example, a concentration of 10,000,000 ug Kg will be reported as 1E7.

DATA SUMMARY RESULTS

Project ID #: NA

TPH Page 1 of 1

Project ID Name: SK (ENCOTEC), Ann Arbor, MI

SK Lab Project #: 99-006

Date Reported: 1/18/99

## ANALYTICAL RESULTS

### Total GRO in Water

Modified EPA Method 8015

Report Limit: 100

Work Order #	Collector's Sample #	Date Sampled	Date Analyzed	Concentration ug/L
01	MW-1	1/7/99	1/11/99	<100
02	MW-3	1/7/99	1/11/99	199

### Total DRO in Water

Modified EPA Method 8015

Report Limit: 100

Work Order #	Collector's Sample #	Date Sampled	Date Extracted	Date Analyzed	Concentration ug/L
01	MW-1	1/7/99	1/12/99	1/14/99	470
02	MW-3	1/7/99	1/12/99	1/14/99	2680

Analytical Review / Date:

*M.L.H.* 1/25/99

# ANALYTICAL REPORT

**Client: EDG-BOULDER**  
**Project/Site: ALAMEDA, CA**  
**Sample ID: MW-1**

<b>Date Sampled</b>	01/07/99	<b>ENCOTEC Project ID:</b>	90111
<b>Date Received:</b>	01/08/99	<b>ENCOTEC SDG ID:</b>	N/A
<b>Date Extracted:</b>	N/A	<b>ENCOTEC QC Set ID:</b>	See below
<b>Date Analyzed:</b>	See below	<b>ENCOTEC Submission ID:</b>	100015704
<b>Method Reference:</b>	See below	<b>ENCOTEC Sample ID:</b>	200113938
<b>Matrix:</b>	WATER	<b>Analyte List:</b>	N/A
<b>Percent Total Solids:</b>	N/A	<b>Calculation Basis:</b>	N/A

	<b>General Inorganics</b>	<b>QC Set ID</b>	<b>Date Analyzed</b>	<b>Method Ref.</b>	<b>Units</b>	<b>Quant Limit</b>	<b>Dil</b>	<b>Conc</b>	<b>Flag</b>
1	Nitrogen, Nitrate	NOTA1301	01/13/99	353.2	mg/L	0.050	N/A	0.15	
2	Nitrogen, Nitrite	NOSA0901	01/09/99	353.2	mg/L	0.050	1	U	
3	Nitrogen, Nitrite and Nitrate	NPNA1301	01/13/99	353.2	mg/L	0.050	1	0.15	
4	Sulfate	SOIA1401	01/14/99	300.0	mg/L	1.0	1	3.4	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
 Project/Site: ALAMEDA, CA  
 Sample ID: MW-1

Date Sampled:	01/07/99	ENCOTEC Project ID:	90111
Date Received:	01/08/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPA1101W
Analysis Date:	01/11/99	ENCOTEC Submission ID:	100015704
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200113938
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS Target Compound List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Acetone	67-64-1	10	1.0	U	
2	Benzene	71-43-2	10	1.0	17	
3	Bromodichloromethane	75-27-4	10	1.0	U	
4	Bromoform	75-25-2	10	1.0	U	
5	Bromomethane	74-83-9	10	1.0	U	
6	2-Butanone (MEK)	78-93-3	10	1.0	U	
7	Carbon disulfide	75-15-0	10	1.0	U	
8	Carbon tetrachloride	56-23-5	10	1.0	U	
9	Chlorobenzene	108-90-7	10	1.0	U	
10	Chloroethane	75-00-3	10	1.0	U	
11	Chloroform	67-66-3	10	1.0	U	
12	Chloromethane	74-87-3	10	1.0	U	
13	Dibromochloromethane	124-48-1	10	1.0	U	
14	1,2-Dichloroethane	107-06-2	10	1.0	U	
15	1,1-Dichloroethane	75-34-3	10	1.0	U	
16	total 1,2-Dichloroethene	540-59-0	10	1.0	U	
17	1,1-Dichloroethene	75-35-4	10	1.0	U	
18	1,2-Dichloropropane	78-87-5	10	1.0	U	
19	trans-1,3-Dichloropropene	10061-02-6	10	1.0	U	
20	cis-1,3-Dichloropropene	10061-01-5	10	1.0	U	
21	Ethylbenzene	100-41-4	10	1.0	31	
22	2-Hexanone	591-78-6	10	1.0	U	
23	4-Methyl-2-pentanone (MIBK)	108-10-1	10	1.0	U	
24	Methylene chloride	75-09-2	10	1.0	U	
25	Styrene	100-42-5	10	1.0	U	
26	1,1,2,2-Tetrachloroethane	79-34-5	10	1.0	U	
27	Tetrachloroethene	127-18-4	10	1.0	U	
28	Toluene	108-88-3	10	1.0	U	
29	1,1,2-Trichloroethane	79-00-5	10	1.0	U	
30	1,1,1-Trichloroethane	71-55-6	10	1.0	U	
31	Trichloroethene	79-01-6	10	1.0	U	
32	Vinyl chloride	75-01-4	10	1.0	U	
33	total Xylenes	1330-20-7	10	1.0	18	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA, CA  
Sample ID: MW-1

Date Sampled:	01/07/99	ENCOTEC Project ID:	90111
Date Received:	01/08/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPA1101W
Analysis Date:	01/11/99	ENCOTEC Submission ID:	100015704
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200113938
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS BTEX List List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0	17	
2	Ethylbenzene	100-41-4	1.0	1.0	31	
3	Methyl(tert)butyl ether	1634-04-4	50	1.0	U	
4	Toluene	108-88-3	1.0	1.0	1.5	
5	total Xylenes	1330-20-7	3.0	1.0	18	

## **ANALYTICAL REPORT**

**Client: EDG-BOULDER  
Project/Site: ALAMEDA, CA  
Sample ID: MW-3**

Date Sampled	01/07/99	ENCOTEC Project ID:	90111
Date Received:	01/08/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	See below
Date Analyzed:	See below	ENCOTEC Submission ID:	100015704
Method Reference:	See below	ENCOTEC Sample ID:	200113939
Matrix:	WATER	Analyte List:	N/A
Percent Total Solids:	N/A	Calculation Basis:	N/A

General Inorganics	QC Set ID	Date Analyzed	Method Ref.	Units	Quant Limit	Dil	Conc	Flag
Nitrogen, Nitrate	NOTA1301	01/13/99	353.2	mg/L	0.050	N/A	0.17	
Nitrogen, Nitrite	NOSA0901	01/09/99	353.2	mg/L	0.050	1	U	
Nitrogen, Nitrite and Nitrate	NPNA1301	01/13/99	353.2	mg/L	0.050	1	0.17	
Sulfate	SOIA1401	01/14/99	300.0	mg/L	5.0	10	33	

# ANALYTICAL REPORT

**CLIENT: EDG-BOULDER**  
**Project/Site: ALAMEDA, CA**  
**Sample ID: MW-3**

Date Sampled:	01/07/99	ENCOTEC Project ID:	90111
Date Received:	01/08/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPA1101W
Analysis Date:	01/11/99	ENCOTEC Submission ID:	100015704
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200113939
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS Target Compound List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Acetone	67-64-1	100	10	U	
2	Benzene	71-43-2	50	10	450	
3	Bromodichloromethane	75-27-4	50	10	U	
4	Bromoform	75-25-2	50	10	U	
5	Bromomethane	74-83-9	50	10	U	
6	2-Butanone (MEK)	78-93-3	100	10	U	
7	Carbon disulfide	75-15-0	50	10	U	
8	Carbon tetrachloride	56-23-5	50	10	U	
9	Chlorobenzene	108-90-7	50	10	U	
10	Chloroethane	75-00-3	50	10	U	
11	Chloroform	67-66-3	50	10	U	
12	Chloromethane	74-87-3	50	10	U	
13	Dibromochloromethane	124-48-1	50	10	U	
14	1,2-Dichloroethane	107-06-2	50	10	U	
15	1,1-Dichloroethane	75-34-3	50	10	U	
16	total 1,2-Dichloroethene	540-59-0	50	10	U	
17	1,1-Dichloroethene	75-35-4	50	10	U	
18	1,2-Dichloropropane	78-87-5	50	10	U	
19	trans-1,3-Dichloropropene	10061-02-6	50	10	U	
20	cis-1,3-Dichloropropene	10061-01-5	50	10	U	
21	Ethylbenzene	100-41-4	50	10	250	
22	2-Hexanone	591-78-6	100	10	U	
23	4-Methyl-2-pentanone (MIBK)	108-10-1	100	10	U	
24	Methylene chloride	75-09-2	50	10	U	
25	Styrene	100-42-5	50	10	U	
26	1,1,2,2-Tetrachloroethane	79-34-5	50	10	U	
27	Tetrachloroethene	127-18-4	50	10	U	
28	Toluene	108-88-3	50	10	U	
29	1,1,2-Trichloroethane	79-00-5	50	10	U	
30	1,1,1-Trichloroethane	71-55-6	50	10	U	
31	Trichloroethene	79-01-6	50	10	U	
32	Vinyl chloride	75-01-4	50	10	U	
33	total Xylenes	1330-20-7	50	10	190	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA, CA  
Sample ID: MW-3

Date Sampled:	01/07/99	ENCOTEC Project ID:	90111
Date Received:	01/08/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPA1101W
Analysis Date:	01/11/99	ENCOTEC Submission ID:	100015704
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200113939
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS BTEX List List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	50	10	450	
2	Ethylbenzene	100-41-4	10	10	250	
3	Methyl(tert)butyl ether	1634-04-4	500	10	U	
4	Toluene	108-88-3	10	10	U	
5	total Xylenes	1330-20-7	30	10	190	

QUALITY ASSURANCE/QUALITY CONTROL SUMMARY  
RESULTS

-AND-

CHAIN-OF-CUSTODY RECORD

# QUALITY ASSESSMENT REPORT - METHOD BLANK Analysis

Extraction Date	N/A	ENCOTEC Project ID:	90111
Analysis Date:	See Below	ENCOTEC SDG ID:	N/A
Second Analysis Date:	N/A	ENCOTEC QC Set ID:	
Method Reference:	See Below	ENCOTEC Submission ID:	See Below 100015704

	Analyte	QC Set ID	Date Analyzed	Method Ref.	Units	Quant Limit	Dil	Conc	Flag
1	Nitrogen, Nitrite	NOSA0901	01/09/99	353.2	mg/L	0.050	1	U	
2	Nitrogen, Nitrite and Nitrate	NPNA1301	01/13/99	353.2	mg/L	0.050	1	U	
3	Sulfate	SOIA1401	01/14/99	300.0	mg/L	1.0	1	U	

**Laidlaw Environmental, Inc. / ENCOTEC**

3985 Research Park Drive  
Ann Arbor, Michigan 48108  
(313) 761-1389 / FAX: (313) 761-1034

**Laboratory Control Sample (LCS)**  
**Inorganics - General Chemistry**

Project Name: ENCOTEC  
Project Number: 10000

Analysis	QC Set ID	Percent Recovery (%)	<i>Quality Control Windows</i>
			<i>Recovery (%)</i>
Nitrogen, Nitrite	NOSA0901	95	80 - 120
Nitrogen, Nitrite and Nitrate	NPNA1301	100	80 - 120
Sulfate	SOIA1401	94	80 - 120

Recovery: 0 out of 3 outside QC Windows.

**Laidlaw Environmental, Inc. / ENCOTEC**

3985 Research Park Drive  
Ann Arbor, Michigan 48108  
(313) 761-1389 / FAX: (313) 761-1034

**Matrix Spike (MS)**  
Inorganics - General Chemistry

Project Name: Encotec  
Project Number: 10000

<b>Analysis</b>	<b>ENCOTEC Sample ID</b>	<b>QC Set ID</b>	<b>Percent Recovery (%)</b>	<b>Quality Control Windows Recovery (%)</b>
Nitrogen, Nitrite	200113944	NOSA0901	110	75 - 125
Nitrogen, Nitrite and Nitrate	200113998	NPNA1301	97	75 - 125
Sulfate	200114146	SOIA1401	97	75 - 125

Recovery: 0 out of 3 outside QC Windows.

**Laidlaw Environmental, Inc. / ENCOTEC**

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Ann Arbor, Michigan 48108  
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**Matrix Duplicate (MD)**  
Inorganics - General Chemistry

Project Name: ENCOTEC  
Project Number: 10000

Analysis	ENCOTEC Sample ID	QC Set ID	<i>Quality Control</i>	
			RPD (%)	Windows <i>RPD (%)</i>
Nitrogen, Nitrite	200113944	NOSA0901	1.5	20
Nitrogen, Nitrite and Nitrate	200113998	NPNA1301	4.2	20
Sulfate	200114146	SOIA1401	4	20

RPD: 0 out of 3 outside QC Windows.

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
 Project/Site: ALAMEDA, CA  
 Sample ID: TRIP BLANK

Date Sampled:	01/07/99	ENCOTEC Project ID:	90111
Date Received:	01/08/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPA1101W
Analysis Date:	01/11/99	ENCOTEC Submission ID:	100015704
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200113940
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	TRIP BLANK	Calculation Basis:	N/A

	VOLATILE ORGANICS Target Compound List	CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Acetone	67-64-1	10	1.0	U	
2	Benzene	71-43-2	10	1.0	U	
3	Bromodichloromethane	75-27-4	10	1.0	U	
4	Bromoform	75-25-2	10	1.0	U	
5	Bromomethane	74-83-9	10	1.0	U	
6	2-Butanone (MEK)	78-93-3	10	1.0	U	
7	Carbon disulfide	75-15-0	10	1.0	U	
8	Carbon tetrachloride	56-23-5	10	1.0	U	
9	Chlorobenzene	108-90-7	10	1.0	U	
10	Chloroethane	75-00-3	10	1.0	U	
11	Chloroform	67-66-3	10	1.0	U	
12	Chloromethane	74-87-3	10	1.0	U	
13	Dibromochloromethane	124-48-1	10	1.0	U	
14	1,2-Dichloroethane	107-06-2	10	1.0	U	
15	1,1-Dichloroethane	75-34-3	10	1.0	U	
16	total 1,2-Dichloroethene	540-59-0	10	1.0	U	
17	1,1-Dichloroethene	75-35-4	10	1.0	U	
18	1,2-Dichloropropane	78-87-5	10	1.0	U	
19	trans-1,3-Dichloropropene	10061-02-6	10	1.0	U	
20	cis-1,3-Dichloropropene	10061-01-5	10	1.0	U	
21	Ethylbenzene	100-41-4	10	1.0	U	
22	2-Hexanone	591-78-6	10	1.0	U	
23	4-Methyl-2-pentanone (MIBK)	108-10-1	10	1.0	U	
24	Methylene chloride	75-09-2	10	1.0	U	
25	Styrene	100-42-5	10	1.0	U	
26	1,1,2,2-Tetrachloroethane	79-34-5	10	1.0	U	
27	Tetrachloroethene	127-18-4	10	1.0	U	
28	Toluene	108-88-3	10	1.0	U	
29	1,1,2-Trichloroethane	79-00-5	10	1.0	U	
30	1,1,1-Trichloroethane	71-55-6	10	1.0	U	
31	Trichloroethene	79-01-6	10	1.0	U	
32	Vinyl chloride	75-01-4	10	1.0	U	
33	total Xylenes	1330-20-7	10	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-BOULDER  
Project/Site: ALAMEDA, CA  
Sample ID: TRIP BLANK

Date Sampled:	01/07/99	ENCOTEC Project ID:	90111
Date Received:	01/08/99	ENCOTEC SDG ID:	N/A
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPA1101W
Analysis Date:	01/11/99	ENCOTEC Submission ID:	100015704
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200113940
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	TRIP BLANK	Calculation Basis:	N/A

VOLATILE ORGANICS BTEX List List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0	U	
2	Ethylbenzene	100-41-4	1.0	1.0	U	
3	Methyl(tert)butyl ether	1634-04-4	50	1.0	U	
4	Toluene	108-88-3	1.0	1.0	U	
5	total Xylenes	1330-20-7	3.0	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK Analysis

Extraction Date: N/A  
 Analysis Date: 01/11/99  
 Second Analysis Date: N/A  
 Method Reference: 8260A  
 Matrix: WATER

ENCOTEC Project ID: 90111  
 ENCOTEC SDG ID: N/A  
 ENCOTEC QC Set ID: VOPA1101W  
 ENCOTEC Submission ID: 100015704  
 ENCOTEC Method Blank ID: 200112977

VOLATILE ORGANICS Target Compound List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Acetone	67-64-1	10	1.0	U	
2	Benzene	71-43-2	10	1.0	U	
3	Bromodichloromethane	75-27-4	10	1.0	U	
4	Bromoform	75-25-2	10	1.0	U	
5	Bromomethane	74-83-9	10	1.0	U	
6	2-Butanone (MEK)	78-93-3	10	1.0	U	
7	Carbon disulfide	75-15-0	10	1.0	U	
8	Carbon tetrachloride	56-23-5	10	1.0	U	
9	Chlorobenzene	108-90-7	10	1.0	U	
10	Chloroethane	75-00-3	10	1.0	U	
11	Chloroform	67-66-3	10	1.0	U	
12	Chloromethane	74-87-3	10	1.0	U	
13	Dibromochloromethane	124-48-1	10	1.0	U	
14	1,2-Dichloroethane	107-06-2	10	1.0	U	
15	1,1-Dichloroethane	75-34-3	10	1.0	U	
16	total 1,2-Dichloroethene	540-59-0	10	1.0	U	
17	1,1-Dichloroethene	75-35-4	10	1.0	U	
18	1,2-Dichloropropane	78-87-5	10	1.0	U	
19	trans-1,3-Dichloropropene	10061-02-6	10	1.0	U	
20	cis-1,3-Dichloropropene	10061-01-5	10	1.0	U	
21	Ethylbenzene	100-41-4	10	1.0	U	
22	2-Hexanone	591-78-6	10	1.0	U	
23	4-Methyl-2-pentanone (MIBK)	108-10-1	10	1.0	U	
24	Methylene chloride	75-09-2	10	1.0	U	
25	Styrene	100-42-5	10	1.0	U	
26	1,1,2,2-Tetrachloroethane	79-34-5	10	1.0	U	
27	Tetrachloroethene	127-18-4	10	1.0	U	
28	Toluene	108-88-3	10	1.0	U	
29	1,1,2-Trichloroethane	79-00-5	10	1.0	U	
30	1,1,1-Trichloroethane	71-55-6	10	1.0	U	
31	Trichloroethene	79-01-6	10	1.0	U	
32	Vinyl chloride	75-01-4	10	1.0	U	
33	total Xylenes	1330-20-7	10	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK Analysis

**Extraction Date:** N/A  
**Analysis Date:** 01/11/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8260A  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** N/A  
**ENCOTEC QC Set ID:** VOPA1101W  
**ENCOTEC Submission ID:** 100015704  
**ENCOTEC Method Blank ID:** 200112977

VOLATILE ORGANICS BTEX List List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0	U	
2	Ethylbenzene	100-41-4	1.0	1.0	U	
3	Methyl(tert)butyl ether	1634-04-4	50	1.0	U	
4	Toluene	108-88-3	1.0	1.0	U	
5	total Xylenes	1330-20-7	3.0	1.0	U	

Safety-Kleen (ENCOTEC), Inc.  
3985 Research Park Drive \* Ann Arbor, MI 48108  
734 / 761-1389

WATER MATRIX SURROGATE RECOVERY  
VOLATILE ORGANICS

Project Name: EDG-BOULDER  
Project Number: 90111  
Report Date: 01/14/99  
QC Set I.D.: VOPA1101W

ENCOTEC Sample I.D.	% Recovery Dibromofluoromethane (86-118)	% Recovery D4-1,2-Dichloroethane (80-120)	% Recovery D8-Toluene (88-110)	% Recovery BFB (86-115)
200113938	98	92	98	104
200113939	105	100	98	92
200113940	96	95	95	98
200112977 MB	102	96	99	103
200113159 LCS	101	101	98	106
200113938 MS	98	87	100	98
200113938 MSD	96	86	100	100

All samples fortified with 0.05 mg/L of each surrogate analyte.

\* Value outside of established quality control windows.

DL = Sample matrix diluted, therefore surrogate recoveries are not applicable.

M = Matrix interferences caused distortion to recovery value.

RECOVERY: 0 out of 28 outside QC Windows.

Note:

Form 065VWN2G.GN1

Rev. 08/10/9

Safety-Kleen / ENCOTEC  
3985 Research Park Drive \* Ann Arbor, MI 48108  
313 / 761-1389

LABORATORY CONTROL SAMPLE (LCS)  
LOW LEVEL VOLATILE ORGANICS - WATER MATRIX

Project Name: ENCOTEC  
Project Number: 10000  
QC Set ID: VOPA1101W

ENCOTEC ID: 200113159

<u>Compound</u>	Conc. Spiked <u>(mg/L)</u>	Conc. LCS <u>(mg/L)</u>	Percent Recovery <u>(%)</u>	Quality Control Limits Recovery <u>(%)</u>
Benzene	0.0100	0.0091	91	69-130
Bromodichloromethane	0.0100	0.0092	92	73-121
Bromoform	0.0100	0.0085	85	62-127
Carbon tetrachloride	0.0100	0.0094	94	59-146
Chlorobenzene	0.0100	0.0093	93	75-127
Chloroform	0.0100	0.0095	95	81-123
Dibromochloromethane	0.0100	0.0091	91	73-122
1,1-Dichloroethane	0.0100	0.0101	101	75-145
1,2-Dichloroethane	0.0100	0.0093	93	73-131
1,1-Dichloroethene	0.0100	0.0092	92	57-153
trans-1,2-Dichloroethene	0.0100	0.0090	90	64-136
1,2-Dichloropropane	0.0100	0.0094	94	81-126
Ethylbenzene	0.0100	0.0095	95	68-136
Methylene chloride	0.0100	0.0089	89	61-131
1,1,2,2-Tetrachloroethane	0.0100	0.0094	94	65-132
Tetrachloroethene	0.0100	0.0088	88	58-141
Toluene	0.0100	0.0091	91	63-130
1,1,1-Trichloroethane	0.0100	0.0092	92	65-136
1,1,2-Trichloroethane	0.0100	0.0095	95	73-123
Trichloroethene	0.0100	0.0092	92	73-137

Recovery: 0 out of 20 outside QC windows

Note:

SAVED AS: C:\HPCHEM\1\DATA\QC\VLA11W1P.XLS

Safety-Kleen / ENCOTEC  
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MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD)  
LOW LEVEL VOLATILE ORGANICS - WATER MATRIX

Project Name: ENCOTEC  
Project Number: 10000  
QC Set ID: VOPA1101W

ENCOTEC ID: 200113938

Compound	Conc.	Sample	Conc.	Percent	Conc.	Percent	Quality Control		
	Spiked (mg/L)	Result (mg/L)	MS (mg/L)	Recovery (%)	MSD (mg/L)	Recovery (%)	RPD (%)	RPD (%)	Recovery (%)
1,1-Dichloroethene	0.0100	U	0.0084	84	0.0079	79	5.99	14	61-145
Trichloroethene	0.0100	U	0.0089	89	0.0089	89	0.34	14	71-120
Chlorobenzene	0.0100	U	0.0086	86	0.0089	89	2.74	13	75-130
Toluene	0.0100	0.001	0.0095	81	0.0098	83	2.80	13	76-125
Benzene	0.0100	0.017	0.0237	69*	0.0243	76	2.54	11	76-127

22  
RPD: 0 out of 5 outside of quality control limits.  
Recovery: 1 out of 10 outside of quality control limits.

$$\frac{(.0095-.001)}{.01} = 85\%$$

$$\frac{.0237 - .017}{.01} = 67\%$$

Note:

SAVED AS C:\HPCHEM\1\DATA\QC\VMA11W1P.XLS

## ANALYTICAL SERVICES AUTHORIZATION/CHAIN-OF-CUSTODY RECORD

Page \_\_\_\_\_ of \_\_\_\_\_



Laidlaw Environmental Inc./Encotec  
 3985 RESEARCH PARK DRIVE  
 ANN ARBOR, MICHIGAN 48108  
 PHONE: (313) 761-1389 FAX: (313) 761-1034

No.

CLIENT SHOULD COMPLETE THE THREE SECTIONS OUTLINED IN BLUE, LEI WILL COMPLETE SECTIONS OUTLINED IN RED

STEP 1 Report Results To	Name: <i>Brad Wright</i>	Title: <i>Sr. Geod</i>	For Use by ENCOTEC Personnel Only	Project No.: <i>90111</i>	Batch No.: <i>15704</i>		
	Company: <i>EDG</i>	Department:		Logged By: <i>SD</i>	Date: <i>1-8-99</i>		
Mailing Address: <i>2223 Santa Clara Ave Suite 7</i>			Checked By: <i>SD</i>	Date: <i>1-8-99</i>			
City, State, Zip Code: <i>Alameda Ca 94501</i>			Method of Shipment: Drop Off	Overnight Carrier <input checked="" type="checkbox"/>			
Telephone: <i>510-337-8660</i>	Telefax: <i>510-337-3554</i>	Other <input type="checkbox"/> (Specify)					
Client Job ID: <i>AC Transit Seminary</i>	Purchase Order No.:		Sample Condition Upon Receipt Acceptable <input checked="" type="checkbox"/> Other <input type="checkbox"/> Explain Briefly If Other Is Checked:				
Special Instructions <i>8260 analysis to include BTEX and MTBE</i>							
STEP 2 Sample Identification/Analytical Service Request	Sample Collected Represents: CERCLA Investigation <input type="checkbox"/> U.S.T. Investigation <input type="checkbox"/> RCRA Investigation <input type="checkbox"/> Ambient Air <input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Other (Specify) <input checked="" type="checkbox"/>		Number of Containers	ANALYSIS REQUESTED			
				<i>8260</i>	<i>8015620</i>	<i>8015620</i>	
				<i>Nitrate</i>	<i>sulfate</i>		
STEP 3 Chain-of-Custody	Client Sample Identification		Date Sampled	Time	Preservation	Matrix/Media	Comments
	1	<i>MW-1</i>	<i>1-7-99</i>	<i>12:15</i>	<i>HCL</i>	<i>H<sub>2</sub>O</i>	<i>2 X</i>
	2	<i>MW-1</i>		<i>12:15</i>	<i>ICE</i>		<i>1 X</i>
	3	<i>MW-1</i>		<i>12:15</i>	<i>ICE</i>		<i>1 X</i>
	4	<i>MW-3</i>		<i>13:50</i>	<i>HCL</i>		<i>2 X</i>
	5	<i>MW-3</i>		<i>13:50</i>	<i>ICE</i>		<i>2 X</i>
	6	<i>MW-3</i>		<i>13:50</i>	<i>ICE</i>		<i>1 X</i>
	7	<i>Trp Blant</i>			<i>HCL</i>		<i>1 X</i>
	8	<i>MW-1</i>		<i>12:15</i>	<i>ICE</i>	<i>2</i>	<i>X</i>
	9	<i>MW-3</i>		<i>12:15</i>	<i>ICE</i>	<i>1</i>	<i>X</i>
	10						
	11						
12							
1.	Relinquished By: <i>Brad Wright</i>	Date/Time: <i>1-7-99 / 14:45</i>		3. Receipt By: <i>Scott DeWine</i>	Date/Time: <i>1/8/99</i>		
2.	Relinquished By: <i>Brad Wright</i>	Date/Time:		4. Receipt By:	Date/Time:		
Authorized By: <i>Brad Wright</i>	Date: <i>1-7-99</i>		Comments:				
Client Must Sign This Request							



Laidlaw Environmental Inc./Encotec  
3985 RESEARCH PARK DRIVE  
ANN ARBOR, MICHIGAN 48108  
PHONE: (313) 761-1389 FAX: (313) 761-1034

99-006

1C4

No.

CLIENT SHOULD COMPLETE THE THREE SECTIONS OUTLINED IN BLUE, LEI WILL COMPLETE SECTIONS OUTLINED IN RED

STEP 1 Report Results To	Name: <u>David Seckiw</u>	Title: _____	Project No.: _____	Batch No.: _____
	Company: <u>SK(ENCOTEC), INC.</u>	Department: _____	Logged By: _____	Date: _____
	Mailing Address: <u>3985 RESEARCH PARK DRIVE</u>	_____	Checked By: _____	Date: _____
	City, State, Zip Code: <u>ANN ARBOR, MI 48108</u>	_____	Method of Shipment: <input checked="" type="checkbox"/> Drop Off <input type="checkbox"/> Overnight Carrier	_____
	Telephone: <u>(734) 761-1389</u>	Telefax: <u>(734)</u>	Other <input type="checkbox"/> (Specify): _____	_____
	Client Job ID: <u>AC Transit Seminar</u> Purchase Order No.: _____		Sample Condition Upon Receipt <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Other <input type="checkbox"/> Explain Briefly If Other Is Checked: _____	
Special Instructions				

STEP 2 Sample Identification/Analytical Service Request	Sample Collected Represents:					ANALYSIS REQUESTED									
	CERCLA Investigation <input type="checkbox"/>	U.S.T. Investigation <input type="checkbox"/>													
	RCRA Investigation <input type="checkbox"/>	Ambient Air <input type="checkbox"/>													
	NPDES Compliance <input type="checkbox"/>	Other (Specify) <u>Groundwater</u> <input checked="" type="checkbox"/>													
	Drinking Water <input type="checkbox"/>														
	Waste Characterization <input type="checkbox"/>														
	Client Sample Identification		Date Sampled	Time	Preservation	Matrix/Media	Number of Containers	Comments							
	1	<u>MW-1</u>	<u>1-7-99</u>	<u>12:15</u>	<u>ICE</u>	<u>water</u>			1	<input checked="" type="checkbox"/>					
	2	<u>MW-3</u>	<u>1-7-99</u>	<u>13:50</u>	<u>↓</u>	<u>↓</u>			2	<input checked="" type="checkbox"/>					
	3	<u>MW-3</u>	<u>1-7-99</u>	<u>13:30</u>	<u>↓</u>	<u>↓</u>			1	<input checked="" type="checkbox"/>					
	4	<u>MW-1</u>	<u>1-7-99</u>	<u>12:15</u>	<u>↓</u>	<u>↓</u>			2	<input checked="" type="checkbox"/>					
	5														
6															
7															
8															
9															
10															
11															
12															

STEP 3 Chain-of-Custody	1. Relinquished By: <u>Sawlink</u>	Date/Time: <u>1-8-99</u>	3. Receipt By: <u>MN</u>	Date/Time: <u>1-11-99 2:50</u>
	2. Relinquished By: _____	Date/Time: _____	4. Receipt By: _____	Date/Time: _____
	Authorized By: _____	Date: _____	Comments: <u>8015 D/I &amp; 8015 P/I. Samples were not preserved w/ acid. Added 2 ml to each jar. t° 5.9 pH &lt; 2. 1 C. 25 ml to 100ml</u>	
Client Must Sign This Request				



July 09, 1999

Chris Walsh  
Environmental Decision Group (Alameda)  
2233 Santa Clara Ave.  
Suite 7  
Alameda, CA 94501

**RE: Project # 792489**

Please find the enclosed hard copy of the analytical report for the above referenced project received at ENCOTEC on 06/10/99.

Also, please find all applicable QC including method blanks, laboratory control samples, and matrix spike and matrix duplicates for samples analyzed at ENCOTEC. Please review at your earliest convenience and call me if you have any questions.

Sincerely,

Safety-Kleen (ENCOTEC), Inc.

A handwritten signature in black ink, appearing to read "David Brokaw".

David Brokaw  
Program Manager

Enclosure

Batch #: 17540  
Project #: 90111

## DATA PACKAGE COVER PAGE

This report contains 113 pages, excluding the cover letter and is only for the submitted samples.

If any pages are missing please contact Safety-Kleen (ENCOTEC), Inc. immediately.

This document is intended only for the person(s) identified in the cover letter and is to be considered CONFIDENTIAL.

This document cannot be reproduced, except in full, without the prior written consent of Safety-Kleen (ENCOTEC), Inc..

This analytical report does not comply with State of Utah batch QC requirements for organic extractables unless otherwise noted in the laboratory narrative.

## Flags and Definitions

U =	The analyte was not detected at or above the quantitation limit.	J =	The analyte was detected at a concentration below the quantitation limit but above the method detection limit.
E =	The analyte was detected at a concentration greater than the calibration range; therefore the result is estimated.	B =	The analyte was detected in the associated method blank.
DL =	The sample was diluted due to sample matrix, therefore QC was not recoverable.	M =	Matrix interference has resulted in an elevated quantitation limit or distorted QC result.
*	The value is outside quality control limits.	NC =	Not Calculable.
K =	Reported concentration is proportional to dilution factor and may be exaggerated.	NA =	Not Applicable.
P =	When one or both sample results are <5 times the quantitation limit, the RPD cannot be properly evaluated. It is not included in the total QC count.	A =	If the sample result is >4 times the amount spiked, the MS recovery cannot be properly evaluated. It is not included in the total QC count.
G =	Result is greater than the numerical value presented.	CA =	Combustion aid was necessary to achieve results.
W =	Result is always reported as "wet weight."	L =	The sample flashed below ambient temperature, as indicated in Quant Limit column.

SDG	A Sample Delivery Group is a grouping of samples arriving under separate Chains of Custody that are reported together.
QC Set ID	An alphanumeric identification associating appropriate QC data with sample data.
Calculation Basis	Indicates whether the results have been adjusted for moisture content.
Quant Limit	The limit at which the analyte can be reliably reported within the method- specified limits of precision and accuracy under routine operating conditions.
Dil	Dilution Factor.
Conc	The concentration, expressed in appropriate units.
LCS	Laboratory Control Sample.
LCD	Laboratory Control Sample Duplicate.
MS	Matrix Spike.
MSD	Matrix Spike Duplicate.
%Rec	The percent recovery of a fortified analyte (surrogate, matrix spike, lab control sample).
RPD	The relative percent difference for duplicate analyses.
Second Analysis Date	The date on which a sample was analyzed a second time, at a dilution different than that on the (initial) Analysis Date.

If a numerical value is very large, it will be expressed in scientific notation. For example, a concentration of 10,000,000 ug/Kg will be reported as 1E7.

# METHOD DESCRIPTION REPORT

CLIENT: EDG-ALAMEDA  
Project/Site: ALAMEDA  
SDG: EDG-AL-99F1  
Submission ID(s): 100017540

<u>Method Reference</u>	<u>Description</u>
6010	Inductively Coupled Plasma - Atomic Emission Spectroscopy
8015B/TPHG	California Method-TPH as Gasoline by Purge & Trap, GC/FID
8260A	Volatile Organic Compounds by GC/MS: Capillary Column
8260B	Volatiles Organic Compounds by GC/MS: Capillary Column
8270	Semivolatile Organic Compounds by GC/MS: Capillary Column
8270C	Semivolatile Organic Compounds by GC/MS: Capillary Column

# SAMPLE CROSS REFERENCE REPORT

CLIENT: EDG-ALAMEDA  
Project/Site: ALAMEDA  
SDG: EDG-AL-99F1  
Submission ID(s): 100017540

Client Sample ID	ENCOTEC Sample ID	Sample Matrix	Date Sampled	Date Received
SB-12	200133329	WATER	06/08/1999	06/10/1999
SB-12	200133330	SOIL	06/08/1999	06/10/1999
SB-13	200133331	SOIL	06/08/1999	06/10/1999
SB-14	200133332	SOIL	06/08/1999	06/10/1999
MW-14	200133333	WATER	06/09/1999	06/10/1999
MW-2	200133334	WATER	06/08/1999	06/10/1999
SP-9	200133335	SOIL	06/08/1999	06/10/1999
SP-9	200133336	WATER	06/08/1999	06/10/1999
SB-11	200133337	SOIL	06/08/1999	06/10/1999

Safety-Kleen (ENCOTEC), Inc.

5985 Research Park Drive - Ann Arbor, MI 48108  
Telephone: (313) 761-1389 - Telefax: (313) 761-1034

DATA SUMMARY RESULTS

Project ID #: 91000

TPH Page 1 of 3

Project ID Name: Safety-Kleen (ENCOTEC), Ann Arbor, MI

SK Lab Project #: 99-140

Date Reported: 6/25/1999

## ANALYTICAL RESULTS

### Total Petroleum Hydrocarbons in Water

Modified EPA Method 8015B

Extraction By EPA Method 3550B

Work Order #	01 *	05 *
Collector's Sample #	SB-12 (133329)	SB-14 (133333)
Date Sampled	6/8/1999	6/9/1999
Date Extracted	6/17/1999	6/17/1999
Date Analyzed	6/25/1999	6/22/1999
Dilution Factor	1	3
Analyte	Report Limit ug/L	Concentration ug/L
Oil	50	73.7
		9250

## ANALYTICAL RESULTS

### Total Petroleum Hydrocarbons in Soil

Modified EPA Method 8015B

Extraction By EPA Method 3550B

Work Order #	02 *	03 *	04 *
Collector's Sample #	SB-12 (133330)	SB-13 (133331)	SB-14 (133332)
Date Sampled	6/8/1999	6/8/1999	6/8/1999
Date Extracted	6/16/1999	6/16/1999	6/16/1999
Date Analyzed	6/17/1999	6/17/1999	6/17/1999
Dilution Factor	21	21	11
Analyte	Report Limit mg/Kg	Concentration mg/Kg	
Oil	2.50	261	412
			240

\* Samples were treated with silica gel.

Analytical Review / Date:

6/25/99

Project ID #: 91000

TPH Page 2 of 3

Project ID Name: Safety-Kleen (ENCOTEC), Ann Arbor, MI

SK Lab Project #: 99-140

Date Reported: 6/25/1999

## ANALYTICAL RESULTS

### Total Petroleum Hydrocarbons in Water

Modified EPA Method 8015B

Extraction By EPA Method 3550B

Work Order #	08	
Collector's Sample #	SB-9 (133336)	
Date Sampled	6/8/1999	
Date Extracted	6/17/1999	
Date Analyzed	6/21/1999	
Dilution Factor	1	
Analyte	Report Limit ug/L	Concentration ug/L
Diesel Range Organics	50	85.4
Oil	50	1100

## ANALYTICAL RESULTS

### Total Petroleum Hydrocarbons in Soil

Modified EPA Method 8015B

Extraction By EPA Method 3550B

Work Order #	07	09
Collector's Sample #	SB-9 (133335)	SB-11 (133337)
Date Sampled	6/8/1999	6/8/1999
Date Extracted	6/16/1999	6/16/1999
Date Analyzed	6/17/1999	6/17/1999
Dilution Factor	1	1
Analyte	Report Limit mg/Kg	Concentration mg/Kg
Diesel Range Organics	2.50	<2.50
Oil	2.50	14.0
		<2.50

Analytical Review / Date:

Project ID #: 91000

TPH Page 3 of 3

Project ID Name: Safety-Kleen (ENCOTEC), Ann Arbor, MI

SK Lab Project #: 99-140

Date Reported: 6/25/1999

## ANALYTICAL RESULTS

### Total Petroleum Hydrocarbons in Free Product

Modified EPA Method 8015B

Work Order #	06	
Collector's Sample #	MW-2 (133334)	
Date Sampled	6/8/1999	
Date Analyzed	6/24/1999	
Dilution Factor	1010	
Analyte	Report Limit ppm	Concentration ppm
Diesel Range Organics	50	434000
Oil	50	117000

Analytical Review / Date:

*[Signature]* 6/25/99

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
Project/Site: ALAMEDA  
Sample ID: MW-2

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VGMF2201W
Analysis Date:	06/22/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133334
Method Reference:	8015B/TPHG	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

	California List List	CAS #	Quant Limit (mg/L)	Dil	Conc (mg/L)	Flag
1	TPH as Gasoline	8006-61-9	10	50000	11	

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: MW-2**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPF2201W
Analysis Date:	06/22/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133334
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS Target Compound List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Acetone	67-64-1	1000000	100000	U	
2	Benzene	71-43-2	500000	100000	1000000	
3	Bromodichloromethane	75-27-4	500000	100000	U	
4	Bromoform	75-25-2	500000	100000	U	
5	Bromomethane	74-83-9	500000	100000	U	
6	2-Butanone (MEK)	78-93-3	1000000	100000	U	
7	Carbon disulfide	75-15-0	500000	100000	U	
8	Carbon tetrachloride	56-23-5	500000	100000	U	
9	Chlorobenzene	108-90-7	500000	100000	U	
10	Chloroethane	75-00-3	500000	100000	U	
11	Chloroform	67-66-3	500000	100000	U	
12	Chloromethane	74-87-3	500000	100000	U	
13	Dibromochloromethane	124-48-1	500000	100000	U	
14	1,2-Dichloroethane	107-06-2	500000	100000	U	
15	1,1-Dichloroethane	75-34-3	500000	100000	U	
16	total 1,2-Dichloroethene	540-59-0	500000	100000	U	
17	1,1-Dichloroethene	75-35-4	500000	100000	U	
18	1,2-Dichloropropane	78-87-5	500000	100000	U	
19	trans-1,3-Dichloropropene	10061-02-6	500000	100000	U	
20	cis-1,3-Dichloropropene	10061-01-5	500000	100000	U	
21	Ethylbenzene	100-41-4	500000	100000	U	
22	2-Hexanone	591-78-6	1000000	100000	U	
23	4-Methyl-2-pentanone (MIBK)	108-10-1	1000000	100000	U	
24	Methylene chloride	75-09-2	500000	100000	U	
25	Styrene	100-42-5	500000	100000	U	
26	1,1,2,2-Tetrachloroethane	79-34-5	500000	100000	U	

### Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	99	86-115
Dibromofluoromethane	99	86-118
1,2-Dichloroethane-d4	105	80-120
Toluene-d8	100	88-110

**Recovery:** 0 out of 4 outside QC Windows

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
Project/Site: ALAMEDA  
Sample ID: MW-2

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPF2201W
Analysis Date:	06/22/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133334
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS Target Compound List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
27	Tetrachloroethene	127-18-4	500000	100000		U
28	Toluene	108-88-3	500000	100000		U
29	1,1,2-Trichloroethane	79-00-5	500000	100000		U
30	1,1,1-Trichloroethane	71-55-6	500000	100000		U
31	Trichloroethene	79-01-6	500000	100000		U
32	Vinyl chloride	75-01-4	500000	100000		U
33	total Xylenes	1330-20-7	500000	100000		U

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
Project/Site: ALAMEDA  
Sample ID: MW-2

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPF2201W
Analysis Date:	06/22/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133334
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS BTEX List List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	500000	100000	1000000	
2	Ethylbenzene	100-41-4	100000	100000	260000	
3	Methyl(tert)butyl ether	1634-04-4	5000000	100000	U	
4	Toluene	108-88-3	100000	100000	U	
5	total Xylenes	1330-20-7	300000	100000	U	

## Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	99	86-115
Dibromofluoromethane	99	86-118
1,2-Dichloroethane-d4	105	80-120
Toluene-d8	100	88-110

Recovery: 0 out of 4 outside QC Windows

## **ANALYTICAL REPORT**

**Client: EDG-ALAMEDA  
Project/Site: ALAMEDA  
Sample ID: SP-9**

Date Sampled	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	See below
Date Analyzed:	See below	ENCOTEC Submission ID:	100017540
Method Reference:	See below	ENCOTEC Sample ID:	200133335
Matrix:	SOIL	Analyte List:	N/A
Percent Total Solids:	N/A	Calculation Basis:	Wet Weight

Metals Inorganics	QC Set ID	Date Analyzed	Method Ref.	Units	Quant Limit	Dil	Conc	Flag
Cadmium	ICPF1802	06/18/99	6010	mg/Kg	0.25	1	U	
Chromium	ICPF1802	06/18/99	6010	mg/Kg	1.0	1	25	
Lead	ICPF1802	06/18/99	6010	mg/Kg	2.0	1	8.1	
Nickel	ICPF1802	06/18/99	6010	mg/Kg	1.0	1	20	
Zinc	ICPF1802	06/18/99	6010	mg/Kg	1.0	1	23	

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
Project/Site: ALAMEDA  
Sample ID: SP-9

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VGMF2201S
Analysis Date:	06/22/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133335
Method Reference:	8015B/TPHG	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

California List List	CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
1 TPH as Gasoline	8006-61-9	10	1.0	U	

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SP-9**

<b>Date Sampled:</b>	06/08/99	<b>ENCOTEC Project ID:</b>	90111
<b>Date Received:</b>	06/10/99	<b>ENCOTEC SDG ID:</b>	EDG-AL-99F1
<b>Date Extracted:</b>	N/A	<b>ENCOTEC QC Set ID:</b>	VORF1601S
<b>Analysis Date:</b>	06/16/99	<b>ENCOTEC Submission ID:</b>	100017540
<b>Second Analysis Date:</b>	N/A	<b>ENCOTEC Sample ID:</b>	200133335
<b>Method Reference:</b>	8260B	<b>Percent Total Solids:</b>	N/A
<b>Matrix:</b>	SOIL	<b>Calculation Basis:</b>	Wet Weight

<b>VOLATILE ORGANICS List</b>		<b>CAS #</b>	<b>Quant Limit (ug/Kg)</b>	<b>Dil</b>	<b>Conc (ug/Kg)</b>	<b>Flag</b>
1	Acetone	67-64-1	10	1.0	96	
2	Acetonitrile	75-05-8	50	1.0	U	
3	Benzene	71-43-2	10	1.0	U	
4	Bromodichloromethane	75-27-4	10	1.0	U	
5	Bromoform	75-25-2	10	1.0	U	
6	Bromomethane	74-83-9	10	1.0	U	
7	2-Butanone (MEK)	78-93-3	10	1.0	U	
8	Carbon disulfide	75-15-0	10	1.0	U	
9	Carbon tetrachloride	56-23-5	10	1.0	U	
10	Chlorobenzene	108-90-7	10	1.0	U	
11	Chloroethane	75-00-3	10	1.0	U	
12	Chloroform	67-66-3	10	1.0	U	
13	Chloromethane	74-87-3	10	1.0	U	
14	Dibromochloromethane	124-48-1	10	1.0	U	
15	1,3-Dichlorobenzene	541-73-1	10	1.0	U	
16	1,4-Dichlorobenzene	106-46-7	10	1.0	U	
17	1,2-Dichlorobenzene	95-50-1	10	1.0	U	
18	1,2-Dichloroethane	107-06-2	10	1.0	U	
19	1,1-Dichloroethane	75-34-3	10	1.0	U	
20	trans-1,2-Dichloroethene	156-60-5	10	1.0	U	
21	cis-1,2-Dichloroethene	156-59-2	10	1.0	U	
22	1,1-Dichloroethene	75-35-4	10	1.0	U	
23	1,2-Dichloropropane	78-87-5	10	1.0	U	
24	trans-1,3-Dichloropropene	10061-02-6	10	1.0	U	
25	cis-1,3-Dichloropropene	10061-01-5	10	1.0	U	
26	Ethylbenzene	100-41-4	10	1.0	U	

### Surrogate Recovery Data

<b>Compound</b>	<b>%Rec</b>	<b>QC Window</b>
4-Bromofluorobenzene	117	74-121
Dibromofluoromethane	99	80-120
1,2-Dichloroethane-d4	111	80-120
Toluene-d8	107	81-117

**Recovery:** 0 out of 4 outside QC Windows

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
 Project/Site: ALAMEDA  
 Sample ID: SP-9

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VORF1601S
Analysis Date:	06/16/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133335
Method Reference:	8260B	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
27	Ethylene dibromide	106-93-4	10	1.0		U
28	Ethylene oxide	75-21-8	50	1.0		U
29	2-Hexanone	591-78-6	10	1.0		U
30	Methyl(tert)butyl ether	1634-04-4	10	1.0		U
31	4-Methyl-2-pentanone (MIBK)	108-10-1	10	1.0		U
32	Methylene chloride	75-09-2	10	1.0		U
33	Styrene	100-42-5	10	1.0		U
34	1,1,2,2-Tetrachloroethane	79-34-5	10	1.0		U
35	Tetrachloroethene	127-18-4	10	1.0		U
36	Toluene	108-88-3	10	1.0		U
37	1,1,2-Trichloroethane	79-00-5	10	1.0		U
38	1,1,1-Trichloroethane	71-55-6	10	1.0		U
39	Trichloroethene	79-01-6	10	1.0		U
40	Vinyl chloride	75-01-4	10	1.0		U
41	total Xylenes	1330-20-7	10	1.0		U

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SP-9**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/16/99	ENCOTEC QC Set ID:	BNAE2104S
Analysis Date:	06/19/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133335
Method Reference:	8270C	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

**SEMICVOLATILE ORGANICS**  
**Appendix IX List**

	CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
1	Acenaphthylene	0.33	1.0	U	
2	Acetophenone	0.33	1.0	U	
3	2-Acetylaminofluorene	0.33	1.0	U	
4	4-Aminobiphenyl	0.33	1.0	U	
5	Aniline	0.33	1.0	U	
6	Anthracene	0.33	1.0	U	
7	Aramite	0.33	1.0	U	
8	Benzidine	2.6	1.0	U	
9	Benzo(a)anthracene	0.33	1.0	U	
10	Benzo(a)pyrene	0.33	1.0	U	
11	Benzo(b)fluoranthene	0.33	1.0	U	
12	Benzo(g,h,i)perylene	0.33	1.0	U	
13	Benzo(k)fluoranthene	0.33	1.0	U	
14	Benzoic acid	1.6	1.0	U	
15	Benzyl alcohol	0.33	1.0	U	
16	4-Bromophenyl phenyl ether	0.33	1.0	U	
17	Butyl benzyl phthalate	0.33	1.0	U	
18	4-Chloro-3-methylphenol	0.33	1.0	U	
19	4-Chloroaniline	0.33	1.0	U	
20	Chlorobenzilate	0.33	1.0	U	
21	bis(2-Chloroethoxy)methane	0.33	1.0	U	
22	bis(2-Chloroethyl) ether	0.33	1.0	U	
23	bis(2-Chloroisopropyl) ether	0.33	1.0	U	
24	2-Chloronaphthalene	0.33	1.0	U	

**Surrogate Recovery Data**

Compound	%Rec	QC Window
2-Fluorobiphenyl	79	30-115
2-Fluorophenol	56	25-121
Nitrobenzene-d5	65	23-120
Phenol-d5	78	24-113
Terphenyl-d14	91	18-137
2,4,6-Tribromophenol	82	19-122

**Recovery:** 0 **out of** 6 **outside QC Windows**

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SP-9**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/16/99	ENCOTEC QC Set ID:	BNAE2104S
Analysis Date:	06/19/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133335
Method Reference:	8270C	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

SEMIVOLATILE ORGANICS Appendix IX List		CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
25	2-Chlorophenol	95-57-8	0.33	1.0	U	
26	4-Chlorophenyl phenyl ether	7005-72-3	0.33	1.0	U	
27	Chrysene	218-01-9	0.33	1.0	U	
28	Di-n-butyl phthalate	84-74-2	0.33	1.0	U	
29	Di-n-octyl phthalate	117-84-0	0.33	1.0	U	
30	Diallate	2303-16-4	0.33	1.0	U	
31	Dibenz(a,h)anthracene	53-70-3	0.33	1.0	U	
32	Dibenzofuran	132-64-9	0.33	1.0	U	
33	1,4-Dichlorobenzene	106-46-7	0.33	1.0	U	
34	1,3-Dichlorobenzene	541-73-1	0.33	1.0	U	
35	1,2-Dichlorobenzene	95-50-1	0.33	1.0	U	
36	3,3'-Dichlorobenzidine	91-94-1	0.67	1.0	U	
37	2,6-Dichlorophenol	87-65-0	0.33	1.0	U	
38	2,4-Dichlorophenol	120-83-2	0.33	1.0	U	
39	Diethyl phthalate	84-66-2	0.33	1.0	U	
40	Dimethoate	60-51-5	0.33	1.0	U	
41	Dimethyl phthalate	131-11-3	0.33	1.0	U	
42	p-Dimethylaminoazobenzene	60-11-7	0.33	1.0	U	
43	7,12-Dimethylbenz(a)anthracene	57-97-6	0.33	1.0	U	
44	3,3'-Dimethylbenzidine	119-93-7	1.3	1.0	U	
45	alpha, alpha-Dimethylphenethylamine	122-09-8	3.3	1.0	U	
46	2,4-Dimethylphenol	105-67-9	0.33	1.0	U	
47	4,6-Dinitro-2-methylphenol	534-52-1	1.6	1.0	U	
48	1,3-Dinitrobenzene	99-65-0	0.33	1.0	U	
49	2,4-Dinitrophenol	51-28-5	1.6	1.0	U	
50	2,4-Dinitrotoluene	121-14-2	0.33	1.0	U	
51	2,6-Dinitrotoluene	606-20-2	0.33	1.0	U	
52	Dinoseb	88-85-7	0.67	1.0	U	
53	Diphenylamine	122-39-4	0.33	1.0	U	
54	Ethyl methanesulfonate	62-50-0	0.33	1.0	U	
55	bis(2-Ethylhexyl) phthalate	117-81-7	0.33	1.0	U	
56	Famphur	52-85-7	0.33	1.0	U	
57	Fluoranthene	206-44-0	0.33	1.0	U	
58	Fluorene	86-73-7	0.33	1.0	U	
59	Hexachlorobenzene	118-74-1	0.33	1.0	U	

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SP-9**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/16/99	ENCOTEC QC Set ID:	BNAE2104S
Analysis Date:	06/19/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133335
Method Reference:	8270C	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

SEMIVOLATILE ORGANICS Appendix IX List		CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
60	Hexachlorobutadiene	87-68-3	0.33	1.0		U
61	Hexachlorocyclopentadiene	77-47-4	0.33	1.0		U
62	Hexachlorodibenzo-p-dioxins	tmp82	0.33	1.0		U
63	Hexachlorodibenzofurans	tmp83	0.33	1.0		U
64	Hexachloroethane	67-72-1	0.33	1.0		U
65	Hexachlorophene	70-30-4	2.7	1.0		U
66	Hexachloropropene	1888-71-7	2.7	1.0		U
67	Indeno(1,2,3-c,d)pyrene	193-39-5	0.33	1.0		U
68	Isophorone	78-59-1	0.33	1.0		U
69	Isosafrole	120-58-1	0.33	1.0		U
70	Methapyrilene	91-80-5	0.33	1.0		U
71	Methyl methanesulfonate	66-27-3	1.3	1.0		U
72	3-Methylcholanthrene	56-49-5	2.7	1.0		U
73	2-Methylnaphthalene	91-57-6	0.33	1.0		U
74	4-Methylphenol	106-44-5	0.33	1.0		U
75	3-Methylphenol	108-39-4	0.33	1.0		U
76	2-Methylphenol	95-48-7	0.33	1.0		U
77	N-Nitroso-di-n-butylamine	924-16-3	0.33	1.0		U
78	N-Nitroso-di-n-propylamine	621-64-7	0.33	1.0		U
79	N-Nitrosodiethylamine	55-18-5	0.33	1.0		U
80	N-Nitrosodimethylamine	62-75-9	0.33	1.0		U
81	N-Nitrosodiphenylamine	86-30-6	0.33	1.0		U
82	N-Nitrosomethylalkylamine	10595-95-6	0.33	1.0		U
83	N-Nitrosomorpholine	59-89-2	0.33	1.0		U
84	N-Nitrosopiperidine	100-75-4	0.33	1.0		U
85	N-Nitrosopyrrolidine	930-55-2	0.33	1.0		U
86	Naphthalene	91-20-3	0.33	1.0		U
87	1,4-Naphthoquinone	130-15-4	0.33	1.0		U
88	1-Naphthylamine	134-32-7	0.33	1.0		U
89	2-Naphthylamine	91-59-8	0.33	1.0		U
90	5-Nitro-o-toluidine	99-55-8	0.33	1.0		U
91	4-Nitroaniline	100-01-6	1.6	1.0		U
92	3-Nitroaniline	99-09-2	1.6	1.0		U
93	2-Nitroaniline	88-74-4	1.6	1.0		U
94	Nitrobenzene	98-95-3	0.33	1.0		U

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SP-9**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/16/99	ENCOTEC QC Set ID:	BNAE2104S
Analysis Date:	06/19/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133335
Method Reference:	8270C	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

	SEMIVOLATILE ORGANICS Appendix IX List	CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
95	4-Nitrophenol	100-02-7	1.6	1.0	U	
96	2-Nitrophenol	88-75-5	0.33	1.0	U	
97	4-Nitroquinoline-1-oxide	56-57-5	0.33	1.0	U	
98	Pentachlorobenzene	608-93-5	0.33	1.0	U	
99	Pentachlorodibenzo-p-dioxins	tmp106	0.33	1.0	U	
100	Pentachlorodibenzofurans	tmp108	0.33	1.0	U	
101	Pentachloroethane	76-01-7	0.33	1.0	U	
102	Pentachloronitrobenzene	82-68-8	0.33	1.0	U	
103	Pentachlorophenol	87-86-5	1.6	1.0	U	
104	Phenacetin	62-44-2	0.33	1.0	U	
105	Phenanthrrene	85-01-8	0.33	1.0	U	
106	Phenol	108-95-2	0.33	1.0	U	
107	p-Phenylenediamine	106-50-3	0.33	1.0	U	
108	2-Picoline	109-06-8	2.7	1.0	U	
109	Pronamide	23950-58-5	2.7	1.0	U	
110	Pyrene	129-00-0	0.33	1.0	U	
111	Pyridine	110-86-1	4.3	1.0	U	
112	Safrole	94-59-7	0.33	1.0	U	
113	Sulfoteppep	3689-24-5	0.33	1.0	U	
114	1,2,4,5-Tetrachlorobenzene	95-94-3	0.33	1.0	U	
115	Tetrachlorodibenzo-p-dioxins	-----	0.33	1.0	U	
116	Tetrachlorodibenzofurans	-----	0.33	1.0	U	
117	2,3,4,6-Tetrachlorophenol	58-90-2	0.33	1.0	U	
118	o-Toluidine	95-53-4	0.33	1.0	U	
119	1,2,4-Trichlorobenzene	120-82-1	0.33	1.0	U	
120	2,4,6-Trichlorophenol	88-06-2	0.33	1.0	U	
121	2,4,5-Trichlorophenol	95-95-4	0.33	1.0	U	
122	o,o,o-Triethylphosphorothioate	126-68-1	0.33	1.0	U	
123	1,3,5-Trinitrobenzene	99-35-4	0.33	1.0	U	

# ANALYTICAL REPORT

Client: EDG-ALAMEDA  
Project/Site: ALAMEDA  
Sample ID: SP-9

Date Sampled	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	See below
Date Analyzed:	See below	ENCOTEC Submission ID:	100017540
Method Reference:	See below	ENCOTEC Sample ID:	200133336
Matrix:	WATER	Analyte List:	N/A
Percent Total Solids:	N/A	Calculation Basis:	N/A

	Metals Inorganics	QC Set ID	Date Analyzed	Method Ref.	Units	Quant Limit	Dil	Conc	Flag
1	Cadmium	ICPF1602	06/16/99	6010	mg/L	0.0050	1	U	
2	Chromium	ICPF1602	06/16/99	6010	mg/L	0.020	1	U	
3	Lead	ICPF1602	06/16/99	6010	mg/L	0.040	1	U	
4	Nickel	ICPF1602	06/16/99	6010	mg/L	0.020	1	0.65	
5	Zinc	ICPF1602	06/16/99	6010	mg/L	0.020	1	0.065	

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
Project/Site: ALAMEDA  
Sample ID: SP-9

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VGMF2201W
Analysis Date:	06/22/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133336
Method Reference:	8015B/TPHG	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

	California List List	CAS #	Quant Limit (mg/L)	Dil	Conc (mg/L)	Flag
1	TPH as Gasoline	8006-61-9	0.20	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
 Project/Site: ALAMEDA  
 Sample ID: SP-9

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPF2201W
Analysis Date:	06/22/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133336
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS Target Compound List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Acetone	67-64-1	10	1.0		U
2	Benzene	71-43-2	10	1.0		U
3	Bromodichloromethane	75-27-4	10	1.0		U
4	Bromoform	75-25-2	10	1.0		U
5	Bromomethane	74-83-9	10	1.0		U
6	2-Butanone (MEK)	78-93-3	10	1.0		U
7	Carbon disulfide	75-15-0	10	1.0		U
8	Carbon tetrachloride	56-23-5	10	1.0		U
9	Chlorobenzene	108-90-7	10	1.0		U
10	Chloroethane	75-00-3	10	1.0		U
11	Chloroform	67-66-3	10	1.0		U
12	Chloromethane	74-87-3	10	1.0		U
13	Dibromochloromethane	124-48-1	10	1.0		U
14	1,2-Dichloroethane	107-06-2	10	1.0		U
15	1,1-Dichloroethane	75-34-3	10	1.0		U
16	total 1,2-Dichloroethene	540-59-0	10	1.0		U
17	1,1-Dichloroethene	75-35-4	10	1.0		U
18	1,2-Dichloropropane	78-87-5	10	1.0		U
19	trans-1,3-Dichloropropene	10061-02-6	10	1.0		U
20	cis-1,3-Dichloropropene	10061-01-5	10	1.0		U
21	Ethylbenzene	100-41-4	10	1.0		U
22	2-Hexanone	591-78-6	10	1.0		U
23	4-Methyl-2-pentanone (MIBK)	108-10-1	10	1.0		U
24	Methylene chloride	75-09-2	10	1.0		U
25	Styrene	100-42-5	10	1.0		U
26	1,1,2,2-Tetrachloroethane	79-34-5	10	1.0		U

## Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	97	86-115
Dibromofluoromethane	99	86-118
1,2-Dichloroethane-d4	102	80-120
Toluene-d8	99	88-110

**Recovery:** 0 out of 4 outside QC Windows

Safety-Kleen (ENCOTEC), Inc.

3985 Research Park Drive ■ Ann Arbor, MI 48108  
 Telephone: (734) 761-1389 - Telefax: (734) 761-1034

06 23

Report Date: 07/07/99

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
Project/Site: ALAMEDA  
Sample ID: SP-9

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPF2201W
Analysis Date:	06/22/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133336
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

	VOLATILE ORGANICS Target Compound List	CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
27	Tetrachloroethene	127-18-4	10	1.0	U	
28	Toluene	108-88-3	10	1.0	U	
29	1,1,2-Trichloroethane	79-00-5	10	1.0	U	
30	1,1,1-Trichloroethane	71-55-6	10	1.0	U	
31	Trichloroethene	79-01-6	10	1.0	U	
32	Vinyl chloride	75-01-4	10	1.0	U	
33	total Xylenes	1330-20-7	10	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
Project/Site: ALAMEDA  
Sample ID: SP-9

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPF2201W
Analysis Date:	06/22/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133336
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS BTEX List List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0		U
2	Ethylbenzene	100-41-4	1.0	1.0		U
3	Methyl(tert)butyl ether	1634-04-4	50	1.0		U
4	Toluene	108-88-3	1.0	1.0		U
5	total Xylenes	1330-20-7	3.0	1.0		U

## Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	97	86-115
Dibromofluoromethane	99	86-118
1,2-Dichloroethane-d4	102	80-120
Toluene-d8	99	88-110

Recovery: 0 out of 4 outside QC Windows

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SP-9**

<b>Date Sampled:</b>	06/08/99	<b>ENCOTEC Project ID:</b>	90111
<b>Date Received:</b>	06/10/99	<b>ENCOTEC SDG ID:</b>	EDG-AL-99F1
<b>Date Extracted:</b>	06/11/99	<b>ENCOTEC QC Set ID:</b>	BNAE2813W
<b>Analysis Date:</b>	06/17/99	<b>ENCOTEC Submission ID:</b>	100017540
<b>Second Analysis Date:</b>	N/A	<b>ENCOTEC Sample ID:</b>	200133336
<b>Method Reference:</b>	8270	<b>Percent Total Solids:</b>	N/A
<b>Matrix:</b>	WATER	<b>Calculation Basis:</b>	N/A

**SEMIVOLATILE ORGANICS**  
**Appendix IX List**

		CAS #	Quant Limit (mg/L)	Dil	Conc (mg/L)	Fla
1	Acenaphthene	83-32-9	0.012	1.0	U	
2	Acenaphthylene	208-96-8	0.012	1.0	U	
3	Acetophenone	98-86-2	0.012	1.0	U	
4	2-Acetylaminofluorene	53-96-3	0.012	1.0	U	
5	4-Aminobiphenyl	92-67-1	0.012	1.0	U	
6	Aniline	62-53-3	0.012	1.0	U	
7	Anthracene	120-12-7	0.012	1.0	U	
8	Aramite	140-57-8	0.012	1.0	U	
9	Benzidine	92-87-5	0.094	1.0	U	
10	Benzo(a)anthracene	56-55-3	0.012	1.0	U	
11	Benzo(a)pyrene	50-32-8	0.012	1.0	U	
12	Benzo(b)fluoranthene	205-99-2	0.012	1.0	U	
13	Benzo(g,h,i)perylene	191-24-2	0.012	1.0	U	
14	Benzo(k)fluoranthene	207-08-9	0.012	1.0	U	
15	Benzoic acid	65-85-0	0.059	1.0	U	
16	Benzyl alcohol	100-51-6	0.012	1.0	U	
17	4-Bromophenyl phenyl ether	101-55-3	0.012	1.0	U	
18	Butyl benzyl phthalate	85-68-7	0.012	1.0	U	
19	4-Chloro-3-methylphenol	59-50-7	0.012	1.0	U	
20	4-Chloroaniline	106-47-8	0.012	1.0	U	
21	Chlorobenzilate	510-15-6	0.012	1.0	U	
22	bis(2-Chloroethoxy)methane	111-91-1	0.012	1.0	U	
23	bis(2-Chloroethyl) ether	111-44-4	0.012	1.0	U	
24	bis(2-Chloroisopropyl) ether	108-60-1	0.012	1.0	U	

**Surrogate Recovery Data**

Compound	%Rec	QC Window
2-Fluorobiphenyl	77	30-115
2-Fluorophenol	17	15-121
Nitrobenzene-d5	92	23-120
Phenol-d5	22	15-115
Terphenyl-d14	96	18-140
2,4,6-Tribromophenol	28	15-130

**Recovery:** 0 out of 6 outside QC Windows

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SP-9**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/11/99	ENCOTEC QC Set ID:	BNAE2813W
Analysis Date:	06/17/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133336
Method Reference:	8270	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

SEMIVOLATILE ORGANICS Appendix IX List		CAS #	Quant Limit (mg/L)	Dil	Conc (mg/L)	Flag
25	2-Chloronaphthalene	91-58-7	0.012	1.0		U
26	2-Chlorophenol	95-57-8	0.012	1.0		U
27	4-Chlorophenyl phenyl ether	7005-72-3	0.012	1.0		U
28	Chrysene	218-01-9	0.012	1.0		U
29	Di-n-butyl phthalate	84-74-2	0.012	1.0		U
30	Di-n-octyl phthalate	117-84-0	0.012	1.0		U
31	Diallate	2303-16-4	0.012	1.0		U
32	Dibenz(a,h)anthracene	53-70-3	0.012	1.0		U
33	Dibenzofuran	132-64-9	0.012	1.0		U
34	1,4-Dichlorobenzene	106-46-7	0.012	1.0		U
35	1,3-Dichlorobenzene	541-73-1	0.012	1.0		U
36	1,2-Dichlorobenzene	95-50-1	0.012	1.0		U
37	3,3'-Dichlorobenzidine	91-94-1	0.024	1.0		U
38	2,4-Dichlorophenol	120-83-2	0.012	1.0		U
39	2,6-Dichlorophenol	87-65-0	0.012	1.0		U
40	Diethyl phthalate	84-66-2	0.012	1.0		U
41	Dimethoate	60-51-5	0.012	1.0		U
42	Dimethyl phthalate	131-11-3	0.012	1.0		U
43	p-Dimethylaminoazobenzene	60-11-7	0.012	1.0		U
44	7,12-Dimethylbenz(a)anthracene	57-97-6	0.012	1.0		U
45	3,3'-Dimethylbenzidine	119-93-7	0.047	1.0		U
46	alpha, alpha-Dimethylphenethylamine	122-09-8	0.12	1.0		U
47	2,4-Dimethylphenol	105-67-9	0.012	1.0		U
48	4,6-Dinitro-2-methylphenol	534-52-1	0.059	1.0		U
49	1,3-Dinitrobenzene	99-65-0	0.012	1.0		U
50	2,4-Dinitrophenol	51-28-5	0.059	1.0		U
51	2,6-Dinitrotoluene	606-20-2	0.012	1.0		U
52	2,4-Dinitrotoluene	121-14-2	0.012	1.0		U
53	Dinoseb	88-85-7	0.024	1.0		U
54	Diphenylamine	122-39-4	0.012	1.0		U
55	Ethyl methanesulfonate	62-50-0	0.012	1.0		U
56	bis(2-Ethylhexyl) phthalate	117-81-7	0.012	1.0		U
57	Famphur	52-85-7	0.24	1.0		U
58	Fluoranthene	206-44-0	0.012	1.0		U
59	Fluorene	86-73-7	0.012	1.0		U

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SP-9**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/11/99	ENCOTEC QC Set ID:	BNAE2813W
Analysis Date:	06/17/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133336
Method Reference:	8270	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

	<b>SEMICVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/L)</b>	<b>Dil</b>	<b>Conc (mg/L)</b>	<b>Flag</b>
60	Hexachlorobenzene	118-74-1	0.012	1.0		U
61	Hexachlorobutadiene	87-68-3	0.012	1.0		U
62	Hexachlorocyclopentadiene	77-47-4	0.012	1.0		U
63	Hexachlorodibenzo-p-dioxins	tmp82	0.012	1.0		U
64	Hexachlorodibenzofurans	tmp83	0.012	1.0		U
65	Hexachloroethane	67-72-1	0.012	1.0		U
66	Hexachlorophene	70-30-4	0.094	1.0		U
67	Hexachloropropene	1888-71-7	0.094	1.0		U
68	Indeno(1,2,3-c,d)pyrene	193-39-5	0.012	1.0		U
69	Isophorone	78-59-1	0.012	1.0		U
70	Isosafrole	120-58-1	0.012	1.0		U
71	Methapyrilene	91-80-5	0.012	1.0		U
72	Methyl methanesulfonate	66-27-3	0.047	1.0		U
73	3-Methylcholanthrene	56-49-5	0.094	1.0		U
74	2-Methylnaphthalene	91-57-6	0.012	1.0		U
75	4-Methylphenol	106-44-5	0.012	1.0		U
76	3-Methylphenol	108-39-4	0.012	1.0		U
77	2-Methylphenol	95-48-7	0.012	1.0		U
78	N-Nitroso-di-n-butylamine	924-16-3	0.012	1.0		U
79	N-Nitroso-di-n-propylamine	621-64-7	0.012	1.0		U
80	N-Nitrosodiethylamine	55-18-5	0.012	1.0		U
81	N-Nitrosodimethylamine	62-75-9	0.012	1.0		U
82	N-Nitrosodiphenylamine	86-30-6	0.012	1.0		U
83	N-Nitrosomethylalkylamine	10595-95-6	0.012	1.0		U
84	N-Nitrosomorpholine	59-89-2	0.012	1.0		U
85	N-Nitrosopiperidine	100-75-4	0.012	1.0		U
86	N-Nitrosopyrrolidine	930-55-2	0.012	1.0		U
87	Naphthalene	91-20-3	0.012	1.0		U
88	1,4-Naphthoquinone	130-15-4	0.012	1.0		U
89	2-Naphthylamine	91-59-8	0.012	1.0		U
90	1-Naphthylamine	134-32-7	0.012	1.0		U
91	5-Nitro-o-toluidine	99-55-8	0.012	1.0		U
92	3-Nitroaniline	99-09-2	0.059	1.0		U
93	2-Nitroaniline	88-74-4	0.059	1.0		U
94	4-Nitroaniline	100-01-6	0.059	1.0		U

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SP-9**

**Date Sampled:** 06/08/99  
**Date Received:** 06/10/99  
**Date Extracted:** 06/11/99  
**Analysis Date:** 06/17/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAE2813W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200133336  
**Percent Total Solids:** N/A  
**Calculation Basis:** N/A

**SEMIVOLATILE ORGANICS**  
**Appendix IX List**

		CAS #	Quant Limit (mg/L)	DII	Conc (mg/L)	Flag
95	Nitrobenzene	98-95-3	0.012	1.0		U
96	4-Nitrophenol	100-02-7	0.059	1.0		U
97	2-Nitrophenol	88-75-5	0.012	1.0		U
98	4-Nitroquinoline-1-oxide	56-57-5	0.012	1.0		U
99	Pentachlorobenzene	608-93-5	0.012	1.0		U
100	Pentachlorodibenzo-p-dioxins	tmp106	0.012	1.0		U
101	Pentachlorodibenzofurans	tmp108	0.012	1.0		U
102	Pentachloroethane	76-01-7	0.012	1.0		U
103	Pentachloronitrobenzene	82-68-8	0.012	1.0		U
104	Pentachlorophenol	87-86-5	0.059	1.0		U
105	Phenacetin	62-44-2	0.012	1.0		U
106	Phenanthrene	85-01-8	0.012	1.0		U
107	Phenol	108-95-2	0.012	1.0		U
108	p-Phenylenediamine	106-50-3	0.012	1.0		U
109	2-Picoline	109-06-8	0.094	1.0		U
110	Pronamide	23950-58-5	0.094	1.0		U
111	Pyrene	129-00-0	0.012	1.0		U
112	Pyridine	110-86-1	0.15	1.0		U
113	Safrole	94-59-7	0.012	1.0		U
114	Sulfotep	3689-24-5	0.012	1.0		U
115	1,2,4,5-Tetrachlorobenzene	95-94-3	0.012	1.0		U
116	Tetrachlorodibenzo-p-dioxins	-----	0.012	1.0		U
117	Tetrachlorodibenzofurans	-----	0.012	1.0		U
118	2,3,4,6-Tetrachlorophenol	58-90-2	0.012	1.0		U
119	o-Toluidine	95-53-4	0.012	1.0		U
120	1,2,4-Trichlorobenzene	120-82-1	0.012	1.0		U
121	2,4,6-Trichlorophenol	88-06-2	0.012	1.0		U
122	2,4,5-Trichlorophenol	95-95-4	0.012	1.0		U
123	o,o,o-Triethylphosphorothioate	126-68-1	0.012	1.0		U
124	1,3,5-Trinitrobenzene	99-35-4	0.012	1.0		U

# ANALYTICAL REPORT

**Client: EDG-ALAMEDA  
Project/Site: ALAMEDA  
Sample ID: SB-11**

<b>Date Sampled:</b>	06/08/99	<b>ENCOTEC Project ID:</b>	90111
<b>Date Received:</b>	06/10/99	<b>ENCOTEC SDG ID:</b>	EDG-AL-99F1
<b>Date Extracted:</b>	N/A	<b>ENCOTEC QC Set ID:</b>	See below
<b>Date Analyzed:</b>	See below	<b>ENCOTEC Submission ID:</b>	100017540
<b>Method Reference:</b>	See below	<b>ENCOTEC Sample ID:</b>	200133337
<b>Matrix:</b>	SOIL	<b>Analyte List:</b>	N/A
<b>Percent Total Solids:</b>	N/A	<b>Calculation Basis:</b>	Wet Weight

Metals Inorganics	QC Set ID	Date Analyzed	Method Ref.	Units	Quant Limit	Dil	Conc	Flag
1 Cadmium	ICPF1802	06/18/99	6010	mg/Kg	0.25	1	U	
2 Chromium	ICPF1802	06/18/99	6010	mg/Kg	1.0	1	24	
3 Lead	ICPF1802	06/18/99	6010	mg/Kg	2.0	1	4.1	
4 Nickel	ICPF1802	06/18/99	6010	mg/Kg	1.0	1	50	
5 Zinc	ICPF1802	06/18/99	6010	mg/Kg	1.0	1	41	

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
Project/Site: ALAMEDA  
Sample ID: SB-11

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VGMF2201S
Analysis Date:	06/22/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133337
Method Reference:	8015B/TPHG	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

California List List	CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
I TPH as Gasoline	8006-61-9	10	1.0	U	

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SB-11**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VORF1601S
Analysis Date:	06/16/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133337
Method Reference:	8260B	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	Acetone	67-64-1	10	1.0	33	
2	Acetonitrile	75-05-8	50	1.0	U	
3	Benzene	71-43-2	10	1.0	U	
4	Bromodichloromethane	75-27-4	10	1.0	U	
5	Bromoform	75-25-2	10	1.0	U	
6	Bromomethane	74-83-9	10	1.0	U	
7	2-Butanone (MEK)	78-93-3	10	1.0	U	
8	Carbon disulfide	75-15-0	10	1.0	U	
9	Carbon tetrachloride	56-23-5	10	1.0	U	
10	Chlorobenzene	108-90-7	10	1.0	U	
11	Chloroethane	75-00-3	10	1.0	U	
12	Chloroform	67-66-3	10	1.0	U	
13	Chloromethane	74-87-3	10	1.0	U	
14	Dibromochloromethane	124-48-1	10	1.0	U	
15	1,3-Dichlorobenzene	541-73-1	10	1.0	U	
16	1,4-Dichlorobenzene	106-46-7	10	1.0	U	
17	1,2-Dichlorobenzene	95-50-1	10	1.0	U	
18	1,2-Dichloroethane	107-06-2	10	1.0	U	
19	1,1-Dichloroethane	75-34-3	10	1.0	U	
20	trans-1,2-Dichloroethene	156-60-5	10	1.0	U	
21	cis-1,2-Dichloroethene	156-59-2	10	1.0	U	
22	1,1-Dichloroethene	75-35-4	10	1.0	U	
23	1,2-Dichloropropane	78-87-5	10	1.0	U	
24	trans-1,3-Dichloropropene	10061-02-6	10	1.0	U	
25	cis-1,3-Dichloropropene	10061-01-5	10	1.0	U	
26	Ethylbenzene	100-41-4	10	1.0	U	

## Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	107	74-121
Dibromofluoromethane	97	80-120
1,2-Dichloroethane-d4	118	80-120
Toluene-d8	100	81-117

Recovery: 0 out of 4 outside QC Windows

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SB-11**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VORF1601S
Analysis Date:	06/16/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133337
Method Reference:	8260B	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
27	Ethylene dibromide	106-93-4	10	1.0	U	
28	Ethylene oxide	75-21-8	50	1.0	U	
29	2-Hexanone	591-78-6	10	1.0	U	
30	Methyl(tert)butyl ether	1634-04-4	10	1.0	U	
31	4-Methyl-2-pentanone (MIBK)	108-10-1	10	1.0	U	
32	Methylene chloride	75-09-2	10	1.0	U	
33	Styrene	100-42-5	10	1.0	U	
34	1,1,2,2-Tetrachloroethane	79-34-5	10	1.0	U	
35	Tetrachloroethene	127-18-4	10	1.0	U	
36	Toluene	108-88-3	10	1.0	U	
37	1,1,2-Trichloroethane	79-00-5	10	1.0	U	
38	1,1,1-Trichloroethane	71-55-6	10	1.0	U	
39	Trichloroethene	79-01-6	10	1.0	U	
40	Vinyl chloride	75-01-4	10	1.0	U	
41	total Xylenes	1330-20-7	10	1.0	U	

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SB-11**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/16/99	ENCOTEC QC Set ID:	BNAE2104S
Analysis Date:	06/19/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133337
Method Reference:	8270C	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

**SEMIVOLATILE ORGANICS**  
**Appendix IX List**

		CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
1	Acenaphthylene	208-96-8	0.33	1.0	U	
2	Acetophenone	98-86-2	0.33	1.0	U	
3	2-Acetylaminofluorene	53-96-3	0.33	1.0	U	
4	4-Aminobiphenyl	92-67-1	0.33	1.0	U	
5	Aniline	62-53-3	0.33	1.0	U	
6	Anthracene	120-12-7	0.33	1.0	U	
7	Aramite	140-57-8	0.33	1.0	U	
8	Benzidine	92-87-5	2.6	1.0	U	
9	Benzo(a)anthracene	56-55-3	0.33	1.0	U	
10	Benzo(a)pyrene	50-32-8	0.33	1.0	U	
11	Benzo(b)fluoranthene	205-99-2	0.33	1.0	U	
12	Benzo(g,h,i)perylene	191-24-2	0.33	1.0	U	
13	Benzo(k)fluoranthene	207-08-9	0.33	1.0	U	
14	Benzoic acid	65-85-0	1.6	1.0	U	
15	Benzyl alcohol	100-51-6	0.33	1.0	U	
16	4-Bromophenyl phenyl ether	101-55-3	0.33	1.0	U	
17	Butyl benzyl phthalate	85-68-7	0.33	1.0	U	
18	4-Chloro-3-methylphenol	59-50-7	0.33	1.0	U	
19	4-Chloroaniline	106-47-8	0.33	1.0	U	
20	Chlorobenzilate	510-15-6	0.33	1.0	U	
21	bis(2-Chloroethoxy)methane	111-91-1	0.33	1.0	U	
22	bis(2-Chloroethyl) ether	111-44-4	0.33	1.0	U	
23	bis(2-Chloroisopropyl) ether	108-60-1	0.33	1.0	U	
24	2-Chloronaphthalene	91-58-7	0.33	1.0	U	

**Surrogate Recovery Data**

Compound	%Rec	QC Window
2-Fluorobiphenyl	86	30-115
2-Fluorophenol	62	25-121
Nitrobenzene-d5	73	23-120
Phenol-d5	80	24-113
Terphenyl-d14	93	18-137
2,4,6-Tribromophenol	85	19-122

**Recovery:** 0 out of 6 outside QC Windows

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SB-11**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/16/99	ENCOTEC QC Set ID:	BNAE2104S
Analysis Date:	06/19/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133337
Method Reference:	8270C	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

SEMIVOLATILE ORGANICS Appendix IX List		CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
25	2-Chlorophenol	95-57-8	0.33	1.0	U	
26	4-Chlorophenyl phenyl ether	7005-72-3	0.33	1.0	U	
27	Chrysene	218-01-9	0.33	1.0	U	
28	Di-n-butyl phthalate	84-74-2	0.33	1.0	U	
29	Di-n-octyl phthalate	117-84-0	0.33	1.0	U	
30	Diallate	2303-16-4	0.33	1.0	U	
31	Dibenz(a,h)anthracene	53-70-3	0.33	1.0	U	
32	Dibenzofuran	132-64-9	0.33	1.0	U	
33	1,4-Dichlorobenzene	106-46-7	0.33	1.0	U	
34	1,3-Dichlorobenzene	541-73-1	0.33	1.0	U	
35	1,2-Dichlorobenzene	95-50-1	0.33	1.0	U	
36	3,3'-Dichlorobenzidine	91-94-1	0.67	1.0	U	
37	2,6-Dichlorophenol	87-65-0	0.33	1.0	U	
38	2,4-Dichlorophenol	120-83-2	0.33	1.0	U	
39	Diethyl phthalate	84-66-2	0.33	1.0	U	
40	Dimethoate	60-51-5	0.33	1.0	U	
41	Dimethyl phthalate	131-11-3	0.33	1.0	U	
42	p-Dimethylaminoazobenzene	60-11-7	0.33	1.0	U	
43	7,12-Dimethylbenz(a)anthracene	57-97-6	0.33	1.0	U	
44	3,3'-Dimethylbenzidine	119-93-7	1.3	1.0	U	
45	alpha, alpha-Dimethylphenethylamine	122-09-8	3.3	1.0	U	
46	2,4-Dimethylphenol	105-67-9	0.33	1.0	U	
47	4,6-Dinitro-2-methylphenol	534-52-1	1.6	1.0	U	
48	1,3-Dinitrobenzene	99-65-0	0.33	1.0	U	
49	2,4-Dinitrophenol	51-28-5	1.6	1.0	U	
50	2,4-Dinitrotoluene	121-14-2	0.33	1.0	U	
51	2,6-Dinitrotoluene	606-20-2	0.33	1.0	U	
52	Dinoseb	88-85-7	0.67	1.0	U	
53	Diphenylamine	122-39-4	0.33	1.0	U	
54	Ethyl methanesulfonate	62-50-0	0.33	1.0	U	
55	bis(2-Ethylhexyl) phthalate	117-81-7	0.33	1.0	2.1	
56	Famphur	52-85-7	0.33	1.0	U	
57	Fluoranthene	206-44-0	0.33	1.0	U	
58	Fluorene	86-73-7	0.33	1.0	U	
59	Hexachlorobenzene	118-74-1	0.33	1.0	U	

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SB-11**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/16/99	ENCOTEC QC Set ID:	BNAE2104S
Analysis Date:	06/19/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133337
Method Reference:	8270C	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

	<b>SEMOVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/Kg)</b>	<b>Dil</b>	<b>Conc (mg/Kg)</b>	<b>Flag</b>
60	Hexachlorobutadiene	87-68-3	0.33	1.0	U	
61	Hexachlorocyclopentadiene	77-47-4	0.33	1.0	U	
62	Hexachlorodibenzo-p-dioxins	tmp82	0.33	1.0	U	
63	Hexachlorodibenzofurans	tmp83	0.33	1.0	U	
64	Hexachloroethane	67-72-1	0.33	1.0	U	
65	Hexachlorophene	70-30-4	2.7	1.0	U	
66	Hexachloropropene	1888-71-7	2.7	1.0	U	
67	Indeno(1,2,3-c,d)pyrene	193-39-5	0.33	1.0	U	
68	Isophorone	78-59-1	0.33	1.0	U	
69	Isosafrole	120-58-1	0.33	1.0	U	
70	Methapyrilene	91-80-5	0.33	1.0	U	
71	Methyl methanesulfonate	66-27-3	1.3	1.0	U	
72	3-Methylcholanthrene	56-49-5	2.7	1.0	U	
73	2-Methylnaphthalene	91-57-6	0.33	1.0	U	
74	4-Methylphenol	106-44-5	0.33	1.0	U	
75	3-Methylphenol	108-39-4	0.33	1.0	U	
76	2-Methylphenol	95-48-7	0.33	1.0	U	
77	N-Nitroso-di-n-butylamine	924-16-3	0.33	1.0	U	
78	N-Nitroso-di-n-propylamine	621-64-7	0.33	1.0	U	
79	N-Nitrosodiethylamine	55-18-5	0.33	1.0	U	
80	N-Nitrosodimethylamine	62-75-9	0.33	1.0	U	
81	N-Nitrosodiphenylamine	86-30-6	0.33	1.0	U	
82	N-Nitrosomethylalkylamine	10595-95-6	0.33	1.0	U	
83	N-Nitrosomorpholine	59-89-2	0.33	1.0	U	
84	N-Nitrosopiperidine	100-75-4	0.33	1.0	U	
85	N-Nitrosopyrrolidine	930-55-2	0.33	1.0	U	
86	Naphthalene	91-20-3	0.33	1.0	U	
87	1,4-Naphthoquinone	130-15-4	0.33	1.0	U	
88	1-Naphthylamine	134-32-7	0.33	1.0	U	
89	2-Naphthylamine	91-59-8	0.33	1.0	U	
90	5-Nitro-o-toluidine	99-55-8	0.33	1.0	U	
91	4-Nitroaniline	100-01-6	1.6	1.0	U	
92	3-Nitroaniline	99-09-2	1.6	1.0	U	
93	2-Nitroaniline	88-74-4	1.6	1.0	U	
94	Nitrobenzene	98-95-3	0.33	1.0	U	

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SB-11**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/16/99	ENCOTEC QC Set ID:	BNAE2104S
Analysis Date:	06/19/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133337
Method Reference:	8270C	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

SEMIVOLATILE ORGANICS Appendix IX List		CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
95	4-Nitrophenol	100-02-7	1.6	1.0	U	
96	2-Nitrophenol	88-75-5	0.33	1.0	U	
97	4-Nitroquinoline-1-oxide	56-57-5	0.33	1.0	U	
98	Pentachlorobenzene	608-93-5	0.33	1.0	U	
99	Pentachlorodibenzo-p-dioxins	tmp106	0.33	1.0	U	
100	Pentachlorodibenzofurans	tmp108	0.33	1.0	U	
101	Pentachloroethane	76-01-7	0.33	1.0	U	
102	Pentachloronitrobenzene	82-68-8	0.33	1.0	U	
103	Pentachlorophenol	87-86-5	1.6	1.0	U	
104	Phenacetin	62-44-2	0.33	1.0	U	
105	Phenanthrene	85-01-8	0.33	1.0	U	
106	Phenol	108-95-2	0.33	1.0	U	
107	p-Phenylenediamine	106-50-3	0.33	1.0	U	
108	2-Picoline	109-06-8	2.7	1.0	U	
109	Pronamide	23950-58-5	2.7	1.0	U	
110	Pyrene	129-00-0	0.33	1.0	U	
111	Pyridine	110-86-1	4.3	1.0	U	
112	Safrole	94-59-7	0.33	1.0	U	
113	Sulfotep	3689-24-5	0.33	1.0	U	
114	1,2,4,5-Tetrachlorobenzene	95-94-3	0.33	1.0	U	
115	Tetrachlorodibenzo-p-dioxins	-----	0.33	1.0	U	
116	Tetrachlorodibenzofurans	-----	0.33	1.0	U	
117	2,3,4,6-Tetrachlorophenol	58-90-2	0.33	1.0	U	
118	o-Tolidine	95-53-4	0.33	1.0	U	
119	1,2,4-Trichlorobenzene	120-82-1	0.33	1.0	U	
120	2,4,6-Trichlorophenol	88-06-2	0.33	1.0	U	
121	2,4,5-Trichlorophenol	95-95-4	0.33	1.0	U	
122	o,o,o-Triethylphosphorothioate	126-68-1	0.33	1.0	U	
123	1,3,5-Trinitrobenzene	99-35-4	0.33	1.0	U	

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SB-13**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VORF1101M
Analysis Date:	06/29/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	06/30/99	ENCOTEC Sample ID:	200133331
Method Reference:	8260B	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/Kg)	DII	Conc (ug/Kg)	Flag
1	Acetone	67-64-1	5000	500	53000	
2	Acetonitrile	75-05-8	50	1.0	U	
3	Benzene	71-43-2	10	1.0	U	
4	Bromodichloromethane	75-27-4	10	1.0	U	
5	Bromoform	75-25-2	10	1.0	U	
6	Bromomethane	74-83-9	10	1.0	U	
7	2-Butanone (MEK)	78-93-3	10	1.0	U	
8	Carbon disulfide	75-15-0	10	1.0	U	
9	Carbon tetrachloride	56-23-5	10	1.0	U	
10	Chlorobenzene	108-90-7	10	1.0	U	
11	Chloroethane	75-00-3	10	1.0	U	
12	Chloroform	67-66-3	10	1.0	U	
13	Chloromethane	74-87-3	10	1.0	U	
14	Dibromochloromethane	124-48-1	10	1.0	U	
15	1,3-Dichlorobenzene	541-73-1	10	1.0	U	
16	1,4-Dichlorobenzene	106-46-7	10	1.0	U	
17	1,2-Dichlorobenzene	95-50-1	10	1.0	U	
18	1,2-Dichloroethane	107-06-2	10	1.0	U	
19	1,1-Dichloroethane	75-34-3	10	1.0	U	
20	trans-1,2-Dichloroethene	156-60-5	10	1.0	U	
21	cis-1,2-Dichloroethene	156-59-2	10	1.0	U	
22	1,1-Dichloroethene	75-35-4	10	1.0	U	
23	1,2-Dichloropropane	78-87-5	10	1.0	U	
24	trans-1,3-Dichloropropene	10061-02-6	10	1.0	U	
25	cis-1,3-Dichloropropene	10061-01-5	10	1.0	U	
26	Ethylbenzene	100-41-4	10	1.0	U	
27	Ethylene dibromide	106-93-4	10	1.0	U	
28	Ethylene oxide	75-21-8	50	1.0	U	
29	2-Hexanone	591-78-6	10	1.0	U	
30	Methyl(tert)butyl ether	1634-04-4	10	1.0	U	
31	4-Methyl-2-pentanone (MIBK)	108-10-1	10	1.0	U	
32	Methylene chloride	75-09-2	2500	500	U	
33	Styrene	100-42-5	10	1.0	U	
34	1,1,2-Tetrachloroethane	79-34-5	10	1.0	U	
35	Tetrachloroethene	127-18-4	10	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
Project/Site: ALAMEDA  
Sample ID: SB-13

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VORF1101M
Analysis Date:	06/29/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	06/30/99	ENCOTEC Sample ID:	200133331
Method Reference:	8260B	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
36	Toluene	108-88-3	10	1.0	U	
37	1,1,2-Trichloroethane	79-00-5	10	1.0	U	
38	1,1,1-Trichloroethane	71-55-6	10	1.0	U	
39	Trichloroethene	79-01-6	10	1.0	U	
40	Vinyl chloride	75-01-4	10	1.0	U	
41	total Xylenes	1330-20-7	10	1.0	U	

Safety-Kleen (ENCOTEC), Inc.

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# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SB-13**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/29/99	ENCOTEC QC Set ID:	BNAF2908S
Analysis Date:	06/30/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133331
Method Reference:	8270C	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

**SEMIVOLATILE ORGANICS**  
**Appendix IX List**

		CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
1	Acenaphthylene	208-96-8	0.33	1.0	U	
2	Acetophenone	98-86-2	0.33	1.0	U	
3	2-Acetylaminofluorene	53-96-3	0.33	1.0	U	
4	4-Aminobiphenyl	92-67-1	0.33	1.0	U	
5	Aniline	62-53-3	0.33	1.0	U	
6	Anthracene	120-12-7	0.33	1.0	U	
7	Aramite	140-57-8	0.33	1.0	U	
8	Benzidine	92-87-5	2.6	1.0	U	
9	Benzo(a)anthracene	56-55-3	0.33	1.0	U	
10	Benzo(a)pyrene	50-32-8	0.33	1.0	U	
11	Benzo(b)fluoranthene	205-99-2	0.33	1.0	U	
12	Benzo(g,h,i)perylene	191-24-2	0.33	1.0	U	
13	Benzo(k)fluoranthene	207-08-9	0.33	1.0	U	
14	Benzoic acid	65-85-0	1.6	1.0	U	
15	Benzyl alcohol	100-51-6	0.33	1.0	U	
16	4-Bromophenyl phenyl ether	101-55-3	0.33	1.0	U	
17	Butyl benzyl phthalate	85-68-7	0.33	1.0	U	
18	4-Chloro-3-methylphenol	59-50-7	0.33	1.0	U	
19	4-Chloroaniline	106-47-8	0.33	1.0	U	
20	Chlorobenzilate	510-15-6	0.33	1.0	U	
21	bis(2-Chloroethoxy)methane	111-91-1	0.33	1.0	U	
22	bis(2-Chloroethyl) ether	111-44-4	0.33	1.0	U	
23	bis(2-Chloroisopropyl) ether	108-60-1	0.33	1.0	U	
24	2-Chloronaphthalene	91-58-7	0.33	1.0	U	

**Surrogate Recovery Data**

Compound	%Rec	QC Window
2-Fluorobiphenyl	71	30-115
2-Fluorophenol	61	25-121
Nitrobenzene-d5	69	23-120
Phenol-d5	67	24-113
Terphenyl-d14	57	18-137
2,4,6-Tribromophenol	78	19-122

**Recovery:** 0 out of 6 outside QC Windows

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SB-13**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99FL
Date Extracted:	06/29/99	ENCOTEC QC Set ID:	BNAF2908S
Analysis Date:	06/30/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133331
Method Reference:	8270C	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

	SEMIVOLATILE ORGANICS Appendix IX List	CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
25	2-Chlorophenol	95-57-8	0.33	1.0	U	
26	4-Chlorophenyl phenyl ether	7005-72-3	0.33	1.0	U	
27	Chrysene	218-01-9	0.33	1.0	U	
28	Di-n-butyl phthalate	84-74-2	0.33	1.0	U	
29	Di-n-octyl phthalate	117-84-0	0.33	1.0	U	
30	Diallate	2303-16-4	0.33	1.0	U	
31	Dibenz(a,h)anthracene	53-70-3	0.33	1.0	U	
32	Dibenzofuran	132-64-9	0.33	1.0	U	
33	1,4-Dichlorobenzene	106-46-7	0.33	1.0	U	
34	1,3-Dichlorobenzene	541-73-1	0.33	1.0	U	
35	1,2-Dichlorobenzene	95-50-1	0.33	1.0	U	
36	3,3'-Dichlorobenzidine	91-94-1	0.67	1.0	U	
37	2,6-Dichlorophenol	87-65-0	0.33	1.0	U	
38	2,4-Dichlorophenol	120-83-2	0.33	1.0	U	
39	Diethyl phthalate	84-66-2	0.33	1.0	U	
40	Dimethoate	60-51-5	0.33	1.0	U	
41	Dimethyl phthalate	131-11-3	0.33	1.0	U	
42	p-Dimethylaminoazobenzene	60-11-7	0.33	1.0	U	
43	7,12-Dimethylbenz(a)anthracene	57-97-6	0.33	1.0	U	
44	3,3'-Dimethylbenzidine	119-93-7	1.3	1.0	U	
45	alpha, alpha-Dimethylphenethylamine	122-09-8	3.3	1.0	U	
46	2,4-Dimethylphenol	105-67-9	0.33	1.0	U	
47	4,6-Dinitro-2-methylphenol	534-52-1	1.6	1.0	U	
48	1,3-Dinitrobenzene	99-65-0	0.33	1.0	U	
49	2,4-Dinitrophenol	51-28-5	1.6	1.0	U	
50	2,4-Dinitrotoluene	121-14-2	0.33	1.0	U	
51	2,6-Dinitrotoluene	606-20-2	0.33	1.0	U	
52	Dinoseb	88-85-7	0.67	1.0	U	
53	Diphenylamine	122-39-4	0.33	1.0	U	
54	Ethyl methanesulfonate	62-50-0	0.33	1.0	U	
55	bis(2-Ethylhexyl) phthalate	117-81-7	0.33	1.0	U	
56	Famphur	52-85-7	0.33	1.0	U	
57	Fluoranthene	206-44-0	0.33	1.0	U	
58	Fluorene	86-73-7	0.33	1.0	U	
59	Hexachlorobenzene	118-74-1	0.33	1.0	U	

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SB-13**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/29/99	ENCOTEC QC Set ID:	BNAF2908S
Analysis Date:	06/30/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133331
Method Reference:	8270C	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

SEMIVOLATILE ORGANICS Appendix IX List		CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
60	Hexachlorobutadiene	87-68-3	0.33	1.0		U
61	Hexachlorocyclopentadiene	77-47-4	0.33	1.0		U
62	Hexachlorodibenzo-p-dioxins	tmp82	0.33	1.0		U
63	Hexachlorodibenzofurans	tmp83	0.33	1.0		U
64	Hexachloroethane	67-72-1	0.33	1.0		U
65	Hexachlorophene	70-30-4	2.7	1.0		U
66	Hexachloropropene	1888-71-7	2.7	1.0		U
67	Indeno(1,2,3-c,d)pyrene	193-39-5	0.33	1.0		U
68	Isophorone	78-59-1	0.33	1.0		U
69	Isosafrole	120-58-1	0.33	1.0		U
70	Methapyrilene	91-80-5	0.33	1.0		U
71	Methyl methanesulfonate	66-27-3	1.3	1.0		U
72	3-Methylcholanthrene	56-49-5	2.7	1.0		U
73	2-Methylnaphthalene	91-57-6	0.33	1.0		U
74	4-Methylphenol	106-44-5	0.33	1.0		U
75	3-Methylphenol	108-39-4	0.33	1.0		U
76	2-Methylphenol	95-48-7	0.33	1.0		U
77	N-Nitroso-di-n-butylamine	924-16-3	0.33	1.0		U
78	N-Nitroso-di-n-propylamine	621-64-7	0.33	1.0		U
79	N-Nitrosodiethylamine	55-18-5	0.33	1.0		U
80	N-Nitrosodimethylamine	62-75-9	0.33	1.0		U
81	N-Nitrosodiphenylamine	86-30-6	0.33	1.0		U
82	N-Nitrosomethylethylamine	10595-95-6	0.33	1.0		U
83	N-Nitrosomorpholine	59-89-2	0.33	1.0		U
84	N-Nitrosopiperidine	100-75-4	0.33	1.0		U
85	N-Nitrosopyrrolidine	930-55-2	0.33	1.0		U
86	Naphthalene	91-20-3	0.33	1.0		U
87	1,4-Naphthoquinone	130-15-4	0.33	1.0		U
88	1-Naphthylamine	134-32-7	0.33	1.0		U
89	2-Naphthylamine	91-59-8	0.33	1.0		U
90	5-Nitro-o-toluidine	99-55-8	0.33	1.0		U
91	4-Nitroaniline	100-01-6	1.6	1.0		U
92	3-Nitroaniline	99-09-2	1.6	1.0		U
93	2-Nitroaniline	88-74-4	1.6	1.0		U
94	Nitrobenzene	98-95-3	0.33	1.0		U

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SB-13**

Date Sampled:	06/08/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/29/99	ENCOTEC QC Set ID:	BNAF2908S
Analysis Date:	06/30/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133331
Method Reference:	8270C	Percent Total Solids:	N/A
Matrix:	SOIL	Calculation Basis:	Wet Weight

SEMIVOLATILE ORGANICS Appendix IX List		CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
95	4-Nitrophenol	100-02-7	1.6	1.0	U	
96	2-Nitrophenol	88-75-5	0.33	1.0	U	
97	4-Nitroquinoline-1-oxide	56-57-5	0.33	1.0	U	
98	Pentachlorobenzene	608-93-5	0.33	1.0	U	
99	Pentachlorodibenzo-p-dioxins	tmp106	0.33	1.0	U	
100	Pentachlorodibenzofurans	tmp108	0.33	1.0	U	
101	Pentachloroethane	76-01-7	0.33	1.0	U	
102	Pentachloronitrobenzene	82-68-8	0.33	1.0	U	
103	Pentachlorophenol	87-86-5	1.6	1.0	U	
104	Phenacetin	62-44-2	0.33	1.0	U	
105	Phenanthrene	85-01-8	0.33	1.0	U	
106	Phenol	108-95-2	0.33	1.0	U	
107	p-Phenylenediamine	106-50-3	0.33	1.0	U	
108	2-Picoline	109-06-8	2.7	1.0	U	
109	Pronamide	23950-58-5	2.7	1.0	U	
110	Pyrene	129-00-0	0.33	1.0	U	
111	Pyridine	110-86-1	4.3	1.0	U	
112	Safrole	94-59-7	0.33	1.0	U	
113	Sulfotep	3689-24-5	0.33	1.0	U	
114	1,2,4,5-Tetrachlorobenzene	95-94-3	0.33	1.0	U	
115	Tetrachlorodibenzo-p-dioxins	-----	0.33	1.0	U	
116	Tetrachlorodibenzofurans	-----	0.33	1.0	U	
117	2,3,4,6-Tetrachlorophenol	58-90-2	0.33	1.0	U	
118	o-Toluidine	95-53-4	0.33	1.0	U	
119	1,2,4-Trichlorobenzene	120-82-1	0.33	1.0	U	
120	2,4,6-Trichlorophenol	88-06-2	0.33	1.0	U	
121	2,4,5-Trichlorophenol	95-95-4	0.33	1.0	U	
122	o,o,o-Triethylphosphorothioate	126-68-1	0.33	1.0	U	
123	1,3,5-Trinitrobenzene	99-35-4	0.33	1.0	U	

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SB-14**

Date Sampled:	06/09/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPF2901W
Analysis Date:	06/29/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133753
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS Target Compound List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Acetone	67-64-1	10	1.0		U
2	Benzene	71-43-2	10	1.0		U
3	Bromodichloromethane	75-27-4	10	1.0		U
4	Bromoform	75-25-2	10	1.0		U
5	Bromomethane	74-83-9	10	1.0		U
6	2-Butanone (MEK)	78-93-3	10	1.0		U
7	Carbon disulfide	75-15-0	10	1.0		U
8	Carbon tetrachloride	56-23-5	10	1.0		U
9	Chlorobenzene	108-90-7	10	1.0		U
10	Chloroethane	75-00-3	10	1.0		U
11	Chloroform	67-66-3	10	1.0		U
12	Chloromethane	74-87-3	10	1.0		U
13	Dibromochloromethane	124-48-1	10	1.0		U
14	1,2-Dichloroethane	107-06-2	10	1.0		U
15	1,1-Dichloroethane	75-34-3	10	1.0		U
16	total 1,2-Dichloroethene	540-59-0	10	1.0		U
17	1,1-Dichloroethene	75-35-4	10	1.0		U
18	1,2-Dichloropropane	78-87-5	10	1.0		U
19	trans-1,3-Dichloropropene	10061-02-6	10	1.0		U
20	cis-1,3-Dichloropropene	10061-01-5	10	1.0		U
21	Ethylbenzene	100-41-4	10	1.0		U
22	2-Hexanone	591-78-6	10	1.0		U
23	4-Methyl-2-pentanone (MIBK)	108-10-1	10	1.0		U
24	Methylene chloride	75-09-2	10	1.0		U
25	Styrene	100-42-5	10	1.0		U
26	1,1,2,2-Tetrachloroethane	79-34-5	10	1.0		U

#### Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	109	86-115
Dibromofluoromethane	104	86-118
1,2-Dichloroethane-d4	114	80-120
Toluene-d8	95	88-110

Recovery: 0 out of 4 outside QC Windows

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
Project/Site: ALAMEDA  
Sample ID: SB-14

Date Sampled:	06/09/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPF2901W
Analysis Date:	06/29/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133753
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

	VOLATILE ORGANICS Target Compound List	CAS #	Quant Limit (ug/L)	DII	Conc (ug/L)	Flag
27	Tetrachloroethene	127-18-4	10	1.0	U	
28	Toluene	108-88-3	10	1.0	U	
29	1,1,2-Trichloroethane	79-00-5	10	1.0	U	
30	1,1,1-Trichloroethane	71-55-6	10	1.0	U	
31	Trichloroethene	79-01-6	10	1.0	U	
32	Vinyl chloride	75-01-4	10	1.0	U	
33	total Xylenes	1330-20-7	10	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
Project/Site: ALAMEDA  
Sample ID: SB-14

Date Sampled:	06/09/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	N/A	ENCOTEC QC Set ID:	VOPF2901W
Analysis Date:	06/29/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133753
Method Reference:	8260A	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

VOLATILE ORGANICS BTEX List List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0		U
2	Ethylbenzene	100-41-4	1.0	1.0		U
3	Methyl(tert)butyl ether	1634-04-4	50	1.0		U
4	Toluene	108-88-3	1.0	1.0		U
5	total Xylenes	1330-20-7	3.0	1.0		U

## Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	109	86-115
Dibromofluoromethane	104	86-118
1,2-Dichloroethane-d4	114	80-120
Toluene-d8	95	88-110

Recovery: 0 out of 4 outside QC Windows

# ANALYTICAL REPORT

**CLIENT: EDG-ALAMEDA**  
**Project/Site: ALAMEDA**  
**Sample ID: SB-14**

Date Sampled:	06/09/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/28/99	ENCOTEC QC Set ID:	BNAF1705W
Analysis Date:	06/29/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133753
Method Reference:	8270	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

SEMIVOLATILE ORGANICS Appendix IX List		CAS #	Quant Limit (mg/L)	Dil	Conc (mg/L)	Flag
1	Acenaphthene	83-32-9	0.010	1.0	U	
2	Acenaphthylene	208-96-8	0.010	1.0	U	
3	Acetophenone	98-86-2	0.010	1.0	U	
4	2-Acetylaminofluorene	53-96-3	0.010	1.0	U	
5	4-Aminobiphenyl	92-67-1	0.010	1.0	U	
6	Aniline	62-53-3	0.010	1.0	U	
7	Anthracene	120-12-7	0.010	1.0	U	
8	Aramite	140-57-8	0.010	1.0	U	
9	Benzidine	92-87-5	0.080	1.0	U	
10	Benzo(a)anthracene	56-55-3	0.010	1.0	U	
11	Benzo(a)pyrene	50-32-8	0.010	1.0	U	
12	Benzo(b)fluoranthene	205-99-2	0.010	1.0	U	
13	Benzo(g,h,i)perylene	191-24-2	0.010	1.0	U	
14	Benzo(k)fluoranthene	207-08-9	0.010	1.0	U	
15	Benzoic acid	65-85-0	0.050	1.0	U	
16	Benzyl alcohol	100-51-6	0.010	1.0	U	
17	4-Bromophenyl phenyl ether	101-55-3	0.010	1.0	U	
18	Butyl benzyl phthalate	85-68-7	0.010	1.0	U	
19	4-Chloro-3-methylphenol	59-50-7	0.010	1.0	U	
20	4-Chloroaniline	106-47-8	0.010	1.0	U	
21	Chlorobenzilate	510-15-6	0.010	1.0	U	
22	bis(2-Chloroethoxy)methane	111-91-1	0.010	1.0	U	
23	bis(2-Chloroethyl) ether	111-44-4	0.010	1.0	U	
24	bis(2-Chloroisopropyl) ether	108-60-1	0.010	1.0	U	
25	2-Chloronaphthalene	91-58-7	0.010	1.0	U	
26	2-Chlorophenol	95-57-8	0.010	1.0	U	
27	4-Chlorophenyl phenyl ether	7005-72-3	0.010	1.0	U	
28	Chrysene	218-01-9	0.010	1.0	U	
29	Di-n-butyl phthalate	84-74-2	0.010	1.0	U	
30	Di-n-octyl phthalate	117-84-0	0.010	1.0	U	
31	Diallate	2303-16-4	0.010	1.0	U	
32	Dibenz(a,h)anthracene	53-70-3	0.010	1.0	U	
33	Dibenzofuran	132-64-9	0.010	1.0	U	
34	1,4-Dichlorobenzene	106-46-7	0.010	1.0	U	
35	1,3-Dichlorobenzene	541-73-1	0.010	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
 Project/Site: ALAMEDA  
 Sample ID: SB-14

Date Sampled:	06/09/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/28/99	ENCOTEC QC Set ID:	BNAF1705W
Analysis Date:	06/29/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133753
Method Reference:	8270	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

	SEMIVOLATILE ORGANICS Appendix IX List	CAS #	Quant Limit (mg/L)	Dil	Conc (mg/L)	Flag
36	1,2-Dichlorobenzene	95-50-1	0.010	1.0	U	
37	3,3'-Dichlorobenzidine	91-94-1	0.020	1.0	U	
38	2,4-Dichlorophenol	120-83-2	0.010	1.0	U	
39	2,6-Dichlorophenol	87-65-0	0.010	1.0	U	
40	Diethyl phthalate	84-66-2	0.010	1.0	U	
41	Dimethoate	60-51-5	0.010	1.0	U	
42	Dimethyl phthalate	131-11-3	0.010	1.0	U	
43	p-Dimethylaminoazobenzene	60-11-7	0.010	1.0	U	
44	7,12-Dimethylbenz(a)anthracene	57-97-6	0.010	1.0	U	
45	3,3'-Dimethylbenzidine	119-93-7	0.040	1.0	U	
46	alpha, alpha-Dimethylphenethylamine	122-09-8	0.10	1.0	U	
47	2,4-Dimethylphenol	105-67-9	0.010	1.0	U	
48	4,6-Dinitro-2-methylphenol	534-52-1	0.050	1.0	U	
49	1,3-Dinitrobenzene	99-65-0	0.010	1.0	U	
50	2,4-Dinitrophenol	51-28-5	0.050	1.0	U	
51	2,6-Dinitrotoluene	606-20-2	0.010	1.0	U	
52	2,4-Dinitrotoluene	121-14-2	0.010	1.0	U	
53	Dinoseb	88-85-7	0.020	1.0	U	
54	Diphenylamine	122-39-4	0.010	1.0	U	
55	Ethyl methanesulfonate	62-50-0	0.010	1.0	U	
56	bis(2-Ethylhexyl) phthalate	117-81-7	0.010	1.0	U	
57	Famphur	52-85-7	0.20	1.0	U	
58	Fluoranthene	206-44-0	0.010	1.0	U	
59	Fluorene	86-73-7	0.010	1.0	U	
60	Hexachlorobenzene	118-74-1	0.010	1.0	U	
61	Hexachlorobutadiene	87-68-3	0.010	1.0	U	
62	Hexachlorocyclopentadiene	77-47-4	0.010	1.0	U	
63	Hexachlorodibenzo-p-dioxins	tmp82	0.010	1.0	U	
64	Hexachlorodibenzofurans	tmp83	0.010	1.0	U	
65	Hexachloroethane	67-72-1	0.010	1.0	U	
66	Hexachlorophene	70-30-4	0.080	1.0	U	
67	Hexachloropropene	1888-71-7	0.080	1.0	U	
68	Indeno(1,2,3-c,d)pyrene	193-39-5	0.010	1.0	U	
69	Isophorone	78-59-1	0.010	1.0	U	
70	Isosafrole	120-58-1	0.010	1.0	U	

Safety-Kleen (ENCOTEC), Inc.

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# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
 Project/Site: ALAMEDA  
 Sample ID: SB-14

Date Sampled:	06/09/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/28/99	ENCOTEC QC Set ID:	BNAF1705W
Analysis Date:	06/29/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133753
Method Reference:	8270	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

	SEMIVOLATILE ORGANICS Appendix IX List	CAS #	Quant Limit (mg/L)	Dil	Conc (mg/L)	Flag
71	Methapyrilene	91-80-5	0.010	1.0	U	
72	Methyl methanesulfonate	66-27-3	0.040	1.0	U	
73	3-Methylcholanthrene	56-49-5	0.080	1.0	U	
74	2-Methylnaphthalene	91-57-6	0.010	1.0	U	
75	4-Methylphenol	106-44-5	0.010	1.0	U	
76	3-Methylphenol	108-39-4	0.010	1.0	U	
77	2-Methylphenol	95-48-7	0.010	1.0	U	
78	N-Nitroso-di-n-butylamine	924-16-3	0.010	1.0	U	
79	N-Nitroso-di-n-propylamine	621-64-7	0.010	1.0	U	
80	N-Nitrosodiethylamine	55-18-5	0.010	1.0	U	
81	N-Nitrosodimethylamine	62-75-9	0.010	1.0	U	
82	N-Nitrosodiphenylamine	86-30-6	0.010	1.0	U	
83	N-Nitrosomethylalkylamine	10595-95-6	0.010	1.0	U	
84	N-Nitrosomorpholine	59-89-2	0.010	1.0	U	
85	N-Nitrosopiperidine	100-75-4	0.010	1.0	U	
86	N-Nitrosopyrrolidine	930-55-2	0.010	1.0	U	
87	Naphthalene	91-20-3	0.010	1.0	U	
88	1,4-Naphthoquinone	130-15-4	0.010	1.0	U	
89	2-Naphthylamine	91-59-8	0.010	1.0	U	
90	1-Naphthylamine	134-32-7	0.010	1.0	U	
91	5-Nitro-o-toluidine	99-55-8	0.010	1.0	U	
92	3-Nitroaniline	99-09-2	0.050	1.0	U	
93	2-Nitroaniline	88-74-4	0.050	1.0	U	
94	4-Nitroaniline	100-01-6	0.050	1.0	U	
95	Nitrobenzene	98-95-3	0.010	1.0	U	
96	4-Nitrophenol	100-02-7	0.050	1.0	U	
97	2-Nitrophenol	88-75-5	0.010	1.0	U	
98	4-Nitroquinoline-1-oxide	56-57-5	0.010	1.0	U	
99	Pentachlorobenzene	608-93-5	0.010	1.0	U	
100	Pentachlorodibenzo-p-dioxins	tmp106	0.010	1.0	U	
101	Pentachlorodibenzofurans	tmp108	0.010	1.0	U	
102	Pentachloroethane	76-01-7	0.010	1.0	U	
103	Pentachloronitrobenzene	82-68-8	0.010	1.0	U	
104	Pentachlorophenol	87-86-5	0.050	1.0	U	
105	Phenacetin	62-44-2	0.010	1.0	U	

# ANALYTICAL REPORT

CLIENT: EDG-ALAMEDA  
 Project/Site: ALAMEDA  
 Sample ID: SB-14

Date Sampled:	06/09/99	ENCOTEC Project ID:	90111
Date Received:	06/10/99	ENCOTEC SDG ID:	EDG-AL-99F1
Date Extracted:	06/28/99	ENCOTEC QC Set ID:	BNAF1705W
Analysis Date:	06/29/99	ENCOTEC Submission ID:	100017540
Second Analysis Date:	N/A	ENCOTEC Sample ID:	200133753
Method Reference:	8270	Percent Total Solids:	N/A
Matrix:	WATER	Calculation Basis:	N/A

	SEMIVOLATILE ORGANICS Appendix IX List	CAS #	Quant Limit (mg/L)	Dil	Conc (mg/L)	Flag
106	Phenanthrene	85-01-8	0.010	1.0	U	
107	Phenol	108-95-2	0.010	1.0	U	
108	p-Phenylenediamine	106-50-3	0.010	1.0	U	
109	2-Picoline	109-06-8	0.080	1.0	U	
110	Pronamide	23950-58-5	0.080	1.0	U	
111	Pyrene	129-00-0	0.010	1.0	U	
112	Pyridine	110-86-1	0.13	1.0	U	
113	Safrole	94-59-7	0.010	1.0	U	
114	Sulfotep	3689-24-5	0.010	1.0	U	
115	1,2,4,5-Tetrachlorobenzene	95-94-3	0.010	1.0	U	
116	Tetrachlorodibenzo-p-dioxins	-----	0.010	1.0	U	
117	Tetrachlorodibenzofurans	-----	0.010	1.0	U	
118	2,3,4,6-Tetrachlorophenol	58-90-2	0.010	1.0	U	
119	o-Toluidine	95-53-4	0.010	1.0	U	
120	1,2,4-Trichlorobenzene	120-82-1	0.010	1.0	U	
121	2,4,6-Trichlorophenol	88-06-2	0.010	1.0	U	
122	2,4,5-Trichlorophenol	95-95-4	0.010	1.0	U	
123	o,o,o-Triethylphosphorothioate	126-68-1	0.010	1.0	U	
124	1,3,5-Trinitrobenzene	99-35-4	0.010	1.0	U	

QUALITY ASSURANCE/QUALITY CONTROL SUMMARY  
RESULTS

-AND-

CHAIN-OF-CUSTODY RECORD

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

<b>Extraction Date</b>	N/A	<b>ENCOTEC Project ID:</b>	90111
<b>Analysis Date:</b>	See Below	<b>ENCOTEC SDG ID:</b>	EDG-AL-99F1
<b>Second Analysis Date:</b>	N/A	<b>ENCOTEC QC Set ID:</b>	See Below
<b>Method Reference:</b>	See Below	<b>ENCOTEC Submission ID:</b>	100017540

	Analyte	QC Set ID	Date Analyzed	Method Ref.	Units	Quant Limit	Dil	Conc	Flag
1	Cadmium	ICPF1602	06/16/1999	6010	mg/L	0.0050	1	U	
2	Chromium	ICPF1602	06/16/1999	6010	mg/L	0.020	1	U	
3	Lead	ICPF1602	06/16/1999	6010	mg/L	0.040	1	U	
4	Nickel	ICPF1602	06/16/1999	6010	mg/L	0.020	1	U	
5	Zinc	ICPF1602	06/16/1999	6010	mg/L	0.020	1	U	
6	Cadmium	ICPF1802	06/18/1999	6010	mg/Kg	0.25	1	U	
7	Chromium	ICPF1802	06/18/1999	6010	mg/Kg	1.0	1	U	
8	Lead	ICPF1802	06/18/1999	6010	mg/Kg	2.0	1	U	
9	Nickel	ICPF1802	06/18/1999	6010	mg/Kg	1.0	1	U	
10	Zinc	ICPF1802	06/18/1999	6010	mg/Kg	1.0	1	U	

# QUALITY ASSESSMENT REPORT - LCS Analysis

**ENCOTEC Project ID:**

90111

**ENCOTEC SDG ID:**

EDG-AL-99F1

**ENCOTEC QC Set ID:**

See Below

**ENCOTEC Submission ID:**

100017540

	Analyte	QC Set ID	Conc Spiked	Conc LCS	Units	Percent Recovery (%)	Flag	Quality Control Windows (%)
1	Cadmium	ICPF1602	0.200	0.214	mg/L	107		80-120
2	Chromium	ICPF1602	1.00	1.05	mg/L	105		80-120
3	Lead	ICPF1602	1.00	1.05	mg/L	105		80-120
4	Nickel	ICPF1602	1.00	1.05	mg/L	105		80-120
5	Zinc	ICPF1602	1.00	1.05	mg/L	105		80-120
6	Cadmium	ICPF1802	1.00	1.07	mg/L	107		80-120
7	Chromium	ICPF1802	0.200	0.203	mg/Kg	102		80-120
8	Lead	ICPF1802	1.00	1.02	mg/Kg	102		80-120
9	Nickel	ICPF1802	1.00	1.00	mg/Kg	100		80-120
10	Zinc	ICPF1802	1.00	0.987	mg/Kg	99		80-120
			1.00	0.987	mg/Kg	99		80-120

**Quality Assessment Recovery Data**  
Recovery: 0 out of 10 outside QC Windows

**Safety-Kleen (ENCOTEC), Inc.**

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Report Date: 06/21/99

# QUALITY ASSESSMENT REPORT - MS Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** See Below  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** See Below  
**Matrix:** N/A

Analyte	ENCOTEC Sample ID	QC Set ID	Conc. Spiked	Sample Result	Conc. MS	Units	Percent Recovery (%)	Flag	QC Windows (%)
1 Cadmium	200133371	ICPF1602	0.200	U	0.203	mg/L	102		80-120
2 Chromium	200133371	ICPF1602	1.00	U	1.01	mg/L	101		80-120
3 Lead	200133371	ICPF1602	1.00	U	0.999	mg/L	100		80-120
4 Nickel	200133371	ICPF1602	1.00	0.075	1.08	mg/L	100		80-120
5 Zinc	200133371	ICPF1602	1.00	0.025	1.03	mg/L	100		80-120
6 Cadmium	200133337	ICPF1802	7.97	U	7.64	mg/Kg	96		80-120
7 Chromium	200133337	ICPF1802	39.8	24	68.2	mg/Kg	111		80-120
8 Lead	200133337	ICPF1802	39.8	4.1	43.2	mg/Kg	98		80-120
9 Nickel	200133337	ICPF1802	39.8	50	95.8	mg/Kg	115		80-120
10 Zinc	200133337	ICPF1802	39.8	41	82.4	mg/Kg	104		80-120

**Quality Assessment Recovery Data**  
 Recovery: 0 out of 10 outside QC Windows

# QUALITY ASSESSMENT REPORT - MD Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** See Below  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** See Below  
**Matrix:** N/A

Analyte	ENCOTEC Sample ID	QC Set ID	Sample Result	Conc. MD	Units	RPD (%)	Flag	Quality Control Windows (%)
1 Cadmium	200133371	ICPF1602	U	U	mg/L	NC		20
2 Chromium	200133371	ICPF1602	U	U	mg/L	NC		20
3 Lead	200133371	ICPF1602	U	U	mg/L	NC		20
4 Nickel	200133371	ICPF1602	0.075	0.075	mg/L	0		20
5 Zinc	200133371	ICPF1602	0.025	0.029	mg/L	15		20
6 Cadmium	200133337	ICPF1802	U	U	mg/Kg	NC		20
7 Chromium	200133337	ICPF1802	24	25	mg/Kg	4		20
8 Lead	200133337	ICPF1802	4.1	6.0	mg/Kg	38 *		20
9 Nickel	200133337	ICPF1802	50	55	mg/Kg	10		20
10 Zinc	200133337	ICPF1802	41	44	mg/Kg	7		20

D=Detected, result must be greater than zero.

RPD: 1 out of 6 outside QC Windows

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# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** N/A  
**Analysis Date:** 06/22/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8015B/TPHG  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VGMF2201W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131924

	<b>California List List</b>	<b>CAS #</b>	<b>Quant Limit (mg/L)</b>	<b>Dil</b>	<b>Conc (mg/L)</b>	<b>Flag</b>
1	TPH as Gasoline	8006-61-9	0.20	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

Extraction Date: N/A  
Analysis Date: 06/23/99  
Second Analysis Date: N/A  
Method Reference: 8015B/TPHG  
Matrix: SOIL

ENCOTEC Project ID: 90111  
ENCOTEC SDG ID: EDG-AL-99F1  
ENCOTEC QC Set ID: VGMF2201S  
ENCOTEC Submission ID: 100017540  
ENCOTEC Method Blank ID: 200131923

California List List	CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
1 TPH as Gasoline	8006-61-9	10	1.0	U	

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**WATER MATRIX SURROGATE RECOVERY  
GASOLINE RANGE ORGANICS**

Project Name: EDG-ALAMEDA  
Project Number: 90111  
Report Date: 07/08/99  
QC Set I.D.: VGMF2201W

<u>ENCOTEC</u> <u>Sample Number</u>	Percent Recovery
	<u>p-Bromofluorobenzene</u>
	50 - 150**

200133334	96
200133336	93
200131924 MB	104
200132074 LCS	102
200133336 MS	93
200133336 MSD	103

\* Value outside of established quality control windows.

\*\* Percent recovery quality control windows.

DL = Sample matrix diluted, therefore surrogate recoveries are not applicable.

M = Matrix interferences caused distortion to recovery value.

**RECOVERY:** 0 out of 6 outside QC Windows.

Note:

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**SOIL MATRIX SURROGATE RECOVERY  
GASOLINE RANGE ORGANICS**

Project Name: EDG-ALAMEDA  
Project Number: 90111  
Report Date: 07/08/99  
QC Set I.D.: VGMF2201S

ENCOTEC <u>Sample Number</u>	Percent Recovery
	p-Bromofluorobenzene
	50 - 150**

200133335	95
200133337	99
200131923 MB	95
200132073 LCS	102
200133335 MS	97
200133335 MSD	95

\* Value outside of established quality control windows.

\*\* Percent recovery quality control windows.

DL = Sample matrix diluted, therefore surrogate recoveries are  
not applicable.

M = Matrix interferences caused distortion to recovery value.

**RECOVERY:** 0 out of 6 outside QC Windows.

Note:

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**WATER MATRIX LABORATORY CONTROL SAMPLE RECOVERY  
GASOLINE RANGE ORGANICS**

Project Name: ENCOTEC  
Project Number: 10000

Date Analyzed: 06/22/99 U = Analyte not detected.  
ENCOTEC ID: 200132074  
QC Set ID: VGMF2201W

HYDROCARBONS	AMOUNT SPIKED (mg/L)	AMOUNT RECOVERED (mg/L)	PERCENT RECOVERED (percent)	QC LIMITS RANGE (percent)
Regular Unleaded Gasoline	0.500	0.491	98	30 - 120

**RECOVERY:** 0 out of 1 outside QC Windows.

Note:

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**SOIL MATRIX LABORATORY CONTROL SAMPLE RECOVERY  
GASOLINE RANGE ORGANICS**

Project Name: ENCOTEC  
Project Number: 10000

Date Analyzed: 06/22/99  
ENCOTEC ID: 200132073  
QC Set ID: VGMF2201S

U = Analyte not detected.  
B = Analyte present in  
method blank.

HYDROCARBONS	AMOUNT SPIKED (mg/Kg)	AMOUNT RECOVERED (mg/Kg)	PERCENT RECOVERED (percent)	QC LIMITS RANGE (percent)
Regular Unleaded Gasoline	25.0	24.6	98	50 - 150

**RECOVERY:** 0 out of 1 outside QC Windows.

Note:

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**WATER MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) RECOVERY  
 TOTAL HYDROCARBONS**

Project Name: ENCOTEC  
 Project Number: 10000  
 QC Set I.D.: VGMF2201W

**SAMPLE SPIKED - ENCOTEC ID: 200133336**

<u>Compound</u>	<u>Concentration</u>	<u>Sample</u>	<u>Conc. MS</u>	<u>%</u>	<u>Conc. MSD</u>	<u>%</u>	<u>RPD</u>	<b>QUALITY CONTROL WINDOWS</b>	
	<u>Spiked (mg/L)</u>	<u>Result (mg/L)</u>	<u>(mg/L)</u>	<u>Rec</u>	<u>(mg/L)</u>	<u>Rec</u>	<u>RPD</u>	<u>RPD</u>	<u>% Recovery</u>
Regular Unleaded Gasoline	0.500	0.200	0.475	91	0.496	95	4	40	30 - 120

U = Analyte not detected in non-spiked sample  
 RPD = Relative Percent Difference  
 \* Value outside of quality control windows.

RPD: 0 out of 1 outside QC Windows  
 RECOVERY: 0 out of 2 outside QC Windows

M = Matrix interferences caused distortion to recovery value.  
 D = Detected; results must be greater than zero.

Note:

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**SOIL MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) RECOVERY  
 TOTAL HYDROCARBONS**

Project Name: ENCOTEC  
 Project Number: 10000  
 QC Set I.D.: VGMF2201S

**SAMPLE SPIKED - ENCOTEC ID: 200133335**

<u>Compound</u>	<u>Concentration</u>	<u>Sample</u>	<u>Conc. MS</u>	<u>%</u>	<u>Conc. MSD</u>	<u>%</u>	<u>RPD</u>	<b>QUALITY CONTROL WINDOWS</b>	
	<u>Spiked (mg/Kg)</u>	<u>Result (mg/Kg)</u>	<u>Rec</u>	<u>Rec</u>	<u>RPD</u>	<u>% Recovery</u>			
Regular Unleaded Gasoline	25.0	2.60	17.9	72	17.4	70	3	40	50 - 150

U = Analyte not detected in non-spiked sample  
 RPD = Relative Percent Difference  
 \* Value outside of quality control windows.

RPD: 0 out of 1 outside QC Windows  
 RECOVERY: 0 out of 2 outside QC Windows

M = Matrix interferences caused distortion to recovery value.  
 D = Detected; results must be greater than zero.

Note:

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** N/A  
**Analysis Date:** 06/30/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8260B  
**Matrix:** SOIL

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VORF1101M  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200132019

	VOLATILE ORGANICS List	CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	Acetone	67-64-1	1000	100	U	
2	Acetonitrile	75-05-8	5000	100	U	
3	Benzene	71-43-2	500	100	U	
4	Bromodichloromethane	75-27-4	500	100	U	
5	Bromoform	75-25-2	500	100	U	
6	Bromomethane	74-83-9	500	100	U	
7	2-Butanone (MEK)	78-93-3	1000	100	U	
8	Carbon disulfide	75-15-0	500	100	U	
9	Carbon tetrachloride	56-23-5	500	100	U	
10	Chlorobenzene	108-90-7	500	100	U	
11	Chloroethane	75-00-3	500	100	U	
12	Chloroform	67-66-3	500	100	U	
13	Chloromethane	74-87-3	500	100	U	
14	Dibromochloromethane	124-48-1	500	100	U	
15	1,3-Dichlorobenzene	541-73-1	500	100	U	
16	1,4-Dichlorobenzene	106-46-7	500	100	U	
17	1,2-Dichlorobenzene	95-50-1	500	100	U	
18	1,2-Dichloroethane	107-06-2	500	100	U	
19	1,1-Dichloroethane	75-34-3	500	100	U	
20	trans-1,2-Dichloroethene	156-60-5	500	100	U	
21	cis-1,2-Dichloroethene	156-59-2	500	100	U	
22	1,1-Dichloroethene	75-35-4	500	100	U	
23	1,2-Dichloropropane	78-87-5	500	100	U	
24	trans-1,3-Dichloropropene	10061-02-6	500	100	U	
25	cis-1,3-Dichloropropene	10061-01-5	500	100	U	
26	Ethylbenzene	100-41-4	500	100	U	
27	Ethylene dibromide	106-93-4	500	100	U	
28	Ethylene oxide	75-21-8	5000	100	U	
29	2-Hexanone	591-78-6	1000	100	U	
30	Methyl(tert)butyl ether	1634-04-4	1000	100	U	
31	4-Methyl-2-pentanone (MIBK)	108-10-1	1000	100	U	
32	Methylene chloride	75-09-2	500	100	U	
33	Styrene	100-42-5	500	100	U	

## Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	100	74-121
Dibromofluoromethane	95	80-120
1,2-Dichloroethane-d4	101	80-120
Toluene-d8	104	81-117

**Recovery:** 0 out of 4 outside QC Windows

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** N/A  
**Analysis Date:** 06/30/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8260B  
**Matrix:** SOIL

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VORF1101M  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200132019

	<b>VOLATILE ORGANICS List</b>	<b>CAS #</b>	<b>Quant Limit (ug/Kg)</b>	<b>Dil</b>	<b>Conc (ug/Kg)</b>	<b>Flag</b>
34	1,1,2,2-Tetrachloroethane	79-34-5	500	100	U	
35	Tetrachloroethene	127-18-4	500	100	U	
36	Toluene	108-88-3	500	100	U	
37	1,1,2-Trichloroethane	79-00-5	500	100	U	
38	1,1,1-Trichloroethane	71-55-6	500	100	U	
39	Trichloroethene	79-01-6	500	100	U	
40	Vinyl chloride	75-01-4	500	100	U	
41	total Xylenes	1330-20-7	1000	100	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** N/A  
**Analysis Date:** 06/22/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8260A  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VOPF2201W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131986

	VOLATILE ORGANICS Target Compound List	CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Acetone	67-64-1	10	1.0	U	
2	Benzene	71-43-2	10	1.0	U	
3	Bromodichloromethane	75-27-4	10	1.0	U	
4	Bromoform	75-25-2	10	1.0	U	
5	Bromomethane	74-83-9	10	1.0	U	
6	2-Butanone (MEK)	78-93-3	10	1.0	U	
7	Carbon disulfide	75-15-0	10	1.0	U	
8	Carbon tetrachloride	56-23-5	10	1.0	U	
9	Chlorobenzene	108-90-7	10	1.0	U	
10	Chloroethane	75-00-3	10	1.0	U	
11	Chloroform	67-66-3	10	1.0	U	
12	Chloromethane	74-87-3	10	1.0	U	
13	Dibromochloromethane	124-48-1	10	1.0	U	
14	1,2-Dichloroethane	107-06-2	10	1.0	U	
15	1,1-Dichloroethane	75-34-3	10	1.0	U	
16	total 1,2-Dichloroethene	540-59-0	10	1.0	U	
17	1,1-Dichloroethene	75-35-4	10	1.0	U	
18	1,2-Dichloropropane	78-87-5	10	1.0	U	
19	trans-1,3-Dichloropropene	10061-02-6	10	1.0	U	
20	cis-1,3-Dichloropropene	10061-01-5	10	1.0	U	
21	Ethylbenzene	100-41-4	10	1.0	U	
22	2-Hexanone	591-78-6	10	1.0	U	
23	4-Methyl-2-pentanone (MIBK)	108-10-1	10	1.0	U	
24	Methylene chloride	75-09-2	10	1.0	U	
25	Styrene	100-42-5	10	1.0	U	
26	1,1,2,2-Tetrachloroethane	79-34-5	10	1.0	U	
27	Tetrachloroethene	127-18-4	10	1.0	U	
28	Toluene	108-88-3	10	1.0	U	
29	1,1,2-Trichloroethane	79-00-5	10	1.0	U	
30	1,1,1-Trichloroethane	71-55-6	10	1.0	U	
31	Trichloroethene	79-01-6	10	1.0	U	
32	Vinyl chloride	75-01-4	10	1.0	U	
33	total Xylenes	1330-20-7	10	1.0	U	

### Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	98	86-115
Dibromofluoromethane	102	86-118
1,2-Dichloroethane-d4	104	80-120
Toluene-d8	99	88-110

**Recovery:** 0 out of 4 outside QC Windows

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** N/A  
**Analysis Date:** 06/22/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8260A  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VOPF2201W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131986

VOLATILE ORGANICS BTEX List List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0	U	
2	Ethylbenzene	100-41-4	1.0	1.0	U	
3	Methyl(tert)butyl ether	1634-04-4	50	1.0	U	
4	Toluene	108-88-3	1.0	1.0	U	
5	total Xylenes	1330-20-7	3.0	1.0	U	

Surrogate Recovery Data		
Compound	%Rec	QC Window
4-Bromofluorobenzene	98	86-115
Dibromofluoromethane	102	86-118
1,2-Dichloroethane-d4	104	80-120
Toluene-d8	99	88-110

**Recovery:** 0 out of 4 outside QC Windows

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** N/A  
**Analysis Date:** 06/16/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8260B  
**Matrix:** SOIL

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VORF1601S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131981

	VOLATILE ORGANICS List	CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
1	Acetone	67-64-1	10	1.0	U	
2	Acetonitrile	75-05-8	50	1.0	U	
3	Benzene	71-43-2	10	1.0	U	
4	Bromodichloromethane	75-27-4	10	1.0	U	
5	Bromoform	75-25-2	10	1.0	U	
6	Bromomethane	74-83-9	10	1.0	U	
7	2-Butanone (MEK)	78-93-3	10	1.0	U	
8	Carbon disulfide	75-15-0	10	1.0	U	
9	Carbon tetrachloride	56-23-5	10	1.0	U	
10	Chlorobenzene	108-90-7	10	1.0	U	
11	Chloroethane	75-00-3	10	1.0	U	
12	Chloroform	67-66-3	10	1.0	U	
13	Chloromethane	74-87-3	10	1.0	U	
14	Dibromochloromethane	124-48-1	10	1.0	U	
15	1,3-Dichlorobenzene	541-73-1	10	1.0	U	
16	1,4-Dichlorobenzene	106-46-7	10	1.0	U	
17	1,2-Dichlorobenzene	95-50-1	10	1.0	U	
18	1,2-Dichloroethane	107-06-2	10	1.0	U	
19	1,1-Dichloroethane	75-34-3	10	1.0	U	
20	trans-1,2-Dichloroethene	156-60-5	10	1.0	U	
21	cis-1,2-Dichloroethene	156-59-2	10	1.0	U	
22	1,1-Dichloroethene	75-35-4	10	1.0	U	
23	1,2-Dichloropropane	78-87-5	10	1.0	U	
24	trans-1,3-Dichloropropene	10061-02-6	10	1.0	U	
25	cis-1,3-Dichloropropene	10061-01-5	10	1.0	U	
26	Ethylbenzene	100-41-4	10	1.0	U	
27	Ethylene dibromide	106-93-4	10	1.0	U	
28	Ethylene oxide	75-21-8	50	1.0	U	
29	2-Hexanone	591-78-6	10	1.0	U	
30	Methyl(tert)butyl ether	1634-04-4	10	1.0	U	
31	4-Methyl-2-pentanone (MIBK)	108-10-1	10	1.0	U	
32	Methylene chloride	75-09-2	10	1.0	10	
33	Styrene	100-42-5	10	1.0	U	

### Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	100	74-121
Dibromofluoromethane	100	80-120
1,2-Dichloroethane-d4	107	80-120
Toluene-d8	99	81-117

**Recovery:** 0 out of 4 outside QC Windows

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

<b>Extraction Date:</b>	N/A	<b>ENCOTEC Project ID:</b>	90111
<b>Analysis Date:</b>	06/16/99	<b>ENCOTEC SDG ID:</b>	EDG-AL-99F1
<b>Second Analysis Date:</b>	N/A	<b>ENCOTEC QC Set ID:</b>	VORF1601S
<b>Method Reference:</b>	8260B	<b>ENCOTEC Submission ID:</b>	100017540
<b>Matrix:</b>	SOIL	<b>ENCOTEC Method Blank ID:</b>	200131981

VOLATILE ORGANICS List		CAS #	Quant Limit (ug/Kg)	Dil	Conc (ug/Kg)	Flag
34	1,1,2,2-Tetrachloroethane	79-34-5	10	1.0	U	
35	Tetrachloroethene	127-18-4	10	1.0	U	
36	Toluene	108-88-3	10	1.0	U	
37	1,1,2-Trichloroethane	79-00-5	10	1.0	U	
38	1,1,1-Trichloroethane	71-55-6	10	1.0	U	
39	Trichloroethene	79-01-6	10	1.0	U	
40	Vinyl chloride	75-01-4	10	1.0	U	
41	total Xylenes	1330-20-7	10	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** N/A  
**Analysis Date:** 06/29/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8260A  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VOPF2901W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200132016

VOLATILE ORGANICS Target Compound List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Acetone	67-64-1	10	1.0	U	
2	Benzene	71-43-2	10	1.0	U	
3	Bromodichloromethane	75-27-4	10	1.0	U	
4	Bromoform	75-25-2	10	1.0	U	
5	Bromomethane	74-83-9	10	1.0	U	
6	2-Butanone (MEK)	78-93-3	10	1.0	U	
7	Carbon disulfide	75-15-0	10	1.0	U	
8	Carbon tetrachloride	56-23-5	10	1.0	U	
9	Chlorobenzene	108-90-7	10	1.0	U	
10	Chloroethane	75-00-3	10	1.0	U	
11	Chloroform	67-66-3	10	1.0	U	
12	Chloromethane	74-87-3	10	1.0	U	
13	Dibromochloromethane	124-48-1	10	1.0	U	
14	1,2-Dichloroethane	107-06-2	10	1.0	U	
15	1,1-Dichloroethane	75-34-3	10	1.0	U	
16	total 1,2-Dichloroethene	540-59-0	10	1.0	U	
17	1,1-Dichloroethene	75-35-4	10	1.0	U	
18	1,2-Dichloropropane	78-87-5	10	1.0	U	
19	trans-1,3-Dichloropropene	10061-02-6	10	1.0	U	
20	cis-1,3-Dichloropropene	10061-01-5	10	1.0	U	
21	Ethylbenzene	100-41-4	10	1.0	U	
22	2-Hexanone	591-78-6	10	1.0	U	
23	4-Methyl-2-pentanone (MIBK)	108-10-1	10	1.0	U	
24	Methylene chloride	75-09-2	10	1.0	U	
25	Styrene	100-42-5	10	1.0	U	
26	1,1,2,2-Tetrachloroethane	79-34-5	10	1.0	U	
27	Tetrachloroethene	127-18-4	10	1.0	U	
28	Toluene	108-88-3	10	1.0	U	
29	1,1,2-Trichloroethane	79-00-5	10	1.0	U	
30	1,1,1-Trichloroethane	71-55-6	10	1.0	U	
31	Trichloroethene	79-01-6	10	1.0	U	
32	Vinyl chloride	75-01-4	10	1.0	U	
33	total Xylenes	1330-20-7	10	1.0	U	

### Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	96	86-115
Dibromofluoromethane	111	86-118
1,2-Dichloroethane-d4	114	80-120
Toluene-d8	94	88-110

**Recovery:** 0 out of 4 outside QC Windows

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** N/A  
**Analysis Date:** 06/29/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8260A  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VOPF2901W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200132016

VOLATILE ORGANICS BTEX List List		CAS #	Quant Limit (ug/L)	Dil	Conc (ug/L)	Flag
1	Benzene	71-43-2	5.0	1.0	U	
2	Ethylbenzene	100-41-4	1.0	1.0	U	
3	Methyl(tert)butyl ether	1634-04-4	50	1.0	U	
4	Toluene	108-88-3	1.0	1.0	U	
5	total Xylenes	1330-20-7	3.0	1.0	U	

### Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	96	86-115
Dibromofluoromethane	111	86-118
1,2-Dichloroethane-d4	114	80-120
Toluene-d8	94	88-110

**Recovery:** 0 out of 4 outside QC Windows

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SOIL MATRIX SURROGATE RECOVERY  
VOLATILE ORGANICS

Project Name: EDG-ALAMEDA  
Project Number: 90111  
Report Date: 07/07/99  
QC Set I.D.: VORF1101M

ENCOTEC <u>Sample I.D.</u>	% Recovery <u>Dibromofluoromethane</u> (80-120)	% Recovery <u>D4-1,2-Dichloroethane</u> (80-120)	% Recovery <u>D8-Toluene</u> (81-117)	% Recovery <u>BFB</u> (74-121)
200132876 MS	97	96	100	99
200132876 MSD	99	96	99	99

\* Value outside of established quality control windows.  
DL = Sample matrix diluted, therefore surrogate recoveries are not applicable.  
M = Matrix interferences caused distortion to recovery value.

RECOVERY: 0 out of 8 outside QC Windows.

Note:

Form 065VSL2G.GN1

Rev. 10/06/98

# QUALITY ASSESSMENT REPORT - LCS Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VORF1101M  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200132112  
**Matrix:** SOIL

Analyte	Conc Spiked (mg/Kg)	Conc LCS (mg/Kg)	Percent Recovery (%)	Flag	Quality Control Windows (%)
1 Benzene	0.0500	0.0468	94		76-136
2 Bromodichloromethane	0.0500	0.0449	90		78-131
3 Bromoform	0.0500	0.0428	86		68-124
4 Carbon tetrachloride	0.0500	0.0489	98		70-136
5 Chlorobenzene	0.0500	0.0469	94		73-127
6 Chloroform	0.0500	0.0472	94		78-126
7 Dibromochloromethane	0.0500	0.0446	89		67-133
8 1,2-Dichloroethane	0.0500	0.0461	92		63-140
9 1,1-Dichloroethane	0.0500	0.0479	96		66-140
10 trans-1,2-Dichloroethene	0.0500	0.0462	92		69-143
11 1,1-Dichloroethene	0.0500	0.0426	85		47-187
12 1,2-Dichloropropane	0.0500	0.0473	95		70-122
13 Ethylbenzene	0.0500	0.0475	95		73-129
14 Methylene chloride	0.0500	0.0467	93		61-163
15 1,1,2,2-Tetrachloroethane	0.0500	0.0430	86		68-120
16 Tetrachloroethene	0.0500	0.0492	98		61-135
17 Toluene	0.0500	0.0463	93		71-133
18 1,1,2-Trichloroethane	0.0500	0.0463	93		73-125
19 1,1,1-Trichloroethane	0.0500	0.0471	94		67-129
20 Trichloroethene	0.0500	0.0508	102		64-152

## Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	105	74-121
Dibromofluoromethane	99	80-120
1,2-Dichloroethane-d4	97	80-120
Toluene-d8	101	81-117

**Recovery:** 0 out of 4 outside QC Windows

**Quality Assessment Recovery Data**  
Recovery: 0 out of 20 outside QC Windows

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Report Date: 07/07/99

# QUALITY ASSESSMENT REPORT - LCS Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VOPF2201W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200132128  
**Matrix:** WATER

	Analyte	Conc Spiked (mg/L)	Conc LCS (mg/L)	Percent Recovery (%)	Flag	Quality Control Windows (%)
1	Benzene	0.0100	0.00995	100		69-130
2	Bromodichloromethane	0.0100	0.00941	94		73-121
3	Bromoform	0.0100	0.00794	79		62-127
4	Carbon tetrachloride	0.0100	0.00868	87		59-146
5	Chlorobenzene	0.0100	0.00998	100		75-127
6	Chloroform	0.0100	0.00946	95		81-123
7	Dibromochloromethane	0.0100	0.00892	89		73-122
8	1,2-Dichloroethane	0.0100	0.0101	101		73-131
9	1,1-Dichloroethane	0.0100	0.00901	90		75-145
10	trans-1,2-Dichloroethene	0.0100	0.00821	82		64-136
11	1,1-Dichloroethene	0.0100	0.00791	79		57-153
12	1,2-Dichloropropane	0.0100	0.00980	98		81-126
13	Ethylbenzene	0.0100	0.0102	102		68-136
14	Methylene chloride	0.0100	0.00939	94		61-131
15	1,1,2,2-Tetrachloroethane	0.0100	0.0113	113		65-132
16	Tetrachloroethene	0.0100	0.00898	90		58-141
17	Toluene	0.0100	0.00982	98		63-130
18	1,1,2-Trichloroethane	0.0100	0.00913	91		73-123
19	1,1,1-Trichloroethane	0.0100	0.00960	96		65-136
20	Trichloroethene	0.0100	0.00912	91		73-137

## Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	115	86-115
Dibromofluoromethane	103	86-118
1,2-Dichloroethane-d4	104	80-120
Toluene-d8	98	88-110

Recovery: 0 out of 4 outside QC Windows

**Quality Assessment Recovery Data**  
Recovery: 0 out of 20 outside QC Windows

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Report Date: 07/07/99

# QUALITY ASSESSMENT REPORT - LCS Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VORF1601S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200132124  
**Matrix:** SOIL

	Analyte	Conc Spiked (mg/Kg)	Conc LCS (mg/Kg)	Percent Recovery (%)	Flag	Quality Control Windows (%)
1	Benzene	0.0500	0.0452	90		69-130
2	Bromodichloromethane	0.0500	0.0471	94		73-121
3	Bromoform	0.0500	0.0483	97		62-127
4	Carbon tetrachloride	0.0500	0.0502	100		59-146
5	Chlorobenzene	0.0500	0.0455	91		75-127
6	Chloroform	0.0500	0.0477	95		81-123
7	Dibromochloromethane	0.0500	0.0466	93		73-122
8	1,2-Dichloroethane	0.0500	0.0494	99		73-131
9	1,1-Dichloroethane	0.0500	0.0466	93		75-145
10	trans-1,2-Dichloroethene	0.0500	0.0438	88		64-136
11	1,1-Dichloroethene	0.0500	0.0404	81		57-153
12	1,2-Dichloropropane	0.0500	0.0484	97		81-126
13	Ethylbenzene	0.0500	0.0459	92		68-136
14	Methylene chloride	0.0500	0.0518	104		61-131
15	1,1,2,2-Tetrachloroethane	0.0500	0.0506	101		65-132
16	Tetrachloroethene	0.0500	0.0453	91		58-141
17	Toluene	0.0500	0.0443	89		63-130
18	1,1,2-Trichloroethane	0.0500	0.0481	96		73-123
19	1,1,1-Trichloroethane	0.0500	0.0456	91		65-136
20	Trichloroethene	0.0500	0.0464	93		73-137

## Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	101	74-121
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	108	80-120
Toluene-d8	99	81-117

Recovery: 0 out of 4 outside QC Windows

**Quality Assessment Recovery Data**  
Recovery: 0 out of 20 outside QC Windows

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# QUALITY ASSESSMENT REPORT - LCS Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VOPF2901W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200132154  
**Matrix:** WATER

Analyte	Conc Spiked (mg/L)	Conc LCS (mg/L)	Percent Recovery (%)	Flag	Quality Control Windows (%)
1 Benzene	0.0100	0.00793	79		69-130
2 Bromodichloromethane	0.0100	0.00998	100		73-121
3 Bromoform	0.0100	0.0130	130 *		62-127
4 Carbon tetrachloride	0.0100	0.0103	103		59-146
5 Chlorobenzene	0.0100	0.00947	95		75-127
6 Chloroform	0.0100	0.00877	88		81-123
7 Dibromochloromethane	0.0100	0.0112	112		73-122
8 1,2-Dichloroethane	0.0100	0.0114	114		73-131
9 1,1-Dichloroethane	0.0100	0.00896	90		75-145
10 trans-1,2-Dichloroethene	0.0100	0.00843	84		64-136
11 1,1-Dichloroethene	0.0100	0.00814	81		57-153
12 1,2-Dichloropropane	0.0100	0.00807	81		81-126
13 Ethylbenzene	0.0100	0.00927	93		68-136
14 Methylene chloride	0.0100	0.00805	80		61-131
15 1,1,2,2-Tetrachloroethane	0.0100	0.00656	66		65-132
16 Tetrachloroethene	0.0100	0.0126	126		58-141
17 Toluene	0.0100	0.00857	86		63-130
18 1,1,2-Trichloroethane	0.0100	0.00859	86		73-123
19 1,1,1-Trichloroethane	0.0100	0.0105	105		65-136
20 Trichloroethene	0.0100	0.00973	97		73-137

## Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	93	86-115
Dibromofluoromethane	108	86-118
1,2-Dichloroethane-d4	120	80-120
Toluene-d8	92	88-110

Recovery: 0 out of 4 outside QC Windows

**Quality Assessment Recovery Data**  
Recovery: 1 out of 20 outside QC Windows

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MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD)  
VOLATILE ORGANICS - SOIL MATRIX

Project Name: ENCOTEC

Project Number: 10000

QC Set ID: VORF1101M

ENCOTEC ID: 200132876

Compound	Conc.	Sample	Conc.	Percent	Conc.	Percent	Quality Control		
	Spiked (mg/Kg)	Result (mg/Kg)	MS (mg/Kg)	Recovery (%)	MSD (mg/Kg)	Recovery (%)	RPD	RPD (%)	Recovery (%)
1,1-Dichloroethene	100.0	U	87.1	87	82.6	83	5.37	22	59-172
Trichloroethene	100.0	U	91.3	91	89.9	90	1.61	24	62-137
Chlorobenzene	100.0	U	89.5	90	89.8	90	0.27	21	60-133
Toluene	100.0	U	90.8	91	90.2	90	0.60	21	59-139
Benzene	100.0	U	91.2	91	91.6	92	0.42	21	66-142

RPD: 0 out of 5 outside of quality control limits.

Recovery: 0 out of 10 outside of quality control limits.

Note:

SAVED AS: C:\HPCHEM\1\DATA\QC\VMF11M1R.XLS

# QUALITY ASSESSMENT REPORT - MS/MSD Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VOPF2201W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200133336  
**Matrix:** WATER

	Analyte	Conc. Spiked (mg/L)	Sample Result (mg/L)	Conc MS (mg/L)	Percent Recovery (%)	Flag	Conc. MSD (mg/L)	Percent Recovery (%)	Flag	RPD (%)	Flag	QC Windows RPD (%)
1	Benzene	0.0100	U	0.0104	104		0.0102	102		1.9		11 76-127
2	Chlorobenzene	0.0100	U	0.00870	87		0.00949	95		8.7		13 75-130
3	1,1-Dichloroethene	0.0100	U	0.00702	70		0.00795	80		12		14 61-145
4	Toluene	0.0100	U	0.00898	90		0.00969	97		7.6		13 76-125
5	Trichloroethene	0.0100	U	0.00759	76		0.00833	83		9.3		14 71-120

	MS Surrogate Recovery Data			MSD Surrogate Recovery Data		
	Compound	%Rec	QC Window	Compound	%Rec	QC Window
	4-Bromofluorobenzene	99	86-115	4-Bromofluorobenzene	98	86-115
	Dibromofluoromethane	102	86-118	Dibromofluoromethane	97	86-118
	1,2-Dichloroethane-d4	107	80-120	1,2-Dichloroethane-d4	99	80-120
	Toluene-d8	99	88-110	Toluene-d8	100	88-110

Recovery: 0 out of 4 outside QC Windows      Recovery: 0 out of 4 outside QC Windows

## Quality Assessment Recovery Data

RPD: 0 out of 5 outside QC Windows

Recovery: 0 out of 10 outside QC Windows

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Report Date: 07/07/99

# QUALITY ASSESSMENT REPORT - MS/MSD Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VORF1601S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200133130  
**Matrix:** SOLID

	Analyte	Conc. Spiked (mg/Kg)	Sample Result (mg/Kg)	Conc MS (mg/Kg)	Percent Recovery (%)	Flag	Conc. MSD (mg/Kg)	Percent Recovery (%)	Flag	RPD (%)	Flag	QC Windows RPD (%)
1	Benzene	0.250	U	0.349	140		0.334	134		4.4		21
2	Chlorobenzene	0.250	U	0.213	85		0.201	80		5.8		21
3	1,1-Dichloroethene	0.250	U	0.318	127		0.318	127		0.0		22
4	Toluene	0.250	U	0.771	308	M	0.561	224	M	NC		21
5	Trichloroethene	0.250	U	0.334	134		0.335	134		0.3		24

## MS Surrogate Recovery Data

## MSD Surrogate Recovery Data

Compound	%Rec	QC Window
4-Bromofluorobenzene	86	74-121
Dibromofluoromethane	71 M	80-120
1,2-Dichloroethane-d4	212 M	80-120
Toluene-d8	390 M	81-117

Compound	%Rec	QC Window
4-Bromofluorobenzene	222 M	74-121
Dibromofluoromethane	45 M	80-120
1,2-Dichloroethane-d4	197 M	80-120
Toluene-d8	276 M	81-117

Recovery: 0 out of 1 outside QC Windows

Recovery: 0 out of 0 outside QC Windows

## Quality Assessment Recovery Data

RPD: 0 out of 4 outside QC Windows

Recovery: 0 out of 8 outside QC Windows

Safety-Kleen (ENCOTEC), Inc.

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Report Date: 07/07/99

# QUALITY ASSESSMENT REPORT - MS/MSD Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** VOPF2901W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200133753  
**Matrix:** WATER

	Analyte	Conc. Spiked (mg/L)	Sample Result (mg/L)	Conc MS (mg/L)	Percent Recovery (%)	Flag	Conc. MSD (mg/L)	Percent Recovery (%)	Flag	RPD (%)	Flag	QC Windows RPD (%)
1	Benzene	0.0100	U	0.00718	72 *		0.00770	77		7.0		11 76-127
2	Chlorobenzene	0.0100	U	0.00820	82		0.00866	87		5.5		13 75-130
3	1,1-Dichloroethene	0.0100	U	0.00658	66		0.00650	65		1.2		14 61-145
4	Toluene	0.0100	U	0.00790	79		0.00839	84		6.0		13 76-125
5	Trichloroethene	0.0100	U	0.00842	84		0.00892	89		5.8		14 71-120

	MS Surrogate Recovery Data			MSD Surrogate Recovery Data		
	Compound	%Rec	QC Window	Compound	%Rec	QC Window
	4-Bromofluorobenzene	96	86-115	4-Bromofluorobenzene	99	86-115
	Dibromofluoromethane	106	86-118	Dibromofluoromethane	110	86-118
	1,2-Dichloroethane-d4	120	80-120	1,2-Dichloroethane-d4	119	80-120
	Toluene-d8	94	88-110	Toluene-d8	94	88-110

Recovery: 0 out of 4 outside QC Windows      Recovery: 0 out of 4 outside QC Windows

## Quality Assessment Recovery Data

RPD: 0 out of 5 outside QC Windows

Recovery: 1 out of 10 outside QC Windows

Safety-Kleen (ENCOTEC), Inc.

3985 Research Park Drive ■ Ann Arbor, MI 48108  
 Telephone: (734) 761-1389 - Telefax: (734) 761-1034

Report Date: 07/07/99

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/29/99  
**Analysis Date:** 06/30/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270C  
**Matrix:** SOIL

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAF2908S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131961

SEMIVOLATILE ORGANICS Appendix IX List		CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
1	Acenaphthylene	208-96-8	0.33	1.0	U	
2	Acetophenone	98-86-2	0.33	1.0	U	
3	2-Acetylaminofluorene	53-96-3	0.33	1.0	U	
4	4-Aminobiphenyl	92-67-1	0.33	1.0	U	
5	Aniline	62-53-3	0.33	1.0	U	
6	Anthracene	120-12-7	0.33	1.0	U	
7	Aramite	140-57-8	0.33	1.0	U	
8	Benzidine	92-87-5	2.6	1.0	U	
9	Benzo(a)anthracene	56-55-3	0.33	1.0	U	
10	Benzo(a)pyrene	50-32-8	0.33	1.0	U	
11	Benzo(b)fluoranthene	205-99-2	0.33	1.0	U	
12	Benzo(g,h,i)perylene	191-24-2	0.33	1.0	U	
13	Benzo(k)fluoranthene	207-08-9	0.33	1.0	U	
14	Benzoic acid	65-85-0	1.6	1.0	U	
15	Benzyl alcohol	100-51-6	0.33	1.0	U	
16	4-Bromophenyl phenyl ether	101-55-3	0.33	1.0	U	
17	Butyl benzyl phthalate	85-68-7	0.33	1.0	U	
18	4-Chloro-3-methylphenol	59-50-7	0.33	1.0	U	
19	4-Chloroaniline	106-47-8	0.33	1.0	U	
20	Chlorobenzilate	510-15-6	0.33	1.0	U	
21	bis(2-Chloroethoxy)methane	111-91-1	0.33	1.0	U	
22	bis(2-Chloroethyl) ether	111-44-4	0.33	1.0	U	
23	bis(2-Chloroisopropyl) ether	108-60-1	0.33	1.0	U	
24	2-Chloronaphthalene	91-58-7	0.33	1.0	U	
25	2-Chlorophenol	95-57-8	0.33	1.0	U	
26	4-Chlorophenyl phenyl ether	7005-72-3	0.33	1.0	U	
27	Chrysene	218-01-9	0.33	1.0	U	
28	Di-n-butyl phthalate	84-74-2	0.33	1.0	U	
29	Di-n-octyl phthalate	117-84-0	0.33	1.0	U	
30	Diallate	2303-16-4	0.33	1.0	U	
31	Dibenz(a,h)anthracene	53-70-3	0.33	1.0	U	

### Surrogate Recovery Data

Compound	%Rec	QC Window
2-Fluorobiphenyl	89	30-115
2-Fluorophenol	86	25-121
Nitrobenzene-d5	77	23-120
Phenol-d5	88	24-113
Terphenyl-d14	76	18-137
2,4,6-Tribromophenol	90	19-122

**Recovery:** 0 out of 6 outside QC Windows

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/29/99  
**Analysis Date:** 06/30/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270C  
**Matrix:** SOIL

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAF2908S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131961

	<b>SEMIVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/Kg)</b>	<b>Dil</b>	<b>Conc (mg/Kg)</b>	<b>Flag</b>
32	Dibenzofuran	132-64-9	0.33	1.0	U	
33	1,4-Dichlorobenzene	106-46-7	0.33	1.0	U	
34	1,3-Dichlorobenzene	541-73-1	0.33	1.0	U	
35	1,2-Dichlorobenzene	95-50-1	0.33	1.0	U	
36	3,3'-Dichlorobenzidine	91-94-1	0.67	1.0	U	
37	2,6-Dichlorophenol	87-65-0	0.33	1.0	U	
38	2,4-Dichlorophenol	120-83-2	0.33	1.0	U	
39	Diethyl phthalate	84-66-2	0.33	1.0	U	
40	Dimethoate	60-51-5	0.33	1.0	U	
41	Dimethyl phthalate	131-11-3	0.33	1.0	U	
42	p-Dimethylaminoazobenzene	60-11-7	0.33	1.0	U	
43	7,12-Dimethylbenz(a)anthracene	57-97-6	0.33	1.0	U	
44	3,3'-Dimethylbenzidine	119-93-7	1.3	1.0	U	
45	alpha, alpha-Dimethylphenethylamine	122-09-8	3.3	1.0	U	
46	2,4-Dimethylphenol	105-67-9	0.33	1.0	U	
47	4,6-Dinitro-2-methylphenol	534-52-1	1.6	1.0	U	
48	1,3-Dinitrobenzene	99-65-0	0.33	1.0	U	
49	2,4-Dinitrophenol	51-28-5	1.6	1.0	U	
50	2,4-Dinitrotoluene	121-14-2	0.33	1.0	U	
51	2,6-Dinitrotoluene	606-20-2	0.33	1.0	U	
52	Dinoseb	88-85-7	0.67	1.0	U	
53	Diphenylamine	122-39-4	0.33	1.0	U	
54	Ethyl methanesulfonate	62-50-0	0.33	1.0	U	
55	bis(2-Ethylhexyl) phthalate	117-81-7	0.33	1.0	U	
56	Famphur	52-85-7	0.33	1.0	U	
57	Fluoranthene	206-44-0	0.33	1.0	U	
58	Fluorene	86-73-7	0.33	1.0	U	
59	Hexachlorobenzene	118-74-1	0.33	1.0	U	
60	Hexachlorobutadiene	87-68-3	0.33	1.0	U	
61	Hexachlorocyclopentadiene	77-47-4	0.33	1.0	U	
62	Hexachlorodibenzo-p-dioxins	tmp82	0.33	1.0	U	
63	Hexachlorodibenzofurans	tmp83	0.33	1.0	U	
64	Hexachloroethane	67-72-1	0.33	1.0	U	
65	Hexachlorophene	70-30-4	2.7	1.0	U	
66	Hexachloropropene	1888-71-7	2.7	1.0	U	
67	Indeno(1,2,3-c,d)pyrene	193-39-5	0.33	1.0	U	
68	Isophorone	78-59-1	0.33	1.0	U	
69	Isosafrole	120-58-1	0.33	1.0	U	
70	Methapyrilene	91-80-5	0.33	1.0	U	
71	Methyl methanesulfonate	66-27-3	1.3	1.0	U	
72	3-Methylcholanthrene	56-49-5	2.7	1.0	U	
73	2-Methylnaphthalene	91-57-6	0.33	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/29/99  
**Analysis Date:** 06/30/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270C  
**Matrix:** SOIL

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAF2908S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131961

	<b>SEMIVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/Kg)</b>	<b>Dil</b>	<b>Conc (mg/Kg)</b>	<b>Flag</b>
74	4-Methylphenol	106-44-5	0.33	1.0	U	
75	3-Methylphenol	108-39-4	0.33	1.0	U	
76	2-Methylphenol	95-48-7	0.33	1.0	U	
77	N-Nitroso-di-n-butylamine	924-16-3	0.33	1.0	U	
78	N-Nitroso-di-n-propylamine	621-64-7	0.33	1.0	U	
79	N-Nitrosodiethylamine	55-18-5	0.33	1.0	U	
80	N-Nitrosodimethylamine	62-75-9	0.33	1.0	U	
81	N-Nitrosodiphenylamine	86-30-6	0.33	1.0	U	
82	N-Nitrosomethylethylamine	10595-95-6	0.33	1.0	U	
83	N-Nitrosomorpholine	59-89-2	0.33	1.0	U	
84	N-Nitrosopiperidine	100-75-4	0.33	1.0	U	
85	N-Nitrosopyrrolidine	930-55-2	0.33	1.0	U	
86	Naphthalene	91-20-3	0.33	1.0	U	
87	1,4-Naphthoquinone	130-15-4	0.33	1.0	U	
88	1-Naphthylamine	134-32-7	0.33	1.0	U	
89	2-Naphthylamine	91-59-8	0.33	1.0	U	
90	5-Nitro-o-toluidine	99-55-8	0.33	1.0	U	
91	4-Nitroaniline	100-01-6	1.6	1.0	U	
92	3-Nitroaniline	99-09-2	1.6	1.0	U	
93	2-Nitroaniline	88-74-4	1.6	1.0	U	
94	Nitrobenzene	98-95-3	0.33	1.0	U	
95	4-Nitrophenol	100-02-7	1.6	1.0	U	
96	2-Nitrophenol	88-75-5	0.33	1.0	U	
97	4-Nitroquinoline-1-oxide	56-57-5	0.33	1.0	U	
98	Pentachlorobenzene	608-93-5	0.33	1.0	U	
99	Pentachlorodibenzo-p-dioxins	tmp106	0.33	1.0	U	
100	Pentachlorodibenzofurans	tmp108	0.33	1.0	U	
101	Pentachloroethane	76-01-7	0.33	1.0	U	
102	Pentachloronitrobenzene	82-68-8	0.33	1.0	U	
103	Pentachlorophenol	87-86-5	1.6	1.0	U	
104	Phenacetin	62-44-2	0.33	1.0	U	
105	Phenanthrene	85-01-8	0.33	1.0	U	
106	Phenol	108-95-2	0.33	1.0	U	
107	p-Phenylenediamine	106-50-3	0.33	1.0	U	
108	2-Picoline	109-06-8	2.7	1.0	U	
109	Pronamide	23950-58-5	2.7	1.0	U	
110	Pyrene	129-00-0	0.33	1.0	U	
111	Pyridine	110-86-1	4.3	1.0	U	
112	Safrole	94-59-7	0.33	1.0	U	
113	Sulfotep	3689-24-5	0.33	1.0	U	
114	1,2,4,5-Tetrachlorobenzene	95-94-3	0.33	1.0	U	
115	Tetrachlorodibenzo-p-dioxins	-----	0.33	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/29/99  
**Analysis Date:** 06/30/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270C  
**Matrix:** SOIL

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAF2908S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131961

	<b>SEMIVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/Kg)</b>	<b>Dil</b>	<b>Conc (mg/Kg)</b>	<b>Flag</b>
116	Tetrachlorodibenzofurans	-----	0.33	1.0		
117	2,3,4,6-Tetrachlorophenol	58-90-2	0.33	1.0	U	
118	o-Toluidine	95-53-4	0.33	1.0	U	
119	1,2,4-Trichlorobenzene	120-82-1	0.33	1.0	U	
120	2,4,6-Trichlorophenol	88-06-2	0.33	1.0	U	
121	2,4,5-Trichlorophenol	95-95-4	0.33	1.0	U	
122	o,o,o-Triethylphosphorothioate	126-68-1	0.33	1.0	U	
123	1,3,5-Trinitrobenzene	99-35-4	0.33	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/16/99  
**Analysis Date:** 06/19/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270C  
**Matrix:** SOIL

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAE2104S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131947

	<b>SEMICVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/Kg)</b>	<b>Dil</b>	<b>Conc (mg/Kg)</b>	<b>Flag</b>
1	Acenaphthylene	208-96-8	0.33	1.0	U	
2	Acetophenone	98-86-2	0.33	1.0	U	
3	2-Acetylaminofluorene	53-96-3	0.33	1.0	U	
4	4-Aminobiphenyl	92-67-1	0.33	1.0	U	
5	Aniline	62-53-3	0.33	1.0	U	
6	Anthracene	120-12-7	0.33	1.0	U	
7	Aramite	140-57-8	0.33	1.0	U	
8	Benzidine	92-87-5	2.6	1.0	U	
9	Benzo(a)anthracene	56-55-3	0.33	1.0	U	
10	Benzo(a)pyrene	50-32-8	0.33	1.0	U	
11	Benzo(b)fluoranthene	205-99-2	0.33	1.0	U	
12	Benzo(g,h,i)perylene	191-24-2	0.33	1.0	U	
13	Benzo(k)fluoranthene	207-08-9	0.33	1.0	U	
14	Benzoic acid	65-85-0	1.6	1.0	U	
15	Benzyl alcohol	100-51-6	0.33	1.0	U	
16	4-Bromophenyl phenyl ether	101-55-3	0.33	1.0	U	
17	Butyl benzyl phthalate	85-68-7	0.33	1.0	U	
18	4-Chloro-3-methylphenol	59-50-7	0.33	1.0	U	
19	4-Chloroaniline	106-47-8	0.33	1.0	U	
20	Chlorobenzilate	510-15-6	0.33	1.0	U	
21	bis(2-Chloroethoxy)methane	111-91-1	0.33	1.0	U	
22	bis(2-Chloroethyl) ether	111-44-4	0.33	1.0	U	
23	bis(2-Chloroisopropyl) ether	108-60-1	0.33	1.0	U	
24	2-Chloronaphthalene	91-58-7	0.33	1.0	U	
25	2-Chlorophenol	95-57-8	0.33	1.0	U	
26	4-Chlorophenyl phenyl ether	7005-72-3	0.33	1.0	U	
27	Chrysene	218-01-9	0.33	1.0	U	
28	Di-n-butyl phthalate	84-74-2	0.33	1.0	U	
29	Di-n-octyl phthalate	117-84-0	0.33	1.0	U	
30	Diallate	2303-16-4	0.33	1.0	U	
31	Dibenz(a,h)anthracene	53-70-3	0.33	1.0	U	

## Surrogate Recovery Data

<b>Compound</b>	<b>%Rec</b>	<b>QC Window</b>
2-Fluorobiphenyl	92	30-115
2-Fluorophenol	70	25-121
Nitrobenzene-d5	83	23-120
Phenol-d5	77	24-113
Terphenyl-d14	92	18-137
2,4,6-Tribromophenol	85	19-122

**Recovery:** 0 out of 6 outside QC Windows

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/16/99  
**Analysis Date:** 06/19/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270C  
**Matrix:** SOIL

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAE2104S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131947

	<b>SEMICVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/Kg)</b>	<b>Dil</b>	<b>Conc (mg/Kg)</b>	<b>Flag</b>
32	Dibenzofuran	132-64-9	0.33	1.0	U	
33	1, 4-Dichlorobenzene	106-46-7	0.33	1.0	U	
34	1, 3-Dichlorobenzene	541-73-1	0.33	1.0	U	
35	1, 2-Dichlorobenzene	95-50-1	0.33	1.0	U	
36	3, 3' -Dichlorobenzidine	91-94-1	0.67	1.0	U	
37	2, 6-Dichlorophenol	87-65-0	0.33	1.0	U	
38	2, 4-Dichlorophenol	120-83-2	0.33	1.0	U	
39	Diethyl phthalate	84-66-2	0.33	1.0	U	
40	Dimethoate	60-51-5	0.33	1.0	U	
41	Dimethyl phthalate	131-11-3	0.33	1.0	U	
42	p-Dimethylaminoazobenzene	60-11-7	0.33	1.0	U	
43	7, 12-Dimethylbenz(a)anthracene	57-97-6	0.33	1.0	U	
44	3, 3' -Dimethylbenzidine	119-93-7	1.3	1.0	U	
45	alpha, alpha-Dimethylphenethylamine	122-09-8	3.3	1.0	U	
46	2, 4-Dimethylphenol	105-67-9	0.33	1.0	U	
47	4, 6-Dinitro-2-methylphenol	534-52-1	1.6	1.0	U	
48	1, 3-Dinitrobenzene	99-65-0	0.33	1.0	U	
49	2, 4-Dinitrophenol	51-28-5	1.6	1.0	U	
50	2, 4-Dinitrotoluene	121-14-2	0.33	1.0	U	
51	2, 6-Dinitrotoluene	606-20-2	0.33	1.0	U	
52	Dinoseb	88-85-7	0.67	1.0	U	
53	Diphenylamine	122-39-4	0.33	1.0	U	
54	Ethyl methanesulfonate	62-50-0	0.33	1.0	U	
55	bis(2-Ethylhexyl) phthalate	117-81-7	0.33	1.0	U	
56	Famphur	52-85-7	0.33	1.0	U	
57	Fluoranthene	206-44-0	0.33	1.0	U	
58	Fluorene	86-73-7	0.33	1.0	U	
59	Hexachlorobenzene	118-74-1	0.33	1.0	U	
60	Hexachlorobutadiene	87-68-3	0.33	1.0	U	
61	Hexachlorocyclopentadiene	77-47-4	0.33	1.0	U	
62	Hexachlorodibenzo-p-dioxins	tmp82	0.33	1.0	U	
63	Hexachlorodibenzofurans	tmp83	0.33	1.0	U	
64	Hexachloroethane	67-72-1	0.33	1.0	U	
65	Hexachlorophene	70-30-4	2.7	1.0	U	
66	Hexachloropropene	1888-71-7	2.7	1.0	U	
67	Indeno(1, 2, 3-c, d)pyrene	193-39-5	0.33	1.0	U	
68	Isophorone	78-59-1	0.33	1.0	U	
69	Isosafrole	120-58-1	0.33	1.0	U	
70	Methapyrilene	91-80-5	0.33	1.0	U	
71	Methyl methanesulfonate	66-27-3	1.3	1.0	U	
72	3-Methylcholanthrene	56-49-5	2.7	1.0	U	
73	2-Methylnaphthalene	91-57-6	0.33	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/16/99  
**Analysis Date:** 06/19/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270C  
**Matrix:** SOIL

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAE2104S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131947

	<b>SEMIVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/Kg)</b>	<b>Dil</b>	<b>Conc (mg/Kg)</b>	<b>Flag</b>
74	4-Methylphenol	106-44-5	0.33	1.0	U	
75	3-Methylphenol	108-39-4	0.33	1.0	U	
76	2-Methylphenol	95-48-7	0.33	1.0	U	
77	N-Nitroso-di-n-butylamine	924-16-3	0.33	1.0	U	
78	N-Nitroso-di-n-propylamine	621-64-7	0.33	1.0	U	
79	N-Nitrosodiethylamine	55-18-5	0.33	1.0	U	
80	N-Nitrosodimethylamine	62-75-9	0.33	1.0	U	
81	N-Nitrosodiphenylamine	86-30-6	0.33	1.0	U	
82	N-Nitrosomethylethylamine	10595-95-6	0.33	1.0	U	
83	N-Nitrosomorpholine	59-89-2	0.33	1.0	U	
84	N-Nitrosopiperidine	100-75-4	0.33	1.0	U	
85	N-Nitrosopyrrolidine	930-55-2	0.33	1.0	U	
86	Naphthalene	91-20-3	0.33	1.0	U	
87	1,4-Naphthoquinone	130-15-4	0.33	1.0	U	
88	1-Naphthylamine	134-32-7	0.33	1.0	U	
89	2-Naphthylamine	91-59-8	0.33	1.0	U	
90	5-Nitro-o-toluidine	99-55-8	0.33	1.0	U	
91	4-Nitroaniline	100-01-6	1.6	1.0	U	
92	3-Nitroaniline	99-09-2	1.6	1.0	U	
93	2-Nitroaniline	88-74-4	1.6	1.0	U	
94	Nitrobenzene	98-95-3	0.33	1.0	U	
95	4-Nitrophenol	100-02-7	1.6	1.0	U	
96	2-Nitrophenol	88-75-5	0.33	1.0	U	
97	4-Nitroquinoline-1-oxide	56-57-5	0.33	1.0	U	
98	Pentachlorobenzene	608-93-5	0.33	1.0	U	
99	Pentachlorodibenzo-p-dioxins	tmp106	0.33	1.0	U	
100	Pentachlorodibenzofurans	tmp108	0.33	1.0	U	
101	Pentachloroethane	76-01-7	0.33	1.0	U	
102	Pentachloronitrobenzene	82-68-8	0.33	1.0	U	
103	Pentachlorophenol	87-86-5	1.6	1.0	U	
104	Phenacetin	62-44-2	0.33	1.0	U	
105	Phenanthrene	85-01-8	0.33	1.0	U	
106	Phenol	108-95-2	0.33	1.0	U	
107	p-Phenylenediamine	106-50-3	0.33	1.0	U	
108	2-Picoline	109-06-8	2.7	1.0	U	
109	Pronamide	23950-58-5	2.7	1.0	U	
110	Pyrene	129-00-0	0.33	1.0	U	
111	Pyridine	110-86-1	4.3	1.0	U	
112	Safrole	94-59-7	0.33	1.0	U	
113	Sulfotep	3689-24-5	0.33	1.0	U	
114	1,2,4,5-Tetrachlorobenzene	95-94-3	0.33	1.0	U	
115	Tetrachlorodibenzo-p-dioxins	-----	0.33	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/16/99  
**Analysis Date:** 06/19/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270C  
**Matrix:** SOIL

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAE2104S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131947

SEMIVOLATILE ORGANICS Appendix IX List		CAS #	Quant Limit (mg/Kg)	Dil	Conc (mg/Kg)	Flag
116	Tetrachlorodibenzofurans	-----	0.33	1.0	U	
117	2,3,4,6-Tetrachlorophenol	58-90-2	0.33	1.0	U	
118	o-Toluidine	95-53-4	0.33	1.0	U	
119	1,2,4-Trichlorobenzene	120-82-1	0.33	1.0	U	
120	2,4,6-Trichlorophenol	88-06-2	0.33	1.0	U	
121	2,4,5-Trichlorophenol	95-95-4	0.33	1.0	U	
122	o,o,o-Triethylphosphorothioate	126-68-1	0.33	1.0	U	
123	1,3,5-Trinitrobenzene	99-35-4	0.33	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/11/99  
**Analysis Date:** 06/17/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAE2813W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131941

	<b>SEMIVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/L)</b>	<b>Dil</b>	<b>Conc (mg/L)</b>	<b>Flag</b>
1	Acenaphthene	83-32-9	0.010	1.0	U	
2	Acenaphthylene	208-96-8	0.010	1.0	U	
3	Acetophenone	98-86-2	0.010	1.0	U	
4	2-Acetylaminofluorene	53-96-3	0.010	1.0	U	
5	4-Aminobiphenyl	92-67-1	0.010	1.0	U	
6	Aniline	62-53-3	0.010	1.0	U	
7	Anthracene	120-12-7	0.010	1.0	U	
8	Aramite	140-57-8	0.010	1.0	U	
9	Benzidine	92-87-5	0.080	1.0	U	
10	Benzo(a)anthracene	56-55-3	0.010	1.0	U	
11	Benzo(a)pyrene	50-32-8	0.010	1.0	U	
12	Benzo(b)fluoranthene	205-99-2	0.010	1.0	U	
13	Benzo(g,h,i)perylene	191-24-2	0.010	1.0	U	
14	Benzo(k)fluoranthene	207-08-9	0.010	1.0	U	
15	Benzoic acid	65-85-0	0.050	1.0	U	
16	Benzyl alcohol	100-51-6	0.010	1.0	U	
17	4-Bromophenyl phenyl ether	101-55-3	0.010	1.0	U	
18	Butyl benzyl phthalate	85-68-7	0.010	1.0	U	
19	4-Chloro-3-methylphenol	59-50-7	0.010	1.0	U	
20	4-Chloroaniline	106-47-8	0.010	1.0	U	
21	Chlorobenzilate	510-15-6	0.010	1.0	U	
22	bis(2-Chloroethoxy)methane	111-91-1	0.010	1.0	U	
23	bis(2-Chloroethyl) ether	111-44-4	0.010	1.0	U	
24	bis(2-Chloroisopropyl) ether	108-60-1	0.010	1.0	U	
25	2-Chloronaphthalene	91-58-7	0.010	1.0	U	
26	2-Chlorophenol	95-57-8	0.010	1.0	U	
27	4-Chlorophenyl phenyl ether	7005-72-3	0.010	1.0	U	
28	Chrysene	218-01-9	0.010	1.0	U	
29	Di-n-butyl phthalate	84-74-2	0.010	1.0	U	
30	Di-n-octyl phthalate	117-84-0	0.010	1.0	U	
31	Diallate	2303-16-4	0.010	1.0	U	

## **Surrogate Recovery Data**

<b>Compound</b>	<b>%Rec</b>	<b>QC Window</b>
2-Fluorobiphenyl	81	30-115
2-Fluorophenol	58	15-121
Nitrobenzene-d5	84	23-120
Phenol-d5	38	15-115
Terphenyl-d14	103	18-140
2,4,6-Tribromophenol	81	15-130

**Recovery:** 0 out of 6 outside QC Windows

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/11/99  
**Analysis Date:** 06/17/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAE2813W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131941

	<b>SEMIVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/L)</b>	<b>Dil</b>	<b>Conc (mg/L)</b>	<b>Flag</b>
32	Dibenz(a,h)anthracene	53-70-3	0.010	1.0	U	
33	Dibenzofuran	132-64-9	0.010	1.0	U	
34	1,4-Dichlorobenzene	106-46-7	0.010	1.0	U	
35	1,3-Dichlorobenzene	541-73-1	0.010	1.0	U	
36	1,2-Dichlorobenzene	95-50-1	0.010	1.0	U	
37	3,3'-Dichlorobenzidine	91-94-1	0.020	1.0	U	
38	2,4-Dichlorophenol	120-83-2	0.010	1.0	U	
39	2,6-Dichlorophenol	87-65-0	0.010	1.0	U	
40	Diethyl phthalate	84-66-2	0.010	1.0	U	
41	Dimethoate	60-51-5	0.010	1.0	U	
42	Dimethyl phthalate	131-11-3	0.010	1.0	U	
43	p-Dimethylaminoazobenzene	60-11-7	0.010	1.0	U	
44	7,12-Dimethylbenz(a)anthracene	57-97-6	0.010	1.0	U	
45	3,3'-Dimethylbenzidine	119-93-7	0.040	1.0	U	
46	alpha, alpha-Dimethylphenethylamine	122-09-8	0.10	1.0	U	
47	2,4-Dimethylphenol	105-67-9	0.010	1.0	U	
48	4,6-Dinitro-2-methylphenol	534-52-1	0.050	1.0	U	
49	1,3-Dinitrobenzene	99-65-0	0.010	1.0	U	
50	2,4-Dinitrophenol	51-28-5	0.050	1.0	U	
51	2,6-Dinitrotoluene	606-20-2	0.010	1.0	U	
52	2,4-Dinitrotoluene	121-14-2	0.010	1.0	U	
53	Dinoseb	88-85-7	0.020	1.0	U	
54	Diphenylamine	122-39-4	0.010	1.0	U	
55	Ethyl methanesulfonate	62-50-0	0.010	1.0	U	
56	bis(2-Ethylhexyl) phthalate	117-81-7	0.010	1.0	U	
57	Famphur	52-85-7	0.20	1.0	U	
58	Fluoranthene	206-44-0	0.010	1.0	U	
59	Fluorene	86-73-7	0.010	1.0	U	
60	Hexachlorobenzene	118-74-1	0.010	1.0	U	
61	Hexachlorobutadiene	87-68-3	0.010	1.0	U	
62	Hexachlorocyclopentadiene	77-47-4	0.010	1.0	U	
63	Hexachlorodibenzo-p-dioxins	tmp82	0.010	1.0	U	
64	Hexachlorodibenzofurans	tmp83	0.010	1.0	U	
65	Hexachloroethane	67-72-1	0.010	1.0	U	
66	Hexachlorophene	70-30-4	0.080	1.0	U	
67	Hexachloropropene	1888-71-7	0.080	1.0	U	
68	Indeno(1,2,3-c,d)pyrene	193-39-5	0.010	1.0	U	
69	Isophorone	78-59-1	0.010	1.0	U	
70	Isosafrole	120-58-1	0.010	1.0	U	
71	Methapyrilene	91-80-5	0.010	1.0	U	
72	Methyl methanesulfonate	66-27-3	0.040	1.0	U	
73	3-Methylcholanthrene	56-49-5	0.080	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/11/99  
**Analysis Date:** 06/17/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAE2813W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131941

	<b>SEMICVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/L)</b>	<b>Dil</b>	<b>Conc (mg/L)</b>	<b>Flag</b>
74	2-Methylnaphthalene	91-57-6	0.010	1.0	U	
75	4-Methylphenol	106-44-5	0.010	1.0	U	
76	3-Methylphenol	108-39-4	0.010	1.0	U	
77	2-Methylphenol	95-48-7	0.010	1.0	U	
78	N-Nitroso-di-n-butylamine	924-16-3	0.010	1.0	U	
79	N-Nitroso-di-n-propylamine	621-64-7	0.010	1.0	U	
80	N-Nitrosodiethylamine	55-18-5	0.010	1.0	U	
81	N-Nitrosodimethylamine	62-75-9	0.010	1.0	U	
82	N-Nitrosodiphenylamine	86-30-6	0.010	1.0	U	
83	N-Nitrosomethylalkylamine	10595-95-6	0.010	1.0	U	
84	N-Nitrosomorpholine	59-89-2	0.010	1.0	U	
85	N-Nitrosopiperidine	100-75-4	0.010	1.0	U	
86	N-Nitrosopyrrolidine	930-55-2	0.010	1.0	U	
87	Naphthalene	91-20-3	0.010	1.0	U	
88	1,4-Naphthoquinone	130-15-4	0.010	1.0	U	
89	2-Naphthylamine	91-59-8	0.010	1.0	U	
90	1-Naphthylamine	134-32-7	0.010	1.0	U	
91	5-Nitro-o-toluidine	99-55-8	0.010	1.0	U	
92	3-Nitroaniline	99-09-2	0.050	1.0	U	
93	2-Nitroaniline	88-74-4	0.050	1.0	U	
94	4-Nitroaniline	100-01-6	0.050	1.0	U	
95	Nitrobenzene	98-95-3	0.010	1.0	U	
96	4-Nitrophenol	100-02-7	0.050	1.0	U	
97	2-Nitrophenol	88-75-5	0.010	1.0	U	
98	4-Nitroquinoline-1-oxide	56-57-5	0.010	1.0	U	
99	Pentachlorobenzene	608-93-5	0.010	1.0	U	
100	Pentachlorodibenzo-p-dioxins	tmp106	0.010	1.0	U	
101	Pentachlorodibenzofurans	tmp108	0.010	1.0	U	
102	Pentachloroethane	76-01-7	0.010	1.0	U	
103	Pentachloronitrobenzene	82-68-8	0.010	1.0	U	
104	Pentachlorophenol	87-86-5	0.050	1.0	U	
105	Phenacetin	62-44-2	0.010	1.0	U	
106	Phenanthrene	85-01-8	0.010	1.0	U	
107	Phenol	108-95-2	0.010	1.0	U	
108	p-Phenylenediamine	106-50-3	0.010	1.0	U	
109	2-Picoline	109-06-8	0.080	1.0	U	
110	Pronamide	23950-58-5	0.080	1.0	U	
111	Pyrene	129-00-0	0.010	1.0	U	
112	Pyridine	110-86-1	0.13	1.0	U	
113	Safrole	94-59-7	0.010	1.0	U	
114	Sulfatepp	3689-24-5	0.010	1.0	U	
115	1,2,4,5-Tetrachlorobenzene	95-94-3	0.010	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/11/99  
**Analysis Date:** 06/17/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAE2813W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131941

	<b>SEMIVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/L)</b>	<b>Dil</b>	<b>Conc (mg/L)</b>	<b>Flag</b>
116	Tetrachlorodibenzo-p-dioxins	-----	0.010	1.0	U	
117	Tetrachlorodibenzofurans	-----	0.010	1.0	U	
118	2,3,4,6-Tetrachlorophenol	58-90-2	0.010	1.0	U	
119	o-Toluidine	95-53-4	0.010	1.0	U	
120	1,2,4-Trichlorobenzene	120-82-1	0.010	1.0	U	
121	2,4,6-Trichlorophenol	88-06-2	0.010	1.0	U	
122	2,4,5-Trichlorophenol	95-95-4	0.010	1.0	U	
123	o,o,o-Triethylphosphorothioate	126-68-1	0.010	1.0	U	
124	1,3,5-Trinitrobenzene	99-35-4	0.010	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/28/99  
**Analysis Date:** 06/29/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAF1705W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131960

SEMIVOLATILE ORGANICS Appendix IX List		CAS #	Quant Limit (mg/L)	Dil	Conc (mg/L)	Flag
1	Acenaphthene	83-32-9	0.010	1.0		U
2	Acenaphthylene	208-96-8	0.010	1.0		U
3	Acetophenone	98-86-2	0.010	1.0		U
4	2-Acetylaminofluorene	53-96-3	0.010	1.0		U
5	4-Aminobiphenyl	92-67-1	0.010	1.0		U
6	Aniline	62-53-3	0.010	1.0		U
7	Anthracene	120-12-7	0.010	1.0		U
8	Aramite	140-57-8	0.010	1.0		U
9	Benzidine	92-87-5	0.080	1.0		U
10	Benzo(a)anthracene	56-55-3	0.010	1.0		U
11	Benzo(a)pyrene	50-32-8	0.010	1.0		U
12	Benzo(b)fluoranthene	205-99-2	0.010	1.0		U
13	Benzo(g,h,i)perylene	191-24-2	0.010	1.0		U
14	Benzo(k)fluoranthene	207-08-9	0.010	1.0		U
15	Benzoic acid	65-85-0	0.050	1.0		U
16	Benzyl alcohol	100-51-6	0.010	1.0		U
17	4-Bromophenyl phenyl ether	101-55-3	0.010	1.0		U
18	Butyl benzyl phthalate	85-68-7	0.010	1.0		U
19	4-Chloro-3-methylphenol	59-50-7	0.010	1.0		U
20	4-Chloroaniline	106-47-8	0.010	1.0		U
21	Chlorobenzilate	510-15-6	0.010	1.0		U
22	bis(2-Chloroethoxy)methane	111-91-1	0.010	1.0		U
23	bis(2-Chloroethyl) ether	111-44-4	0.010	1.0		U
24	bis(2-Chloroisopropyl) ether	108-60-1	0.010	1.0		U
25	2-Chloronaphthalene	91-58-7	0.010	1.0		U
26	2-Chlorophenol	95-57-8	0.010	1.0		U
27	4-Chlorophenyl phenyl ether	7005-72-3	0.010	1.0		U
28	Chrysene	218-01-9	0.010	1.0		U
29	Di-n-butyl phthalate	84-74-2	0.010	1.0		U
30	Di-n-octyl phthalate	117-84-0	0.010	1.0		U
31	Diallate	2303-16-4	0.010	1.0		U

### Surrogate Recovery Data

Compound	%Rec	QC Window
2-Fluorobiphenyl	74	30-115
2-Fluorophenol	52	15-121
Nitrobenzene-d5	78	23-120
Phenol-d5	40	15-115
Terphenyl-d14	88	18-140
2,4,6-Tribromophenol	78	15-130

**Recovery:** 0 out of 6 outside QC Windows

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/28/99  
**Analysis Date:** 06/29/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAF1705W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131960

	<b>SEMIVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/L)</b>	<b>Dil</b>	<b>Conc (mg/L)</b>	<b>Flag</b>
32	Dibenz(a,h)anthracene	53-70-3	0.010	1.0	U	
33	Dibenzofuran	132-64-9	0.010	1.0	U	
34	1,4-Dichlorobenzene	106-46-7	0.010	1.0	U	
35	1,3-Dichlorobenzene	541-73-1	0.010	1.0	U	
36	1,2-Dichlorobenzene	95-50-1	0.010	1.0	U	
37	3,3'-Dichlorobenzidine	91-94-1	0.020	1.0	U	
38	2,4-Dichlorophenol	120-83-2	0.010	1.0	U	
39	2,6-Dichlorophenol	87-65-0	0.010	1.0	U	
40	Diethyl phthalate	84-66-2	0.010	1.0	U	
41	Dimethoate	60-51-5	0.010	1.0	U	
42	Dimethyl phthalate	131-11-3	0.010	1.0	U	
43	p-Dimethylaminoazobenzene	60-11-7	0.010	1.0	U	
44	7,12-Dimethylbenz(a)anthracene	57-97-6	0.010	1.0	U	
45	3,3'-Dimethylbenzidine	119-93-7	0.040	1.0	U	
46	alpha, alpha-Dimethylphenethylamine	122-09-8	0.10	1.0	U	
47	2,4-Dimethylphenol	105-67-9	0.010	1.0	U	
48	4,6-Dinitro-2-methylphenol	534-52-1	0.050	1.0	U	
49	1,3-Dinitrobenzene	99-65-0	0.010	1.0	U	
50	2,4-Dinitrophenol	51-28-5	0.050	1.0	U	
51	2,6-Dinitrotoluene	606-20-2	0.010	1.0	U	
52	2,4-Dinitrotoluene	121-14-2	0.010	1.0	U	
53	Dinoseb	88-85-7	0.020	1.0	U	
54	Diphenylamine	122-39-4	0.010	1.0	U	
55	Ethyl methanesulfonate	62-50-0	0.010	1.0	U	
56	bis(2-Ethylhexyl) phthalate	117-81-7	0.010	1.0	U	
57	Famphur	52-85-7	0.20	1.0	U	
58	Fluoranthene	206-44-0	0.010	1.0	U	
59	Fluorene	86-73-7	0.010	1.0	U	
60	Hexachlorobenzene	118-74-1	0.010	1.0	U	
61	Hexachlorobutadiene	87-68-3	0.010	1.0	U	
62	Hexachlorocyclopentadiene	77-47-4	0.010	1.0	U	
63	Hexachlorodibenzo-p-dioxins	tmp82	0.010	1.0	U	
64	Hexachlorodibenzofurans	tmp83	0.010	1.0	U	
65	Hexachloroethane	67-72-1	0.010	1.0	U	
66	Hexachlorophene	70-30-4	0.080	1.0	U	
67	Hexachloropropene	1888-71-7	0.080	1.0	U	
68	Indeno(1,2,3-c,d)pyrene	193-39-5	0.010	1.0	U	
69	Isophorone	78-59-1	0.010	1.0	U	
70	Isosafrole	120-58-1	0.010	1.0	U	
71	Methapyrilene	91-80-5	0.010	1.0	U	
72	Methyl methanesulfonate	66-27-3	0.040	1.0	U	
73	3-Methylcholanthrene	56-49-5	0.080	1.0	U	

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/28/99  
**Analysis Date:** 06/29/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAF1705W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131960

	<b>SEMIVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/L)</b>	<b>Dil</b>	<b>Conc (mg/L)</b>	<b>Flag</b>
74	2-Methylnaphthalene	91-57-6	0.010	1.0		U
75	4-Methylphenol	106-44-5	0.010	1.0		U
76	3-Methylphenol	108-39-4	0.010	1.0		U
77	2-Methylphenol	95-48-7	0.010	1.0		U
78	N-Nitroso-di-n-butylamine	924-16-3	0.010	1.0		U
79	N-Nitroso-di-n-propylamine	621-64-7	0.010	1.0		U
80	N-Nitrosodiethylamine	55-18-5	0.010	1.0		U
81	N-Nitrosodimethylamine	62-75-9	0.010	1.0		U
82	N-Nitrosodiphenylamine	86-30-6	0.010	1.0		U
83	N-Nitrosomethylethylamine	10595-95-6	0.010	1.0		U
84	N-Nitrosomorpholine	59-89-2	0.010	1.0		U
85	N-Nitrosopiperidine	100-75-4	0.010	1.0		U
86	N-Nitrosopyrrolidine	930-55-2	0.010	1.0		U
87	Naphthalene	91-20-3	0.010	1.0		U
88	1,4-Naphthoquinone	130-15-4	0.010	1.0		U
89	2-Naphthylamine	91-59-8	0.010	1.0		U
90	1-Naphthylamine	134-32-7	0.010	1.0		U
91	5-Nitro-o-toluidine	99-55-8	0.010	1.0		U
92	3-Nitroaniline	99-09-2	0.050	1.0		U
93	2-Nitroaniline	88-74-4	0.050	1.0		U
94	4-Nitroaniline	100-01-6	0.050	1.0		U
95	Nitrobenzene	98-95-3	0.010	1.0		U
96	4-Nitrophenol	100-02-7	0.050	1.0		U
97	2-Nitrophenol	88-75-5	0.010	1.0		U
98	4-Nitroquinoline-1-oxide	56-57-5	0.010	1.0		U
99	Pentachlorobenzene	608-93-5	0.010	1.0		U
100	Pentachlorodibenzo-p-dioxins	tmp106	0.010	1.0		U
101	Pentachlorodibenzofurans	tmp108	0.010	1.0		U
102	Pentachloroethane	76-01-7	0.010	1.0		U
103	Pentachloronitrobenzene	82-68-8	0.010	1.0		U
104	Pentachlorophenol	87-86-5	0.050	1.0		U
105	Phenacetin	62-44-2	0.010	1.0		U
106	Phenanthrene	85-01-8	0.010	1.0		U
107	Phenol	108-95-2	0.010	1.0		U
108	p-Phenylenediamine	106-50-3	0.010	1.0		U
109	2-Picoline	109-06-8	0.080	1.0		U
110	Pronamide	23950-58-5	0.080	1.0		U
111	Pyrene	129-00-0	0.010	1.0		U
112	Pyridine	110-86-1	0.13	1.0		U
113	Safrole	94-59-7	0.010	1.0		U
114	Sulfotep	3689-24-5	0.010	1.0		U
115	1,2,4,5-Tetrachlorobenzene	95-94-3	0.010	1.0		U

# QUALITY ASSESSMENT REPORT - METHOD BLANK ANALYSIS

**Extraction Date:** 06/28/99  
**Analysis Date:** 06/29/99  
**Second Analysis Date:** N/A  
**Method Reference:** 8270  
**Matrix:** WATER

**ENCOTEC Project ID:** 90111  
**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAF1705W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Method Blank ID:** 200131960

	<b>SEMICVOLATILE ORGANICS Appendix IX List</b>	<b>CAS #</b>	<b>Quant Limit (mg/L)</b>	<b>Dil</b>	<b>Conc (mg/L)</b>	<b>Flag</b>
116	Tetrachlorodibenzo-p-dioxins	-----	0.010	1.0	U	
117	Tetrachlorodibenzofurans	-----	0.010	1.0	U	
118	2,3,4,6-Tetrachlorophenol	58-90-2	0.010	1.0	U	
119	o-Toluidine	95-53-4	0.010	1.0	U	
120	1,2,4-Trichlorobenzene	120-82-1	0.010	1.0	U	
121	2,4,6-Trichlorophenol	88-06-2	0.010	1.0	U	
122	2,4,5-Trichlorophenol	95-95-4	0.010	1.0	U	
123	o,o,o-Triethylphosphorothioate	126-68-1	0.010	1.0	U	
124	1,3,5-Trinitrobenzene	99-35-4	0.010	1.0	U	

Safety-Kleen (ENCOTEC), Inc.  
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734 / 761-1389

SOIL MATRIX SURROGATE RECOVERY  
SEMIVOLATILE ORGANICS

Project Name: EDG-ALAMEDA  
Project Number: 90111  
Report Date: 07/06/99  
QC Set I.D.: BNAE2104S

ENCOTEC Sample I. D.	BASE-NEUTRAL EXTRACTABLE ANALYTES			ACID EXTRACTABLE ANALYTES		
	% Recovery <u>-d5</u> (23-120)	% Recovery <u>phenyl</u> (30-115)	% Recovery <u>-d14</u> (18-137)	% Recovery Phenol-d5 (24-113)	% Recovery 2-Fluoro- <u>phenol</u> (25-121)	% Recovery <u>2,4,6-Tribromo- phenol</u> (19-122)
200129629 MS	DL	DL	DL	DL	DL	DL
200129629 MSD	DL	DL	DL	DL	DL	DL

\* Value outside of quality control windows.

DL = Sample extract diluted, therefore surrogate recoveries not applicable.

M = Matrix interferences caused distortion to recovery value.

RECOVERY: 0 out of 0 outside QC Windows

Note:

# QUALITY ASSESSMENT REPORT - LCS Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAF2908S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200132087  
**Matrix:** SOIL

	Analyte	Conc Spiked (mg/Kg)	Conc LCS (mg/Kg)	Percent Recovery (%)	Flag	Quality Control Windows (%)
1	Acenaphthene	2.00	0.822	41 *		68-131
2	Acenaphthylene	2.00	0.828	41 *		69-118
3	Anthracene	2.00	0.822	41 *		75-132
4	Benzo(a)anthracene	2.00	0.753	38 *		69-139
5	Benzo(a)pyrene	2.00	0.865	43 *		70-134
6	Benzo(b)fluoranthene	2.00	0.795	40 *		50-135
7	Benzo(g,h,i)perylene	2.00	0.761	38		2-192
8	Benzo(k)fluoranthene	2.00	0.820	41 *		62-141
9	4-Bromophenyl phenyl ether	2.00	0.790	40 *		68-131
10	Butyl benzyl phthalate	2.00	0.726	36 *		71-143
11	4-Chloro-3-methylphenol	2.00	0.777	39 *		80-117
12	bis(2-Chloroethoxy)methane	2.00	0.799	40 *		74-129
13	bis(2-Chloroethyl) ether	2.00	0.741	37 *		61-123
14	bis(2-Chloroisopropyl) ether	2.00	0.845	42 *		52-151
15	2-Chloronaphthalene	2.00	0.679	34 *		70-124
16	2-Chlorophenol	2.00	0.800	40 *		57-112
17	4-Chlorophenyl phenyl ether	2.00	0.680	34 *		74-128
18	Chrysene	2.00	0.759	38 *		48-182
19	Di-n-butyl phthalate	2.00	0.771	39 *		77-126
20	Di-n-octyl phthalate	2.00	0.774	39		21-173
21	Dibenz(a,h)anthracene	2.00	0.808	40 *		41-171
22	1,4-Dichlorobenzene	2.00	0.770	38 *		67-119
23	1,3-Dichlorobenzene	2.00	0.762	38 *		68-114
24	1,2-Dichlorobenzene	2.00	0.792	40 *		71-119
25	3,3'-Dichlorobenzidine	2.00	0.624	31		D-292
26	2,4-Dichlorophenol	2.00	0.776	39 *		61-116
27	Diethyl phthalate	2.00	0.750	38 *		72-128
28	2,4-Dimethylphenol	2.00	0.875	44 *		54-121
29	4,6-Dinitro-2-methylphenol	2.00	0.583	29		2-175
30	2,4-Dinitrophenol	2.00	0.318	16		D-113
31	2,6-Dinitrotoluene	2.00	0.667	33		30-167

## Surrogate Recovery Data

Compound	%Rec	QC Window
2-Fluorobiphenyl	41	30-115
2-Fluorophenol	40	25-121
Nitrobenzene-d5	42	23-120
Phenol-d5	42	24-113
Terphenyl-d14	33	18-137
2,4,6-Tribromophenol	42	19-122

Recovery: 0 out of 6 outside QC Windows

# QUALITY ASSESSMENT REPORT - LCS Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAF2908S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200132087  
**Matrix:** SOIL

	Analyte	Conc Spiked (mg/Kg)	Conc LCS (mg/Kg)	Percent Recovery (%)	Flag	Quality Control Windows (%)
32	2,4-Dinitrotoluene	2.00	0.677	34 *		78-121
33	bis(2-Ethylhexyl) phthalate	2.00	0.750	38		38-188
34	Fluoranthene	2.00	0.782	39 *		69-141
35	Fluorene	2.00	0.751	38 *		74-132
36	Hexachlorobenzene	2.00	0.735	37 *		68-128
37	Hexachlorobutadiene	2.00	0.838	42 *		58-162
38	Hexachloroethane	2.00	0.900	45 *		69-126
39	Indeno(1,2,3-c,d)pyrene	2.00	0.749	37		35-169
40	Isophorone	2.00	0.838	42 *		61-126
41	Naphthalene	2.00	0.877	44 *		75-119
42	Nitrobenzene	2.00	0.798	40 *		46-137
43	4-Nitrophenol	2.00	0.781	39 *		56-109
44	2-Nitrophenol	2.00	0.844	42 *		62-113
45	n-Nitroso-di-n-propylamine	2.00	0.985	49 *		79-114
46	n-Nitrosodiphenylamine	2.00	0.737	37		30-171
47	Pentachlorophenol	2.00	0.636	32		18-100
48	Phenanthrene	2.00	0.759	38 *		74-126
49	Phenol	2.00	0.778	39 *		58-120
50	Pyrene	2.00	0.781	39 *		65-145
51	1,2,4-Trichlorobenzene	2.00	0.801	40 *		74-120
52	2,4,6-Trichlorophenol	2.00	0.705	35 *		62-116

**Quality Assessment Recovery Data**  
 Recovery: 42 out of 52 outside QC Windows

Safety-Kleen (ENCOTEC), Inc.

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# QUALITY ASSESSMENT REPORT - LCS Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAE2104S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200127922  
**Matrix:** SOIL

	Analyte	Conc Spiked (mg/Kg)	Conc LCS (mg/Kg)	Percent Recovery (%)	Flag	Quality Control Windows (%)
1	Acenaphthene	2.00	1.87	94		68-131
2	Acenaphthylene	2.00	1.73	86		69-118
3	Anthracene	2.00	1.77	88		75-132
4	Benzo(a)anthracene	2.00	1.91	96		69-139
5	Benzo(a)pyrene	2.00	1.90	95		70-134
6	Benzo(b)fluoranthene	2.00	1.88	94		50-135
7	Benzo(g,h,i)perylene	2.00	2.11	106		2-192
8	Benzo(k)fluoranthene	2.00	1.76	88		62-141
9	4-Bromophenyl phenyl ether	2.00	1.84	92		68-131
10	Butyl benzyl phthalate	2.00	1.80	90		71-143
11	4-Chloro-3-methylphenol	2.00	1.78	89		80-117
12	bis(2-Chloroethoxy)methane	2.00	1.83	92		74-129
13	bis(2-Chloroethyl) ether	2.00	1.69	84		61-123
14	bis(2-Chloroisopropyl) ether	2.00	1.73	86		52-151
15	2-Chloronaphthalene	2.00	1.61	80		70-124
16	2-Chlorophenol	2.00	1.68	84		57-112
17	4-Chlorophenyl phenyl ether	2.00	1.68	84		74-128
18	Chrysene	2.00	1.93	96		48-182
19	Di-n-butyl phthalate	2.00	1.92	96		77-126
20	Di-n-octyl phthalate	2.00	1.72	86		21-173
21	Dibenz(a,h)anthracene	2.00	2.20	110		41-171
22	1,4-Dichlorobenzene	2.00	1.53	76		67-119
23	1,3-Dichlorobenzene	2.00	1.58	79		68-114
24	1,2-Dichlorobenzene	2.00	1.64	82		71-119
25	3,3'-Dichlorobenzidine	2.00	2.33	116		D-292
26	2,4-Dichlorophenol	2.00	1.83	92		61-116
27	Diethyl phthalate	2.00	1.88	94		72-128
28	2,4-Dimethylphenol	2.00	1.75	88		54-121
29	4,6-Dinitro-2-methylphenol	2.00	1.17	58		2-175
30	2,4-Dinitrophenol	2.00	0.270	14		D-113
31	2,6-Dinitrotoluene	2.00	1.91	96		30-167

## Surrogate Recovery Data

Compound	%Rec	QC Window
2-Fluorobiphenyl	78	30-115
2-Fluorophenol	86	25-121
Nitrobenzene-d5	88	23-120
Phenol-d5	101	24-113
Terphenyl-d14	94	18-137
2,4,6-Tribromophenol	95	19-122

**Recovery: 0 out of 6 outside QC Windows**

# QUALITY ASSESSMENT REPORT - LCS Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAE2104S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200127922  
**Matrix:** SOIL

	Analyte	Conc Spiked (mg/Kg)	Conc LCS (mg/Kg)	Percent Recovery (%)	Flag	Quality Control Windows (%)
32	2,4-Dinitrotoluene	2.00	1.81	90		78-121
33	bis(2-Ethylhexyl) phthalate	2.00	1.61	80		38-188
34	Fluoranthene	2.00	1.92	96		69-141
35	Fluorene	2.00	1.76	88		74-132
36	Hexachlorobenzene	2.00	1.75	88		68-128
37	Hexachlorobutadiene	2.00	1.79	90		58-162
38	Hexachloroethane	2.00	1.77	88		69-126
39	Indeno(1,2,3-c,d)pyrene	2.00	2.11	106		35-169
40	Isophorone	2.00	1.99	100		61-126
41	Naphthalene	2.00	2.01	100		75-119
42	Nitrobenzene	2.00	1.82	91		46-137
43	4-Nitrophenol	2.00	2.15	108		56-109
44	2-Nitrophenol	2.00	1.61	80		62-113
45	n-Nitroso-di-n-propylamine	2.00	2.03	102		79-114
46	n-Nitrosodiphenylamine	2.00	1.86	93		30-171
47	Pentachlorophenol	2.00	1.44	72		18-100
48	Phenanthrene	2.00	1.99	100		74-126
49	Phenol	2.00	1.73	86		58-120
50	Pyrene	2.00	1.75	88		65-145
51	1,2,4-Trichlorobenzene	2.00	1.56	78		74-120
52	2,4,6-Trichlorophenol	2.00	1.67	84		62-116

**Quality Assessment Recovery Data**  
 Recovery: 0 out of 52 outside QC Windows

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# QUALITY ASSESSMENT REPORT - LCS Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAE2813W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200127895  
**Matrix:** WATER

	Analyte	Conc Spiked (mg/L)	Conc LCS (mg/L)	Percent Recovery (%)	Flag	Quality Control Windows (%)
1	Acenaphthene	0.100	0.0851	85		62-120
2	Acenaphthylene	0.100	0.0765	76		55-116
3	Anthracene	0.100	0.0740	74		56-128
4	Benzo(a)anthracene	0.100	0.0861	86		59-127
5	Benzo(a)pyrene	0.100	0.0800	80		58-122
6	Benzo(b)fluoranthene	0.100	0.0879	88		55-121
7	Benzo(g,h,i)perylene	0.100	0.0750	75		54-133
8	Benzo(k)fluoranthene	0.100	0.0685	68		51-133
9	4-Bromophenyl phenyl ether	0.100	0.0804	80		62-189
10	Butyl benzyl phthalate	0.100	0.0826	83		30-120
11	4-Chloro-3-methylphenol	0.100	0.0886	89		59-114
12	bis(2-Chloroethoxy)methane	0.100	0.0815	82		60-130
13	bis(2-Chloroethyl) ether	0.100	0.0780	78		55-126
14	bis(2-Chloroisopropyl) ether	0.100	0.0918	92		58-123
15	2-Chloronaphthalene	0.100	0.0761	76		53-115
16	2-Chlorophenol	0.100	0.0886	89		59-114
17	4-Chlorophenyl phenyl ether	0.100	0.0839	84		52-124
18	Chrysene	0.100	0.0819	82		72-161
19	Di-n-butyl phthalate	0.100	0.0797	80		40-113
20	Di-n-octyl phthalate	0.100	0.0904	90		54-135
21	Dibenz(a,h)anthracene	0.100	0.0822	82		67-175
22	1,4-Dichlorobenzene	0.100	0.0710	71		48-106
23	1,3-Dichlorobenzene	0.100	0.0729	73		47-100
24	1,2-Dichlorobenzene	0.100	0.0837	84		50-107
25	3,3'-Dichlorobenzidine	0.100	0.143	143		30-287
26	2,4-Dichlorophenol	0.100	0.0822	82		58-116
27	Diethyl phthalate	0.100	0.0676	68		30-118
28	2,4-Dimethylphenol	0.100	0.0841	84		51-114
29	4,6-Dinitro-2-methylphenol	0.100	0.0672	67		30-156
30	2,4-Dinitrophenol	0.100	0.0474	47		30-135
31	2,6-Dinitrotoluene	0.100	0.0891	89		56-129

## Surrogate Recovery Data

Compound	%Rec	QC Window
2-Fluorobiphenyl	80	30-115
2-Fluorophenol	53	15-121
Nitrobenzene-d5	81	23-120
Phenol-d5	41	15-115
Terphenyl-d14	93	18-140
2,4,6-Tribromophenol	80	15-130

**Recovery:** 0 out of 6 outside QC Windows

J02

# QUALITY ASSESSMENT REPORT - LCS Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAE2813W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200127895  
**Matrix:** WATER

	Analyte	Conc Spiked (mg/L)	Conc LCS (mg/L)	Percent Recovery (%)	Flag	Quality Control Windows (%)
32	2,4-Dinitrotoluene	0.100	0.0927	93		59-126
33	bis(2-Ethylhexyl) phthalate	0.100	0.0835	84		58-128
34	Fluoranthene	0.100	0.0758	76		56-127
35	Fluorene	0.100	0.0801	80		53-123
36	Hexachlorobenzene	0.100	0.0752	75		48-150
37	Hexachlorobutadiene	0.100	0.0757	76		47-115
38	Hexachloroethane	0.100	0.0770	77		47-113
39	Indeno(1,2,3-c,d)pyrene	0.100	0.101	101		44-139
40	Isophorone	0.100	0.0857	86		62-125
41	Naphthalene	0.100	0.0883	88		56-114
42	Nitrobenzene	0.100	0.0735	74		60-121
43	4-Nitrophenol	0.100	0.0413	41		30-890
44	2-Nitrophenol	0.100	0.0874	87		58-123
45	n-Nitroso-di-n-propylamine	0.100	0.100	100		60-144
46	n-Nitrosodiphenylamine	0.100	0.0895	90		57-124
47	Pentachlorophenol	0.100	0.0800	80		30-139
48	Phenanthrene	0.100	0.0786	79		61-124
49	Phenol	0.100	0.0399	40		21-100
50	Pyrene	0.100	0.0812	81		53-130
51	1,2,4-Trichlorobenzene	0.100	0.0754	75		50-101
52	2,4,6-Trichlorophenol	0.100	0.0828	83		47-128

**Quality Assessment Recovery Data**  
 Recovery: 0 out of 52 outside QC Windows

Safety-Kleen (ENCOTEC), Inc.

3985 Research Park Drive ■ Ann Arbor, MI 48108  
 Telephone: (734) 761-1389 - Telefax: (734) 761-1034

103

Report Date: 07/02/99

# QUALITY ASSESSMENT REPORT - LCS Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAF1705W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200132083  
**Matrix:** WATER

Analyte	Conc Spiked (mg/L)	Conc LCS (mg/L)	Percent Recovery (%)	Flag	Quality Control Windows (%)
1 Acenaphthene	0.100	0.0828	83		62-120
2 Acenaphthylene	0.100	0.0789	79		55-116
3 Anthracene	0.100	0.0675	68		56-128
4 Benzo(a)anthracene	0.100	0.0765	76		59-127
5 Benzo(a)pyrene	0.100	0.0782	78		58-122
6 Benzo(b)fluoranthene	0.100	0.0885	88		55-121
7 Benzo(g,h,i)perylene	0.100	0.0603	60		54-133
8 Benzo(k)fluoranthene	0.100	0.0772	77		51-133
9 4-Bromophenyl phenyl ether	0.100	0.0876	88		62-189
10 Butyl benzyl phthalate	0.100	0.0815	82		30-120
11 4-Chloro-3-methylphenol	0.100	0.0818	82		59-114
12 bis(2-Chloroethoxy)methane	0.100	0.0903	90		60-130
13 bis(2-Chloroethyl) ether	0.100	0.0909	91		55-126
14 bis(2-Chloroisopropyl) ether	0.100	0.0944	94		58-123
15 2-Chloronaphthalene	0.100	0.0897	90		53-115
16 2-Chlorophenol	0.100	0.0850	85		59-114
17 4-Chlorophenyl phenyl ether	0.100	0.0929	93		52-124
18 Chrysene	0.100	0.0688	69 *		72-161
19 Di-n-butyl phthalate	0.100	0.0758	76		40-113
20 Di-n-octyl phthalate	0.100	0.0993	99		54-135
21 Dibenz(a,h)anthracene	0.100	0.0586	59 *		67-175
22 1,4-Dichlorobenzene	0.100	0.0876	88		48-106
23 1,3-Dichlorobenzene	0.100	0.0796	80		47-100
24 1,2-Dichlorobenzene	0.100	0.0887	89		50-107
25 3,3'-Dichlorobenzidine	0.100	0.128	128		30-287
26 2,4-Dichlorophenol	0.100	0.0838	84		58-116
27 Diethyl phthalate	0.100	0.0641	64		30-118
28 2,4-Dimethylphenol	0.100	0.0757	76		51-114
29 4,6-Dinitro-2-methylphenol	0.100	0.0627	63		30-156
30 2,4-Dinitrophenol	0.100	0.0487	49		30-135
31 2,6-Dinitrotoluene	0.100	0.0919	92		56-129

## Surrogate Recovery Data

Compound	%Rec	QC Window
2-Fluorobiphenyl	88	30-115
2-Fluorophenol	60	15-121
Nitrobenzene-d5	88	23-120
Phenol-d5	41	15-115
Terphenyl-d14	102	18-140
2,4,6-Tribromophenol	91	15-130

**Recovery:** 0 out of 6 outside QC Windows

# QUALITY ASSESSMENT REPORT - LCS Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAF1705W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200132083  
**Matrix:** WATER

	Analyte	Conc Spiked (mg/L)	Conc LCS (mg/L)	Percent Recovery (%)	Flag	Quality Control Windows (%)
32	2,4-Dinitrotoluene	0.100	0.0946	95		59-126
33	bis(2-Ethylhexyl) phthalate	0.100	0.0952	95		58-128
34	Fluoranthene	0.100	0.0834	83		56-127
35	Fluorene	0.100	0.0807	81		53-123
36	Hexachlorobenzene	0.100	0.0698	70		48-150
37	Hexachlorobutadiene	0.100	0.0919	92		47-115
38	Hexachloroethane	0.100	0.0921	92		47-113
39	Indeno(1,2,3-c,d)pyrene	0.100	0.0851	85		44-139
40	Isophorone	0.100	0.0806	81		62-125
41	Naphthalene	0.100	0.0800	80		56-114
42	Nitrobenzene	0.100	0.0920	92		60-121
43	4-Nitrophenol	0.100	0.0398	40		30-890
44	2-Nitrophenol	0.100	0.0781	78		58-123
45	n-Nitroso-di-n-propylamine	0.100	0.0896	90		60-144
46	n-Nitrosodiphenylamine	0.100	0.0954	95		57-124
47	Pentachlorophenol	0.100	0.0701	70		30-139
48	Phenanthrene	0.100	0.0828	83		61-124
49	Phenol	0.100	0.0354	35		21-100
50	Pyrene	0.100	0.0914	91		53-130
51	1,2,4-Trichlorobenzene	0.100	0.0784	78		50-101
52	2,4,6-Trichlorophenol	0.100	0.0898	90		47-128

**Quality Assessment Recovery Data**  
 Recovery: 2 out of 52 outside QC Windows

Safety-Kleen (ENCOTEC), Inc.

3985 Research Park Drive ■ Ann Arbor, MI 48108

Telephone: (734) 761-1389 - Telefax: (734) 761-1034

# QUALITY ASSESSMENT REPORT - MS/MSD Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAF2908S  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200133331  
**Matrix:** SOIL

	Analyte	Conc. Spiked (mg/Kg)	Sample Result (mg/Kg)	Conc MS (mg/Kg)	Percent Recovery (%)	Flag	Conc. MSD (mg/Kg)	Percent Recovery (%)	Flag	RPD (%)	Flag	QC Windows RPD (%)	
												RPD (%)	(%)
1	Acenaphthene	2500	U	1180	47		1240	50		5.0		19	45-124
2	4-Chloro-3-methylphenol	3750	U	2380	63		2350	63		1.3		33	49-120
3	2-Chlorophenol	3750	U	2270	61		2310	62		1.7		50	49-111
4	1,4-Dichlorobenzene	2500	U	1490	60		1520	61		2.0		27	40-108
5	2,4-Dinitrotoluene	2500	U	1220	49		1230	49		0.8		47	44-109
6	N-Nitroso-di-n-propylamine	2500	U	1850	74		1940	78		4.7		38	44-115
7	4-Nitrophenol	3750	U	2810	75		2860	76		1.8		50	41-133
8	Pentachlorophenol	3750	U	2780	74		2460	66		12		47	33-129
9	Phenol	3750	U	2319	62		2419	65		4.2		35	60-97
10	Pyrene	2500	U	1089	44		1199	48		9.6		36	24-142
11	1,2,4-Trichlorobenzene	2500	U	1790	72		1670	67		6.9		23	43-113

	MS Surrogate Recovery Data			MSD Surrogate Recovery Data		
	Compound	%Rec	QC Window	Compound	%Rec	QC Window
1	2-Fluorobiphenyl	64	30-115	2-Fluorobiphenyl	72	30-115
2	2-Fluorophenol	51	25-121	2-Fluorophenol	55	25-121
3	Nitrobenzene-d5	65	23-120	Nitrobenzene-d5	65	23-120
4	Phenol-d5	63	24-113	Phenol-d5	64	24-113
5	Terphenyl-d14	53	18-137	Terphenyl-d14	56	18-137
6	2,4,6-Tribromophenol	57	19-122	2,4,6-Tribromophenol	67	19-122

**Recovery:** 0 out of 6 outside QC Windows

**Recovery:** 0 out of 6 outside QC Windows

## Quality Assessment Recovery Data

RPD: 0 out of 11 outside QC Windows

Recovery: 0 out of 22 outside QC Windows

Safety-Kleen (ENCOTEC), Inc.

3985 Research Park Drive ■ Ann Arbor, MI 48108  
 Telephone: (734) 761-1389 - Telefax: (734) 761-1034

Report Date: 07/06/99

Safety-Kleen / ENCOTEC  
 3985 Research Park Drive \* Ann Arbor, MI 48108  
 313 / 761-1389

**MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD)  
 SEMIVOLATILE ORGANICS - WATER MATRIX**

Project Name: ENCOTEC  
 Project Number: 10000  
 QC Set ID: BNAE2104S

**SAMPLE SPIKED - ENCOTEC ID:** 200129629

<u>Compound</u>	Conc. Spiked ( <u>mg/L</u> )	Sample Result ( <u>mg/L</u> )	Conc. MS ( <u>mg/L</u> )	Percent Recovery (%)	Conc. MSD ( <u>mg/L</u> )	Percent Recovery (%)	Quality Control Limits		
							RPD (%)	RPD (%)	Recovery (%)
1,2,4-Trichlorobenzene	0.100	U	DL	NA	DL	NA	NA	24	56-126
Acenaphthene	0.100	U	DL	NA	DL	NA	NA	21	59-125
2,4-Dinitrotoluene	0.100	U	DL	NA	DL	NA	NA	22	67-119
Pyrene	0.100	U	DL	NA	DL	NA	NA	32	48-150
N-Nitroso-di-n-propylamine	0.100	U	DL	NA	DL	NA	NA	24	49-140
1,4-Dichlorobenzene	0.100	U	DL	NA	DL	NA	NA	27	64-113
Pentachlorophenol	0.150	U	DL	NA	DL	NA	NA	31	D-171
Phenol	0.150	U	DL	NA	DL	NA	NA	18	D-112
2-Chlorophenol	0.150	U	DL	NA	DL	NA	NA	19	35-133
4-Chloro-3-methylphenol	0.150	U	DL	NA	DL	NA	NA	16	47-129
4-Nitrophenol	0.150	U	DL	NA	DL	NA	NA	44	D-106

D = Detected, result must be greater than zero.

RPD: 0 out of 11 outside of QC Windows.  
 Recovery: 0 out of 22 outside of QC Windows.

Note:

SAVED AS: D:\DATA\QC\BME2104SX.XLS

Form 090SWN3G.XLS

# QUALITY ASSESSMENT REPORT - MS/MSD Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAE2813W  
**ENCOTEC Submission ID:** 100017540  
**ENCOTEC Sample ID:** 200130194  
**Matrix:** WATER

	Analyte	Conc. Spiked (mg/L)	Sample Result (mg/L)	Conc. MS (mg/L)	Percent Recovery (%)	Flag	Conc. MSD (mg/L)	Percent Recovery (%)	Flag	RPD (%)	Flag	QC Windows RPD (%)	
												RPD (%)	(%)
1	Acenaphthene	0.200	U	0.115	58	M	0.115	58	M	NC		21	59-125
2	4-Chloro-3-methylphenol	0.300	U	0.244	81		0.238	79		2.5		16	47-129
3	2-Chlorophenol	0.300	U	0.216	72		0.213	71		1.4		19	35-133
4	1,4-Dichlorobenzene	0.200	U	0.155	78		0.158	79		1.9		27	64-113
5	2,4-Dinitrotoluene	0.200	U	0.191	96		0.180	90		5.9		22	67-119
6	N-Nitroso-di-n-propylamine	0.200	U	0.163	82		0.162	81		0.6		24	49-140
7	4-Nitrophenol	0.300	U	0.140	47		0.130	43		7.4		44	D-106
8	Pentachlorophenol	0.300	U	0.235	78		0.232	77		1.3		18	D-112
9	Phenol	0.300	U	0.140	47		0.150	50		6.9		18	D-112
10	Pyrene	0.200	U	0.101	50		0.116	58		14		32	48-150
11	1,2,4-Trichlorobenzene	0.200	U	0.168	84		0.169	84		0.5		24	56-126

	MS Surrogate Recovery Data			MSD Surrogate Recovery Data		
	Compound	%Rec	QC Window	Compound	%Rec	QC Window
	2-Fluorobiphenyl	72	30-115	2-Fluorobiphenyl	70	30-115
	2-Fluorophenol	68	15-121	2-Fluorophenol	62	15-121
	Nitrobenzene-d5	78	23-120	Nitrobenzene-d5	80	23-120
	Phenol-d5	51	15-115	Phenol-d5	52	15-115
	Terphenyl-d14	76	18-140	Terphenyl-d14	94	18-140
	2,4,6-Tribromophenol	88	15-130	2,4,6-Tribromophenol	91	15-130

**Recovery:** 0 out of 6 outside QC Windows

**Recovery:** 0 out of 6 outside QC Windows

## Quality Assessment Recovery Data

RPD: 0 out of 10 outside QC Windows

Recovery: 0 out of 20 outside QC Windows

Safety-Kleen (ENCOTEC), Inc.

3985 Research Park Drive ■ Ann Arbor, MI 48108

Telephone: (734) 761-1389 - Telefax: (734) 761-1034

Report Date: 07/02/99

# QUALITY ASSESSMENT REPORT - MS/MSD Analysis

**ENCOTEC SDG ID:** EDG-AL-99F1  
**ENCOTEC QC Set ID:** BNAF1705W  
**ENCOTEC Submission ID:** 1000017540  
**ENCOTEC Sample ID:** 200133497  
**Matrix:** WATER

	Analyte	Conc. Spiked (mg/L)	Sample Result (mg/L)	Conc. MS (mg/L)	Percent Recovery (%)	Flag	Conc. MSD (mg/L)	Percent Recovery (%)	Flag	RPD (%)	Flag	QC Windows RPD (%)	
												RPD (%)	(%)
1	Acenaphthene	0.100	U	0.0574	57 *		0.0586	59		2.1		21	59-125
2	4-Chloro-3-methylphenol	0.150	U	0.113	75		0.121	81		6.8		16	47-129
3	2-Chlorophenol	0.150	U	0.111	74		0.118	79		6.1		19	35-133
4	1,4-Dichlorobenzene	0.100	U	0.0792	79		0.0872	87		9.6		27	64-113
5	2,4-Dinitrotoluene	0.100	U	0.0513	51	M	0.0621	62	M	NC		22	67-119
6	N-Nitroso-di-n-propylamine	0.100	U	0.0881	88		0.0842	84		4.5		24	49-140
7	4-Nitrophenol	0.150	U	0.0532	35		0.0694	46		26		44	D-106
8	Pentachlorophenol	0.150	U	0.139	93		0.164	109		17		18	D-112
9	Phenol	0.150	U	0.0541	36		0.0643	43		17		18	D-112
10	Pyrene	0.100	U	0.0657	66		0.0579	58		13		32	48-150
11	1,2,4-Trichlorobenzene	0.100	U	0.0902	90		0.0937	94		3.8		24	56-126

	MS Surrogate Recovery Data			MSD Surrogate Recovery Data		
	Compound	%Rec	QC Window	Compound	%Rec	QC Window
	2-Fluorobiphenyl	81	30-115	2-Fluorobiphenyl	76	30-115
	2-Fluorophenol	44	15-121	2-Fluorophenol	47	15-121
	Nitrobenzene-d5	89	23-120	Nitrobenzene-d5	87	23-120
	Phenol-d5	41	15-115	Phenol-d5	43	15-115
	Terphenyl-d14	102	18-140	Terphenyl-d14	82	18-140
	2,4,6-Tribromophenol	92	15-130	2,4,6-Tribromophenol	88	15-130

**Recovery:** 0 out of 6 outside QC Windows      **Recovery:** 0 out of 6 outside QC Windows

## Quality Assessment Recovery Data

RPD: 0 out of 10 outside QC Windows

Recovery: 1 out of 20 outside QC Windows

Safety-Kleen (ENCOTEC), Inc.

3985 Research Park Drive ■ Ann Arbor, MI 48108  
 Telephone: (734) 761-1389 - Telefax: (734) 761-1034

Report Date: 07/06/99

## ANALYTICAL SERVICES AUTHORIZATION/CHAIN OF CUSTODY RECORD

Page \_\_\_\_\_ of \_\_\_\_\_



Laidlaw Environmental Inc./Encotec  
 3985 RESEARCH PARK DRIVE  
 ANN ARBOR, MICHIGAN 48108  
 PHONE: (313) 761-1389 FAX: (313) 761-1034

No.

CLIENT SHOULD COMPLETE THE THREE SECTIONS OUTLINED IN BLUE, LEI WILL COMPLETE SECTIONS OUTLINED IN RED

STEP 1 Report Results To	Name: <b>Chris Walsh</b>	Title: <b>Hydrogeologist</b>	Project No.:	Batch No.:				
	Company: <b>EDG</b>	Department:	Logged By:	Date:				
Mailing Address:	2233 Santa Clara Ave., Suite 7		Checked By:	Date:				
City, State, Zip Code:	Alameda CA 94501		Method of Shipment:	Drop Off <input checked="" type="checkbox"/> Overnight Carrier <input type="checkbox"/>				
Telephone:	(510) 337-8662	Telefax:	(510) 337-3994					
Client Job ID:	792489		Purchase Order No.:	Other <input type="checkbox"/> (Specify)				
Special Instructions								
For use by ENCOTE Personnel Only	Sample Condition Upon Receipt Acceptable <input type="checkbox"/> Other <input type="checkbox"/> Explain Briefly If Other Is Checked:							
<b>Sample Collected Represents:</b> CERCLA Investigation <input type="checkbox"/> RCRA Investigation <input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Drinking Water <input type="checkbox"/> Waste Characterization <input type="checkbox"/>								
U.S.T. Investigation <input checked="" type="checkbox"/> Ambient Air <input type="checkbox"/> Other (Specify) <input type="checkbox"/>								
STEP 2 Sample Identification/Analytical Service Request	Client Sample Identification  MW-2 <i>sampled 6/12/99</i> SB-9 OTT SB-11	Date Sampled 6/8/99 Time 0830 Preservation NP Matrix/ Media Free Product	Number of Containers 2	<b>ANALYSIS REQUESTED</b> DRO * <input checked="" type="checkbox"/> GRO <input type="checkbox"/> 8260 * <input checked="" type="checkbox"/> 8270 <input type="checkbox"/> Cd/Cr/Pb/Zn <input type="checkbox"/> <i>3.5'-4.0'</i>				
				2 X <input type="checkbox"/> 2 X <input type="checkbox"/>				
				2 X <input type="checkbox"/>				
				1 X <input type="checkbox"/> X <input type="checkbox"/> X <input type="checkbox"/> X <input type="checkbox"/>				
				1 X <input type="checkbox"/>				
				2 X <input type="checkbox"/>				
				2 X <input type="checkbox"/>				
				1 X <input type="checkbox"/>				
				1 X <input type="checkbox"/>				
				1 X <input type="checkbox"/>				
				1 X <input type="checkbox"/> X <input type="checkbox"/>				
				1 X <input type="checkbox"/> X <input type="checkbox"/> X <input type="checkbox"/>				
				1 X <input type="checkbox"/> X <input type="checkbox"/> X <input type="checkbox"/>				
<i>Comments</i> <i>3.5'-4.0'</i> <i>5.5'-6.0'</i>								
STEP 3 Chain-of-Custody	1. Relinquished By:	Date/Time:	3. Receipt By:	Date/Time:				
	2. Relinquished By:	Date/Time:	4. Receipt By:	Date/Time:				
	Authorized By:	Date:	Comments: * DRO = Diesel and Motor Oil ** Include BTEX and MTBE					
	Client Must Sign This Request							

## ANALYTICAL SERVICES AUTHORIZATION/CHAIN-OF-CUSTODY RECORD

Page \_\_\_\_\_ of \_\_\_\_\_



Laidlaw Environmental Inc./Encotec  
3985 RESEARCH PARK DRIVE  
ANN ARBOR, MICHIGAN 48108  
PHONE: (313) 761-1389 FAX: (313) 761-1034

No.

CLIENT SHOULD COMPLETE THE THREE SECTIONS OUTLINED IN BLUE, LEI WILL COMPLETE SECTIONS OUTLINED IN RED

STEP 1 Report Results To

Name: <i>Chris Walsh</i>	Title: <i>Hydrogeologist</i>
Company: <i>EDG</i>	Department:
Mailing Address: <i>2233 Santa Clara Ave. Suite 7</i>	
City, State, Zip Code: <i>Alameda CA 94561</i>	
Telephone: <i>(510) 337-8662</i>	Telefax: <i>(510) 337-3994</i>
Client Job ID: <i>792489</i>	Purchase Order No.:

Special Instructions *Analyze soil samples for TPH-MO only; additional analyses will be performed pending results. Contact Chris Walsh for further instructions upon completion of TPH-MO analyses.*

Sample Collected Represents:

CERCLA Investigation	<input type="checkbox"/>	U.S.T. Investigation	<input checked="" type="checkbox"/>
RCRA Investigation	<input type="checkbox"/>	Ambient Air	<input type="checkbox"/>
NPDES Compliance	<input type="checkbox"/>	Other (Specify)	<input type="checkbox"/>
Drinking Water	<input type="checkbox"/>		
Waste Characterization	<input type="checkbox"/>		

STEP 2 Sample Identification/Analytical Service Request

Client Sample Identification	Date Sampled	Time	Preservation	Matrix/Media	Number of Containers	ANALYSIS REQUESTED							Comments
						TPH-MO *	8260 **	8270	Co, Cr, Pb	Ni, Zn			
1 <b>SB-12</b>	6/8/99	1330	NP	Water	1	X							
2 (HOLD)			HCl		2		X						
3 (HOLD)			NP		1			X					
4 (HOLD)			HNO <sub>3</sub>		1				X				
5		1345	NP	Soil	1	X	X	X	X				3.0'-3.5'
6 <b>SB-13</b>		1410	NP		1	X	X	X	X				4.0'-4.5'
7 <b>SB-14</b>		1520	NP		1	X	X	X	X				5.0'-5.5'
8	6/9/99	1020	NP	Water	1	X							
9 (HOLD)			HCl		2		X						
10 (HOLD)		1050	NP		1			X					
11 (HOLD)		1135	HNO <sub>3</sub>		1				X				
12													

STEP 3 Chain-of-Custody

1. Relinquished By: <i>Chris Walsh</i>	Date/Time: <i>6/9/99 1600</i>	3. Receipt By: <i>J. L. Johnson</i>	Date/Time: <i>6/10/99</i>
2. Relinquished By:	Date/Time:	4. Receipt By:	Date/Time:

Authorized By: *Chris Walsh* Date: *6/9/99*  
Client Must Sign This Request

Comments:  
\* Use Silica Gel Cleanup Method  
\*\* Include BTEX and MTBE



Laidlaw Environmental Inc./Encotec  
3985 RESEARCH PARK DRIVE  
ANN ARBOR, MICHIGAN 48108  
PHONE: (313) 761-1389 FAX: (313) 761-1034

99-140

TAT - 7 days

IC4

No.

**CLIENT SHOULD COMPLETE THE THREE SECTIONS OUTLINED IN BLUE, LEI WILL COMPLETE SECTIONS OUTLINED IN RED**

<b>STEP 1</b> <b>Report Results To</b>	Name: <u>DANIS Brown</u>	Title:	<b>For use by ENCOTEC Personnel Only</b>	Project No.: <u>91000</u>	Batch No.:	
	Company: <u>SK (ENCOTEC)</u>	Department:		Logged By:	Date:	
<b>STEP 2</b> <b>Sample Identification/Analytical Service Request</b>	Mailing Address: <u>3985 Research Park Drive</u>		Checked By:	Date:		
	City, State, Zip Code: <u>Ann Arbor, MI 48108</u>		Method of Shipment: <input checked="" type="checkbox"/> Drop Off <input type="checkbox"/> Overnight Carrier	Other <input type="checkbox"/> (Specify)		
	Telephone: <u>(734) 761-1389</u>	Telefax: <u>(734) 761-1034</u>	Sample Condition Upon Receipt      Acceptable <input type="checkbox"/> Other <input type="checkbox"/> Explain Briefly If Other Is Checked:			
	Client Job ID: Special Instructions		Purchase Order No.:			
Sample Collected Represents: CERCLA Investigation <input type="checkbox"/> RCRA Investigation <input type="checkbox"/> NPDES Compliance <input type="checkbox"/> Drinking Water <input type="checkbox"/> Waste Characterization <input type="checkbox"/>		U.S.T. Investigation Ambient Air <input type="checkbox"/> Other (Specify) <input type="checkbox"/>	<b>Number of Containers</b>	<b>ANALYSIS REQUESTED</b>		
				<i>Drop TPA</i>	<i>Mo-TPA</i>	
Client Sample Identification		Date Sampled	Time	Preservation	Matrix/Media	Comments
1	<u>SB-12 (133329)</u>	<u>6/8/99</u>	<u>1330</u>	<u>NONE</u>	<u>water</u>	<u>99-23-794</u>
2	<u>SB-12 (133330)</u>	<u>6/8/99</u>	<u>1345</u>	<u>Soil</u>	<u>1</u>	<u>99-23-795</u>
3	<u>SB-13 (133331)</u>	<u>6/9/99</u>	<u>1410</u>	<u>Soil</u>	<u>1</u>	<u>99-23-798</u>
4	<u>SB-14 (133332)</u>	<u>6/9/99</u>	<u>1520</u>	<u>Soil</u>	<u>1</u>	<u>99-23-799</u>
5	<u>SB-14 (133333)</u>	<u>6/9/99</u>	<u>1620</u>	<u>water</u>	<u>1</u>	<u>99-23-801</u>
6	<u>MW-2 (133334)</u>	<u>6/8/99</u>	<u>0830</u>	<u>freeze sample</u>	<u>21</u>	<u>99-23-802</u>
7	<u>SB-9 (133335)</u>	<u>6/8/99</u>	<u>0900</u>	<u>Soil</u>	<u>1</u>	<u>99-23-803</u>
8	<u>SB-9 (133336)</u>	<u>6/8/99</u>	<u>0930</u>	<u>water</u>	<u>1</u>	<u>99-23-804</u>
9	<u>SB-11 (133337)</u>	<u>6/8/99</u>	<u>1230</u>	<u>Soil</u>	<u>1</u>	<u>810</u>
10						<u>811</u>
11						
12						
<b>STEP 3</b> <b>Chain-of-Custody</b>	1. Relinquished By:	Date/Time:		3. Receipt By:	Date/Time:	
	2. Relinquished By:	Date/Time:		4. Receipt By:	Date/Time:	
	Authorized By:	Date: <u>6-11-99</u>		Comments: <u>* use Gilson Gel Cleanup method</u>		
				<u>Free Product only 1cm; temp. 140C</u>		
Client Must Sign This Request						