6/18/99

ENVIRONMENTAL
PROTECTION
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EMCON

EMCON
1433 North Market Boulevard • Suite 1 • Sacramento, CA 95834-1943 • (916) 928-3300 • Fax (916) 928-3341

June 18, 1999
Project 20G01-001.013

Ms. Susan Hugo
Alameda County Health Agency
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

Re: Underground Storage Tank Removal and Associated Sampling at the IKEA Property, Inc. Site, 4300 East Shore Highway, Emeryville, California

Dear Ms. Hugo:

On behalf of IKEA Property, Inc., EMCON has prepared this report of underground storage tank (UST) removal and associated sampling activities at the IKEA Property, Inc. site located at 4300 East Shore Highway, Emeryville, California. ETIC Environmental Engineers (ETIC) provided UST removal services for two USTs at the site on March 12, 1999. Representatives from the Alameda County Health Agency (ACHA) and the City of Emeryville Fire Department (EFD) observed the UST removal activities. UST removal activities were conducted in a manner consistent with the Underground Tank Closure Plan prepared by EMCON and approved by the ACHA on March 10, 1999. Site background, UST removal activities and observations, and analytical results are presented in the following sections.

The two USTs were encountered during recent site development activities associated with the construction of a retail store. The redevelopment work is being conducted in a manner consistent with the Soil Management Plan dated January 8, 1999, prepared by EMCON which describes how soil will be managed during excavation activities.

BACKGROUND

Site History

The site was a former Barbary Coast Steel (BCS) steel manufacturing facility. The site is approximately 15.5 acres and is bordered by the former Myer Drum site to the north and Southern Pacific Railroad to the east. Interstate Highways 580 and 80 border the site to the south and west. The closest residential areas are more than 1,500 feet (ft) southeast of the site. There is a shopping center approximately 1,000 ft north of the site (Figure 1).

BCS acquired the site from Judson Steel Corporation in 1987, and owned the site until September 1997. Judson manufactured steel from scrap iron from approximately 1882 until 1987. From 1987 until 1991 BCS manufactured steel reinforcing bars (rebar) from scrap iron. In 1991, BCS ceased operations at the site and removed the machinery and demolished the buildings. In September 1997, IKEA acquired the property from BCS to commercially develop the site.

In the past, the incoming scrap material may have contained oils, lead, and polychlorinated biphenyls (PCBs) which have been detected in soil at the site. The lead may have come from lead pipes, painted surfaces, car batteries, and other sources. PCBs and oils were commonly used in transformers and other heat resistant machinery and may have been present in the scrap material. The site was served by aboveground and USTs containing petroleum-hydrocarbons. These were used for servicing railcars and trucks, and for operating the furnace on the site. As a result of operations at the site, some of the soils contain petroleum-hydrocarbons, lead, and PCBs.

Hydrogeologic Conditions

The site is underlain by an artificial fill layer 3 to 12 ft thick over native Bay Mud deposits. The fill thickness increases east to west across the site and consists of a historical mix of silty soil with metal, brick, concrete, and slag fragments. The Bay Mud is predominantly clay and silt with minor amounts of sand. Approximately one-third of the land area in the city of Emeryville consists of fill placed over Bay Mud. Historical maps indicate that the western portion of the site was part of the San Francisco Bay until at least 1911.

Shallow groundwater is encountered in two contiguous zones under the site. The upper shallow zone occurs in the fill at 3 to 8 ft below ground surface (bgs) and generally flows southwest, toward the Bay. The lower shallow groundwater zone occurs in the native Bay Mud. The piezometric elevation of this zone is higher than that of the upper zone, indicating an upward gradient from the lower shallow zone to the upper shallow zone.

Water from a deeper water-bearing zone has been used in the steel manufacturing operations at the site. Records obtained from the Alameda County Water District (ACWD) indicate the on-site water production well, WSW-1, was screened to a depth of 487 ft bgs, although construction logs could not be located for this well. Well WSW-1 was decommissioned on September 24, 1996, by backfilling with a Portland cement and

sand slurry to about 4 ft below the ground surface. The top four ft of the well was backfilled with soil. Well decommissioning is documented in the Removal Action Report prepared by EMCON, dated February 5, 1997. ACWD records indicate there are no other water production wells within a 1-mile radius of the site.

Prior Remedial Action

The California Department of Toxic Substances Control (DTSC) issued a Consent Order to BCS in March 1993 (Docket No. I&SE 92/93-013). The Consent Order required that BCS conduct a remedial investigation of the potentially hazardous substances that may be present on or beneath the site. The plan for conducting the remedial investigation, risk assessment, and remedial alternatives evaluation is described in the Workplan for Remedial Investigation and Feasibility Study prepared by EMCON in May 1993. This Workplan as well as other plans were reviewed and approved by the DTSC prior to commencing the site investigation and remedial action work.

During the remedial investigation, soil, groundwater, and air samples were collected and analyzed and the results are described in the Remedial Investigation Report prepared by EMCON, dated October 27, 1993. The chemical analyses, potential exposure routes, and future site usage were assessed in the Public Health and Environmental Evaluation Report prepared by EMCON in January 1994. This report identified any potential health risks associated with the compounds detected at the site. After the potential risks were determined, the Feasibility Study for Remedial Action was prepared by EMCON in January 1996 to assess the alternatives for remediating the site.

Risk-based soil cleanup levels were developed for the site as part of the Final Remedial Action Plan prepared by EMCON, dated May 31, 1996. Based on the results from the risk evaluation and on guidelines from the DTSC and the California Regional Water Quality Control Board (RWQCB), cleanup levels were established for the following substances found in soil at the site: petroleum-hydrocarbons as diesel (1,000 parts per million [ppm]), lead (5,000 ppm), and PCBs (10 ppm). Based in part on the letter report Estimated Travel Time of Petroleum Hydrocarbons to San Francisco Bay prepared by EMCON in April 1994, no groundwater cleanup levels were established for the site by the DTSC or RWQCB.

The remedial action at the site was divided into two phases (I and II). Phase I consisted of excavation of approximately 5,170 cubic yards (cy) of soil impacted above established cleanup levels and the decommissioning of wells. Phase I activities were completed between July and October 1996 and are documented in the Removal Action Report

prepared by EMCON, dated February 5, 1997. The Phase II activities consisted of placing a permanent asphalt cap on unpaved areas at the site and the installation of three additional groundwater monitoring wells (MW-19, MW-20, and MW-21). The Phase II field work was conducted between November 1996 and March 1997. The Phase II activities are documented in the Remedial Action Completion Report prepared by EMCON, dated April 2, 1997.

The site has been remediated consistent with the requirements in the DTSC approved Final Remedial Action Plan. Based on health risk assessments, the DTSC has allowed residual concentrations of petroleum-hydrocarbons, lead, and PCBs to be capped and left in place. The Remedial Action Completion Report was approved by the DTSC in their letter dated April 10, 1997.

Existing Groundwater Monitoring System

Postclosure groundwater monitoring at the site is described in the Operations and Maintenance Plan (OMP) prepared by EMCON, dated March 25, 1997. Six groundwater monitoring wells are currently being used to evaluate groundwater conditions beneath the site. Upgradient wells MW-8, MW-9, and MW-11 were installed in 1993. Downgradient wells MW-19, MW-20, and MW-21 were installed in January 1997. All wells are monitored semiannually for high boiling point hydrocarbons, total petroleum-hydrocarbons as gasoline (TPHG), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Downgradient wells MW-19, MW-20, and MW-21 are also monitored for lead and PCBs.

As stated in the OMP, groundwater monitoring will be conducted until statistical evaluation indicates the required level of groundwater quality, or parameter stability has been achieved. However, since groundwater at the site is not a current or potential future drinking water source, groundwater monitoring will be used primarily to establish a statistical trend for the site and to determine whether any significant changes occur in groundwater conditions.

UST REMOVAL

Two approximately 500 gallon tanks were discovered on February 19 and 22, 1999, during construction demolition activities for the IKEA commercial development (Figure 2). Tank 1 was thought to be a piece of scrap steel and was inadvertently removed from the soil by the construction crew on February 19, 1999. Piping associated with the tank was also removed. The tank and piping was placed on plastic sheeting for

temporary storage. The second tank (Tank 2) remained in the ground following discovery. Both Tanks 1 and 2 were buried approximately 3 to 4 ft below the ground surface.

Prior to UST removal, ETIC personnel field checked each tank for oxygen and explosive vapor levels using a portable handheld gas detector. ETIC reported the field readings to the onsite EFD and ACHA personnel and obtained verbal authorization to remove the USTs.

Tank 1 was a single-wall, heavy steel (approximately 1/4 inch thick) riveted tank. The tank measured approximately 3.5 ft in diameter by 6.0 ft long. No holes were observed except for the associated fill pipe or manways at the top of the tank. There was no water or other liquid in the tank and it appeared to be partially filled with soil. A soil sample and a groundwater sample were collected from beneath the southern end of Tank 1 on February 19, 1999.

The piping associated with this tank was discovered in the concrete floor of a previously demolished building. The piping was within a concrete lined floor trench with steel plate covers. No staining of the concrete was observed during subsequent demolition of the concrete flooring and trench.

Tank 2 was a single-wall, heavy steel (approximately 1/4 inch thick) riveted tank. The tank measured approximately 4.0 ft in diameter by 8.0 ft long. A single small (approximately 1/8-inch diameter) hole was observed on the north side of the tank. A single fill pipe port was observed on the top of the west end of the tank. Hydrocarbons and water from Tank 2, and the associated excavation, was pumped by Americlean to a tank truck and transported as a non-Resource Conservation and Recovery Act hazardous waste liquid to Artesian Oil recyclers in Oakland. A test (Modified U. S. Environmental Protection Agency [USEPA] Method 8015) of a sample of this hydrocarbon collected on February 23, 1999, indicated 46 percent diesel or Bunker C oil.

The two tanks were loaded onto a flat bed truck for transportation to the Erickson facility in Richmond, California. Manifests for the tanks and liquid are located in Appendix A.

Soils encountered during UST removal consisted of an older artificial fill layer 3 to 4 ft thick over native Bay Mud deposits. The fill was comprised of silty soil with metal, brick, concrete, and slag fragments. The Bay Mud was dark gray silty clay. Groundwater measured in the tank excavations was approximately 3 to 4 ft bgs.

No petroleum-hydrocarbon odor or soil discoloration was noted at the Tank 1 location. Moderate to strong petroleum-hydrocarbon odor was noted at the Tank 2 location. Older

fill soils immediately adjacent to Tank 2 were locally discolored and voids in the soil contained black oil. No oil or discoloration was observed in the underlying Bay Mud.

As directed by ACHA during removal activities, the oily soil at the Tank 2 area was excavated and stockpiled on plastic sheeting. Approximately 30 to 40 cy of soil was stockpiled. ACHA directed that a soil sample from the sidewall at the east and west end of the tank excavation, and one groundwater sample be collected. The Tank 2 excavation was left open pending laboratory results of the samples.

During the removal activities on March 12, 1999, ACHA gave authorization to backfill the Tank 1 excavation with clean fill.

Laboratory test results for Tank 2 samples were faxed to ACHA for their review on March 17, 1999. On March 22, 1999, during a telephone conversation with EMCON personnel, ACHA gave authorization to backfill the Tank 2 excavation with clean fill.

SOIL AND GROUNDWATER SAMPLE RESULTS

EMCON collected one soil and one groundwater sample from the Tank 1 area and two soil samples and one groundwater sample from the Tank 2 area as described earlier. Groundwater was present in both tank excavation areas at approximately 3 to 4 ft bgs. Sampling results are summarized in Table 1, and certified analytical reports and chain-of-custody documentation are presented in Appendix B.

Tank 1

One soil sample (S-1) and one groundwater sample (W-1) were collected from beneath Tank 1 and analyzed for halogenated volatile organic compounds (VOCs) (USEPA Method 8010), PCBs (USEPA Method 8082), polynuclear aromatic hydrocarbons (USEPA Method 8270C), hydrocarbon scan (Modified USEPA Method 8015), TPHG (CA/leaking underground fuel tank), BTEX and methyl-tert-butylether (MTBE) (USEPA Method 8020), and metals (USEPA Method 6010A), which included cadmium, chromium, lead, nickel, and zinc.

No target analytes were detected in the two samples collected from beneath Tank 1 with the following exceptions:

- Trichlorofluoromethane and motor oil were detected in groundwater sample W-1 at 0.6 and 14,000 micrograms per liter (µg/L), respectively.

- Motor oil was detected in soil sample S-1 at 21 milligrams per kilogram (mg/Kg) and cadmium, chromium, nickel, and zinc were detected at 1.9, 81, 95, and 89 mg/Kg, respectively.

These results indicate that Tank 1 has had little or no impact on soil or groundwater in the vicinity of the tank.

Tank 2

Based on discussions with ACHA at the site on March 12, 1999, soil (T2-SW and T2-SE) and groundwater (T2-W) samples were collected from the Tank 2 area following removal of the tank and excavation of oily soil. The samples were analyzed for TPHG and diesel (Modified USEPA Method 8015), BTEX and MTBE (USEPA Method 8021B), semi-VOCs (USEPA Method 8270B), PCBs (USEPA Method 8082), and lead (USEPA Method 6010A).

Lead and hydrocarbons quantitated as diesel were the only compounds detected in the two soil samples. Hydrocarbons were detected at 18 mg/Kg in T2-SW and at 2.6 mg/Kg in T2-SE, and lead was detected in T2-SW at 3.5 mg/Kg and in T2-SE at 7.1 mg/Kg. Groundwater sample T2-W was reported with 2-methylnaphthalene at 10 µg/L, naphthalene at the estimated concentration of 5.4 µg/L, TPHG at 120 µg/L, ethylbenzene at 0.65 µg/L, toluene at 0.89 µg/L, o-xylene at 1.3 µg/L, m,p-xylenes at 2.1 µg/L, hydrocarbons quantitated as diesel at 2,800 µg/L, and lead at 0.33 mg/L. These results indicate that there has been minimal impact on soil and groundwater in the vicinity of Tank 2.

Stockpiled Soil

Forward Incorporated (landfill) in Stockton, California, was contacted regarding soil disposal characterization requirements. A four point composite sample (EX-1) was collected from the stockpiled oily soil that was excavated from the Tank 2 area. The sample was analyzed for total petroleum-hydrocarbons as diesel and BTEX. Diesel and BTEX were not detected in this sample, however, heavier hydrocarbons than diesel were detected at 1,100 mg/Kg. The soil and associated piping will be disposed of at the Forward facility.

SUMMARY

Based on observations and analytical results, the following conclusions can be made:

- Two USTs have been removed from the site
- Tank 1 and Tank 2 excavations have been backfilled with clean fill
- Tank 1 does not appear to have adversely impacted soil or groundwater in the vicinity of the tank
- Piping associated with Tank 1 has been properly disposed
- Tank 2 appeared to have leaked diesel or Bunker C oil to the older fill soils surrounding the tank
- Impacts at Tank 2 have not significantly impacted the groundwater or Bay Mud underlying the older fill soils
- Visually impacted oily soil was excavated from the Tank 2 area as a remedial measure
- The oily soil was characterized and will be properly disposed

Previously submitted documentation related to remediation of the former Barbary Coast Steel site established cleanup levels for soils at the site. These cleanup levels were approved by the DTSC. Results of laboratory analyses indicate that the concentrations of petroleum-hydrocarbons detected in samples from the Tank 1 and Tank 2 areas do not exceed cleanup levels. Additionally, groundwater has not been significantly impacted at either the Tank 1 or Tank 2 location, and the DTSC and RWQCB did not require cleanup levels for groundwater at this site. The current DTSC approved soil remediation (allowing residual concentrations of petroleum-hydrocarbons, lead, and PCBs to be capped with asphalt/concrete and left in place) appears to address the impacts to fill soils surrounding Tank 2 area. Therefore, no further action is necessary for closure of the two tank sites.

Monitoring of existing groundwater wells will continue as part of the postclosure requirements for the previous site remediation. The monitoring results will be used to establish a statistical trend for the site and to determine whether any significant changes occur in groundwater conditions.

EMCON recommends that the Tank 1 and Tank 2 sites be considered for closure and a letter of No Further Action be issued by the Alameda County Health Agency.

Sincerely,

EMCON

Dan Easter, C.E.G.
Project Manager

Steve Hickey, P.E.
Director of Site Restoration Services

Attachments: Table 1
Figure 1 Site Location
Figure 2 Site Plan - Underground Storage Tank Locations
Appendix A Tank Disposal Manifest
Appendix B Certified Analytical Reports and Chain-of-Custody Documentation

cc: Charles Keller, IKEA Property, Inc.
Bart Kale, Barbary Coast Steel Corporation
Ted Park, Department of Toxic Substances Control

Table 1
Analytical Results, Tank 1 and Tank 2 Areas
IKEA, 4300 East Shore Highway, Emeryville, California

	Tank 1				Tank 2						
Sample Description	S-1		W-1		W-2	T2-SW	T2-SE	EX-1		T2-W	
Matrix	Soil		Water		Product	Soil	Soil	Soil		Water	
Sample Date	02/19/99	Units	02/19/99	Units	02/23/99	03/12/99	03/12/99	04/23/99	Units	03/12/99	Units
Volatile Organic Compounds (EPA method 8010) (1)											
Trichlorofluoromethane	<0.05	mg/Kg	0.6	µg/L	--	--	--	--	--	--	--
Semivolatile Organic Compounds (EPA method 8270) (1)											
2-Methylnaphthalene	<1.5 (2)	mg/Kg	<50 (2)	µg/L	--	<0.33	<0.33	--	mg/Kg	10	µg/L
Naphthalene	<1.5 (2)	mg/Kg	<50 (2)	µg/L	--	<0.33	<0.33	--	mg/Kg	5.4 J	µg/L
Polychlorinated Biphenyls (PCBs)											
Aroclor 1016	<0.1	mg/Kg	<0.2	µg/L	--	<0.012	<0.012	--	mg/Kg	<0.47	µg/L
Aroclor 1221	<0.1	mg/Kg	<0.2	µg/L	--	<0.024	<0.024	--	mg/Kg	<0.94	µg/L
Aroclor 1232	<0.1	mg/Kg	<0.2	µg/L	--	<0.012	<0.012	--	mg/Kg	<0.47	µg/L
Aroclor 1242	<0.1	mg/Kg	<0.2	µg/L	--	<0.012	<0.012	--	mg/Kg	<0.47	µg/L
Aroclor 1248	<0.1	mg/Kg	<0.2	µg/L	--	<0.012	<0.012	--	mg/Kg	<0.47	µg/L
Aroclor 1254	<0.1	mg/Kg	<0.2	µg/L	--	<0.012	<0.012	--	mg/Kg	<0.47	µg/L
Aroclor 1260	<0.1	mg/Kg	<0.2	µg/L	--	<0.012	<0.012	--	mg/Kg	<0.47	µg/L
Hydrocarbons											
Gasoline	<1	mg/Kg	<50	µg/L	--	<1	<1	--	mg/Kg	120	µg/L
Benzene	<0.005	mg/Kg	<0.5	µg/L	--	<0.005	<0.005	<0.005	mg/Kg	<0.5	µg/L
Ethylbenzene	<0.005	mg/Kg	<0.5	µg/L	--	<0.005	<0.005	<0.005	mg/Kg	0.65	µg/L
Toluene	<0.005	mg/Kg	<0.5	µg/L	--	<0.005	<0.005	<0.005	mg/Kg	0.89	µg/L
o-Xylene	--	--	--	--	--	<0.005	<0.005	--	mg/Kg	1.3	µg/L
m,p-Xylenes	--	--	--	--	--	<0.005	<0.005	--	mg/Kg	2.1	µg/L
Total xylenes	<0.005	mg/Kg	<0.5	µg/L	--	--	--	<0.005	mg/Kg	--	µg/L
Methyl tert-butyl ether (MTBE)	<0.05	mg/Kg	<3	µg/L	--	<0.020	<0.020	--	mg/Kg	<2	µg/L
Mineral Spirits	<1	mg/Kg	<250 (3)	µg/L	<0.5%	--	--	--	--	--	--
Jet Fuel	<1	mg/Kg	<250 (3)	µg/L	<0.5%	--	--	--	--	--	--
Kerosene	<1	mg/Kg	<250 (3)	µg/L	<0.5%	--	--	--	--	--	--
Diesel	<1	mg/Kg	<250 (3)	µg/L	46% (4)	18 (5)	2.6 (5)	1100 (6)	mg/Kg	2800 (5)	µg/L
Motor oil	21	mg/Kg	14000	µg/L	<2.5%	--	--	--	--	--	--
Metals											
Cadmium	1.9	mg/Kg	<0.005	mg/L	--	--	--	--	--	--	--
Chromium	81	mg/Kg	<0.01	mg/L	--	--	--	--	--	--	--
Lead	<5	mg/Kg	<0.05	mg/L	--	3.5	7.1	--	mg/Kg	0.33	mg/L
Nickel	95	mg/Kg	<0.02	mg/L	--	--	--	--	--	--	--
Zinc	89	mg/Kg	<0.02	mg/L	--	--	--	--	--	--	--

Notes:

(1) Only those compounds detected in one or more samples are listed.

(2) Reporting limits are elevated due to matrix interference.

(3) Reporting limits are elevated due to high analyte concentration.

(4) Sample fingerprint most closely resembles diesel, but is not diesel #2 which was used for calibration.

(5) Sample exhibits fuel pattern which does not resemble standard. Heavier hydrocarbons than diesel standard are present.

(6) Sample contains a higher boiling point hydrocarbon mixture quantitated as diesel. The chromatogram does not match the typical diesel fingerprint.

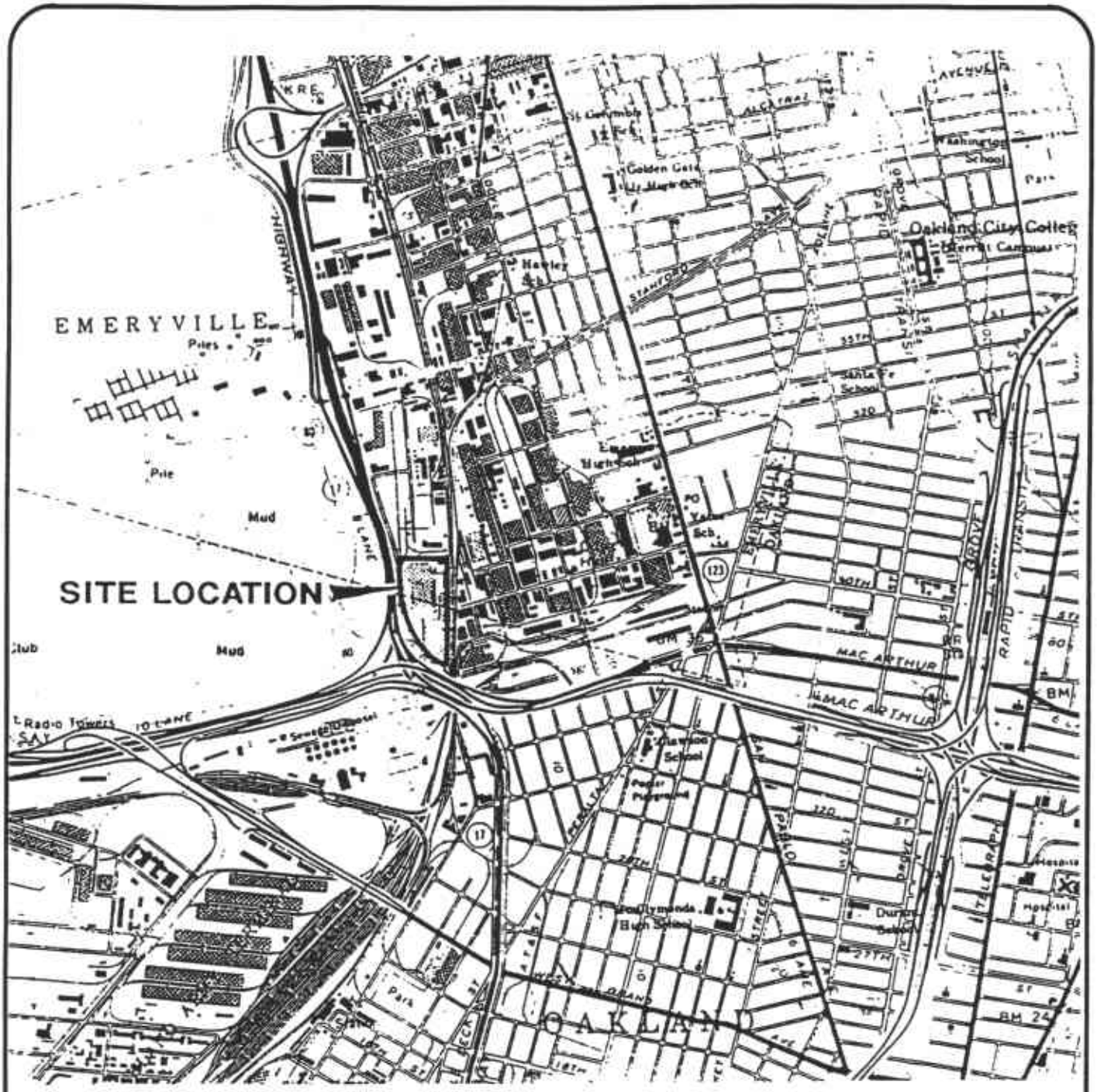
mg/Kg = milligrams per kilogram

µg/L = micrograms per liter

mg/L = milligrams per liter

J = Estimated value below reporting limit

-- = Not requested



Base map from USGS 7.5' Quad map
Oakland West, CA (photorevised 1980)

EMCON

DATE MAY.1997
DWN S.E.B.
APPR
REV
PROJECT NO.
22175-002.001

FIGURE 1
IKEA PROPERTIES, INC.
PROPOSED IKEA RETAIL STORE
EMERYVILLE, CALIFORNIA

SITE LOCATION MAP

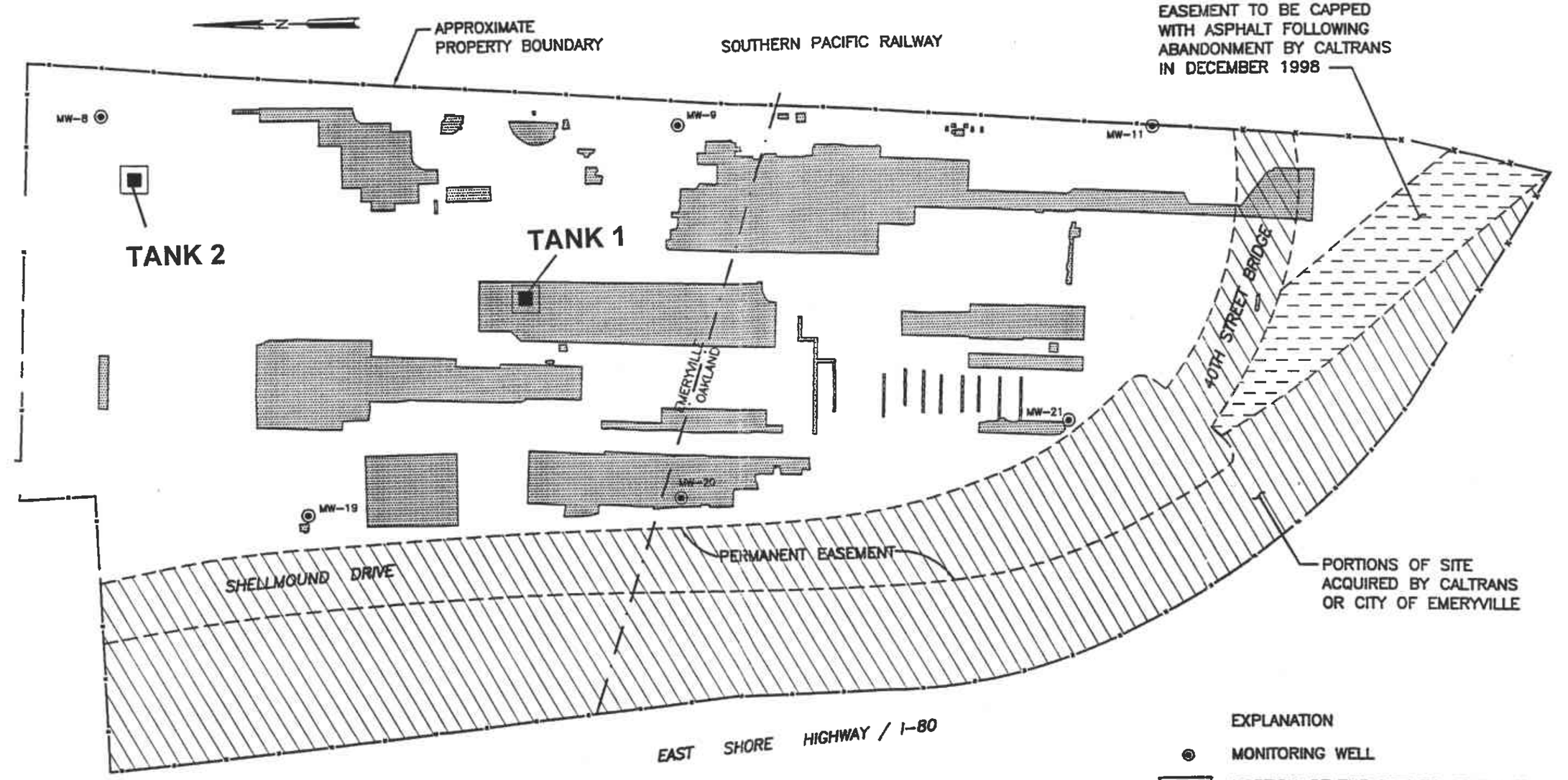


IMAGE Files: <No Images>
XREF Files: <No Xrefs>
Dimscale: 125 Ltscale: 125 Pltscale: 0
SANJOSE/CADD: N:\DWG\2175001\SJCONC.DWG Thu, 03/Dec/98 11:31am kblock

1" 1/2" 0" 1"

EMCON

0 125 250
SCALE IN FEET

DATE NOV. 1997
DWN KLT
APP
REV
PROJECT NO. 2175-001.001

FIGURE 2
IKEA PROPERTY, INC.
4300 EAST SHORE HIGHWAY
EMERYVILLE, CALIFORNIA
SITE PLAN

APPENDIX A

TANK DISPOSAL MANIFEST

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

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
CAC010211120			

GENERATOR

3. Generator's Name and Mailing Address
IKEA Property, Inc.
496 Westgerman Town Ave, Plymouth Meeting, PA 19462
4. Generator's Phone (610) 834-0180 Attn: Charles Keller

A. State Manifest Document Number: 98464238
B. State Generator's ID:

5. Transporter 1 Company Name: ECOLOGY CONTROL INDUSTRIES
6. US EPA ID Number: CAD982030173
C. State Transporter's ID:
D. Transporter's Phone: 510-235-1393

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

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

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. WASTE EMPTY STORAGE TANK Non-RCRA hazardous waste solid	002	TP	12500	P	State: 612 EPA/Other: NONE
b.					State: EPA/Other:
c.					State: EPA/Other:
d.					State: EPA/Other:

J. Additional Descriptions for Materials Listed Above
QTY 2 EMPTY STORAGE TANK(S) # 26094
26095 TANK(S) HAVE BEEN INERTED WITH
15 LBS DRY ICE PER 1000 GALLONS CAPACITY

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

15. Special Handling Instructions and Additional Information
Wear appropriate protective clothing when handling.
24 Hour Emergency Telephone Number:
24 Hour Emergency Contact: 916-928-3300 Dan Foster-Erikson for IKEA ERG# 171

SITE LOCATION: 4300 East Shore Highway
Emeryville, CA

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

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

Printed/Typed Name	Signature	Month	Day	Year
Dan Foster-Erikson for IKEA Property Inc.		03	12	99

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
WAYNE A KIRTS		03	12	99

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

DO NOT WRITE BELOW THIS LINE.

DTSC 8022A (4/97)
EPA 8700—22

Yellow GENERATOR RETAINS

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

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM A

COMPLETE THIS FORM FOR EACH FACILITY/SITE

MARK ONLY ONE ITEM: [X] 1 NEW PERMIT [ ] 2 INTERIM PERMIT [ ] 3 RENEWAL PERMIT [ ] 4 AMENDED PERMIT [ ] 5 CHANGE OF INFORMATION [ ] 6 TEMPORARY SITE CLOSURE [ ] 7 PERMANENTLY CLOSED SITE

I. FACILITY/SITE INFORMATION & ADDRESS - (MUST BE COMPLETED)

DBA OR FACILITY NAME	NAME OF OPERATOR	
IKEA PROPERTY, INC.	IKEA PROPERTY, INC.	
ADDRESS	NEAREST CROSS STREET	PARCEL # (OPTIONAL)
4300 EAST SHORE HIGHWAY	SHELLMOUND	—
CITY NAME	STATE / ZIP CODE	SITE PHONE # WITH AREA CODE
EMERYVILLE	CA 94608	(510) 655-9782

✔ BOX TO INDICATE: [X] CORPORATION [ ] INDIVIDUAL [ ] PARTNERSHIP [ ] LOCAL-AGENCY DISTRICTS [ ] COUNTY-AGENCY * [ ] STATE-AGENCY * [ ] FEDERAL-AGENCY *

* If owner of UST is a public agency, complete the following: name of supervisor of division, section or office which operates the UST _____

TYPE OF BUSINESS	✔ IF INDIAN RESERVATION OR TRUST LANDS	# OF TANKS AT SITE	E. P. A. I. D. # (optional)
[ ] 1 GAS STATION [ ] 2 DISTRIBUTOR [ ] 3 FARM [ ] 4 PROCESSOR [X] 5 OTHER	[ ]	2	CAC002111120

EMERGENCY CONTACT PERSON (PRIMARY)	EMERGENCY CONTACT PERSON (SECONDARY) - optional
DAYS: NAME (LAST, FIRST) / PHONE # WITH AREA CODE: EASTER, DAN (EMCON) (916) 928-3300	DAYS: NAME (LAST, FIRST) / PHONE # WITH AREA CODE: HALDERMAN, GREG (DPR CONST) (510) 655-9782
NIGHTS: NAME (LAST, FIRST) / PHONE # WITH AREA CODE: EASTER, DAN (EMCON) (916) 928-3300	NIGHTS: NAME (LAST, FIRST) / PHONE # WITH AREA CODE:

II. PROPERTY OWNER INFORMATION - (MUST BE COMPLETED)

NAME	CARE OF ADDRESS INFORMATION		
IKEA PROPERTY, INC.	CHARLES KELLER		
MAILING OR STREET ADDRESS	✔ box to indicate: [ ] INDIVIDUAL [ ] LOCAL-AGENCY [ ] STATE-AGENCY		
496 WEST GERMANTOWN PIKE	[X] CORPORATION [ ] PARTNERSHIP [ ] COUNTY-AGENCY [ ] FEDERAL-AGENCY		
CITY NAME	STATE	ZIP CODE	PHONE # WITH AREA CODE
PLYMOUTH MEETING	PA	19462	(610) 834-0180

III. TANK OWNER INFORMATION - (MUST BE COMPLETED)

NAME OF OWNER	CARE OF ADDRESS INFORMATION		
IKEA PROPERTY, INC.			
MAILING OR STREET ADDRESS	✔ box to indicate: [ ] INDIVIDUAL [ ] LOCAL-AGENCY [ ] STATE-AGENCY		
496 WEST GERMANTOWN PIKE	[ ] CORPORATION [ ] PARTNERSHIP [ ] COUNTY-AGENCY [ ] FEDERAL-AGENCY		
CITY NAME	STATE	ZIP CODE	PHONE # WITH AREA CODE
PLYMOUTH MEETING	PA	19462	610-834-0180

IV. BOARD OF EQUALIZATION UST STORAGE FEE ACCOUNT NUMBER - Call (916) 322-9669 if questions arise.

TY (TK) HQ 44- [ ][ ][ ][ ][ ][ ] N/A

V. PETROLEUM UST FINANCIAL RESPONSIBILITY - (MUST BE COMPLETED) – IDENTIFY THE METHOD(S) USED

✔ box to indicate: [ ] 1 SELF-INSURED [ ] 2 GUARANTEE [ ] 3 INSURANCE [ ] 4 SURETY BOND [ ] 5 LETTER OF CREDIT [ ] 6 EXEMPTION [ ] 7 STATE FUND [ ] 8 STATE FUND & CHIEF FINANCIAL OFFICER LETTER [ ] 9 STATE FUND & CERTIFICATE OF DEPOSIT [ ] 10 LOCAL GOVT. MECHANISM [X] 99 OTHER_____

VI. LEGAL NOTIFICATION AND BILLING ADDRESS

Legal notification and billing will be sent to the tank owner unless box I or II is checked.

CHECK ONE BOX INDICATING WHICH ABOVE ADDRESS SHOULD BE USED FOR LEGAL NOTIFICATIONS AND BILLING: I. [ ] II. [ ] III. [ ]

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNER'S NAME (PRINTED & SIGNATURE)	TANK OWNER'S TITLE	DATE MONTH/DAY/YEAR
M McDONALD	PRESIDENT	April 6, 1999

LOCAL AGENCY USE ONLY

COUNTY #	JURISDICTION #	FACILITY #
[ ][ ]	[ ][ ][ ]	[ ][ ][ ][ ][ ][ ]

LOCATION CODE - *OPTIONAL*	CENSUS TRACT # - *OPTIONAL*	SUPVISOR - DISTRICT CODE - *OPTIONAL*

THIS FORM MUST BE ACCOMPANIED BY AT LEAST (1) OR MORE PERMIT APPLICATION - FORM B, UNLESS THIS IS A CHANGE OF SITE INFORMATION ONLY.

OWNER MUST FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM B

COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM. Tank 1

MARK ONE ITEM: [X] 1 NEW PERMIT [ ] 2 INTERIM PERMIT [ ] 3 RENEWAL PERMIT [ ] 4 AMENDED PERMIT [ ] 5 CHANGE OF INFORMATION [ ] 6 TEMPORARY TANK CLOSURE [ ] 7 PERMANENTLY CLOSED ON SITE [ ] 8 TANK REMOVED

DBA OR FACILITY NAME WHERE TANK IS INSTALLED:

I. TANK DESCRIPTION

COMPLETE ALL ITEMS -- SPECIFY IF UNKNOWN

A. OWNER'S TANK I. D. # NA	B. MANUFACTURED BY: UNKNOWN
C. DATE INSTALLED (MO/DAY/YEAR) UNKNOWN	D. TANK CAPACITY IN GALLONS: APPROX. 500 GALLONS

II. TANK CONTENTS

IF A-1 IS MARKED, COMPLETE ITEM C.

A. [ ] 1 MOTOR VEHICLE FUEL [ ] 2 PETROLEUM [ ] 3 CHEMICAL PRODUCT [ ] 4 OIL [ ] 80 EMPTY [X] 95 UNKNOWN

B. [ ] 1 PRODUCT [ ] 2 WASTE

C. [ ] 1a REGULAR UNLEADED [ ] 1b PREMIUM UNLEADED [ ] 1c MIDGRADE UNLEADED [ ] 2 LEADED [ ] 3 DIESEL [ ] 4 GASAHOL [ ] 5 JET FUEL [ ] 6 AVIATION GAS [ ] 7 METHANOL [ ] 8 M85 [ ] 99 OTHER (DESCRIBE IN ITEM D. BELOW)

D. IF (A.1) IS NOT MARKED, ENTER NAME OF SUBSTANCE STORED C. A. S. #:

III. TANK CONSTRUCTION

MARK ONE ITEM ONLY IN BOXES A, B, AND C, AND ALL THAT APPLIES IN BOX D AND E

A. TYPE OF SYSTEM: [ ] 1 DOUBLE WALL [X] 2 SINGLE WALL [ ] 3 SINGLE WALL WITH EXTERIOR LINER [ ] 4 SINGLE WALL IN A VAULT [ ] 5 INTERNAL BLADDER SYSTEM [ ] 95 UNKNOWN [ ] 99 OTHER

B. TANK MATERIAL (Primary Tank): [X] 1 BARE STEEL [ ] 2 STAINLESS STEEL [ ] 3 FIBERGLASS [ ] 4 STEEL CLAD W/ FIBERGLASS REINFORCED PLASTIC [ ] 5 CONCRETE [ ] 6 POLYVINYL CHLORIDE [ ] 7 ALUMINUM [ ] 8 100% METHANOL COMPATIBLE W/FRP [ ] 9 BRONZE [ ] 10 GALVANIZED STEEL [ ] 95 UNKNOWN [ ] 99 OTHER

C. INTERIOR LINING OR COATING: [ ] 1 RUBBER LINED [ ] 2 ALKYD LINING [ ] 3 EPOXY LINING [ ] 4 PHENOLIC LINING [ ] 5 GLASS LINING [ ] 6 UNLINED [X] 95 UNKNOWN [ ] 99 OTHER
IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? YES ___ NO ___

D. EXTERIOR CORROSION PROTECTION: [ ] 1 POLYETHYLENE WRAP [ ] 2 COATING [ ] 3 VINYL WRAP [ ] 4 FIBERGLASS REINFORCED PLASTIC [ ] 5 CATHODIC PROTECTION [ ] 91 NONE [X] 95 UNKNOWN [ ] 99 OTHER

E. SPILL AND OVERFILL, etc. SPILL CONTAINMENT INSTALLED (YEAR) NONE OVERFILL PREVENTION EQUIPMENT INSTALLED (YEAR) NONE
DROP TUBE YES ___ NO ___ STRIKER PLATE YES ___ NO ___ DISPENSER CONTAINMENT YES ___ NO ___

IV. PIPING INFORMATION

CIRCLE A IF ABOVE GROUND OR U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE: A U 1 SUCTION; A [X] 2 PRESSURE; A U 3 GRAVITY; A U 4 FLEXIBLE PIPING; A U 99 OTHER

B. CONSTRUCTION: A [X] 1 SINGLE WALL; A U 2 DOUBLE WALL; A U 3 LINED TRENCH; A U 95 UNKNOWN; A U 99 OTHER

C. MATERIAL AND CORROSION PROTECTION: A [X] 1 BARE STEEL; A U 2 STAINLESS STEEL; A U 3 POLYVINYL CHLORIDE (PVC); A U 4 FIBERGLASS PIPE; A U 5 ALUMINUM; A U 6 CONCRETE; A U 7 STEEL W/ COATING; A U 8 100% METHANOL COMPATIBLE W/FRP; A U 9 GALVANIZED STEEL; A U 10 CATHODIC PROTECTION; A U 95 UNKNOWN; A U 99 OTHER

D. LEAK DETECTION: [ ] 1 MECHANICAL LINE LEAK DETECTOR [ ] 2 LINE TIGHTNESS TESTING [ ] 3 CONTINUOUS INTERSTITIAL MONITORING [ ] 4 ELECTRONIC LINE LEAK DETECTOR [ ] 5 AUTOMATIC PUMP SHUTDOWN [X] 99 OTHER NONE

V. TANK LEAK DETECTION

[ ] 1 VISUAL CHECK [ ] 2 MANUAL INVENTORY RECONCILIATION [ ] 3 VADOZE MONITORING [ ] 4 AUTOMATIC TANK GAUGING [ ] 5 GROUND WATER MONITORING [ ] 6 ANNUAL TANK TESTING [ ] 7 CONTINUOUS INTERSTITIAL MONITORING [ ] 8 SIR [ ] 9 WEEKLY MANUAL TANK GAUGING [ ] 10 MONTHLY TANK TESTING [X] 95 UNKNOWN [ ] 99 OTHER

VI. TANK CLOSURE INFORMATION (PERMANENT CLOSURE IN-PLACE)

1. ESTIMATED DATE LAST USED (MO/DAY/YR)	2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING	3. WAS TANK FILLED WITH INERT MATERIAL ?
UNKNOWN	0.5 GALLONS	YES [ ] NO [X]

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNER'S NAME (PRINTED & SIGNATURE) M. McDONALD DATE APRIL 6, 1999

LOCAL AGENCY USE ONLY

THE STATE I.D. NUMBER IS COMPOSED OF THE FOUR NUMBERS BELOW

STATE I.D.# COUNTY # JURISDICTION # FACILITY # TANK #

PERMIT NUMBER	PERMIT APPROVED BY/DATE	PERMIT EXPIRATION DATE

THIS FORM MUST BE ACCOMPANIED BY A PERMIT APPLICATION - FORM A, UNLESS A CURRENT FORM A HAS BEEN FILED. FORM C MUST BE COMPLETED FOR INSTALLATIONS. THIS FORM SHOULD BE ACCOMPANIED BY A PLOT PLAN. FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM B

COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM. Tank 2

MARK ONE ITEM: [X] 1 NEW PERMIT [ ] 2 INTERIM PERMIT [ ] 3 RENEWAL PERMIT [ ] 4 AMENDED PERMIT [ ] 5 CHANGE OF INFORMATION [ ] 6 TEMPORARY TANK CLOSURE [ ] 7 PERMANENTLY CLOSED ON SITE [ ] 8 TANK REMOVED

DBA OR FACILITY NAME WHERE TANK IS INSTALLED:

I. TANK DESCRIPTION

COMPLETE ALL ITEMS -- SPECIFY IF UNKNOWN

A. OWNER'S TANK I. D. # NA

B. MANUFACTURED BY: UNKNOWN

C. DATE INSTALLED (MO/DAY/YEAR) UNKNOWN

D. TANK CAPACITY IN GALLONS: APPROX. 500 GALLONS

II. TANK CONTENTS

IF A-1 IS MARKED, COMPLETE ITEM C.

A. [ ] 1 MOTOR VEHICLE FUEL [ ] 2 PETROLEUM [ ] 3 CHEMICAL PRODUCT [ ] 4 OIL [ ] 80 EMPTY [X] 95 UNKNOWN

B. [ ] 1 PRODUCT [ ] 2 WASTE

C. [ ] 1a REGULAR UNLEADED [ ] 1b PREMIUM UNLEADED [ ] 1c MIDGRADE UNLEADED [ ] 2 LEADED [ ] 3 DIESEL [ ] 4 GASAHOL [ ] 5 JET FUEL [ ] 6 AVIATION GAS [ ] 7 METHANOL [ ] 8 M85 [ ] 99 OTHER (DESCRIBE IN ITEM D. BELOW)

D. IF (A.1) IS NOT MARKED, ENTER NAME OF SUBSTANCE STORED

C. A. S. # :

III. TANK CONSTRUCTION

MARK ONE ITEM ONLY IN BOXES A, B, AND C, AND ALL THAT APPLIES IN BOX D AND E

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IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? YES ___ NO ___

D. EXTERIOR CORROSION PROTECTION: [ ] 1 POLYETHYLENE WRAP [ ] 2 COATING [ ] 3 VINYL WRAP [ ] 4 FIBERGLASS REINFORCED PLASTIC [ ] 5 CATHODIC PROTECTION [ ] 91 NONE [X] 95 UNKNOWN [ ] 99 OTHER

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A. SYSTEM TYPE: A U 1 SUCTION; A X 2 PRESSURE; A U 3 GRAVITY; A U 4 FLEXIBLE PIPING; A U 99 OTHER

B. CONSTRUCTION: A X 1 SINGLE WALL; A U 2 DOUBLE WALL; A U 3 LINED TRENCH; A U 95 UNKNOWN; A U 99 OTHER

C. MATERIAL AND CORROSION PROTECTION: A X 1 BARE STEEL; A U 2 STAINLESS STEEL; A U 3 POLYVINYL CHLORIDE (PVC); A U 4 FIBERGLASS PIPE; A U 5 ALUMINUM; A U 6 CONCRETE; A U 7 STEEL W/ COATING; A U 8 100% METHANOL COMPATIBLE W/FRP; A U 9 GALVANIZED STEEL; A U 10 CATHODIC PROTECTION; A U 95 UNKNOWN; A U 99 OTHER

D. LEAK DETECTION: [ ] 1 MECHANICAL LINE LEAK DETECTOR [ ] 2 LINE TIGHTNESS TESTING [ ] 3 CONTINUOUS INTERSTITIAL MONITORING [ ] 4 ELECTRONIC LINE LEAK DETECTOR [ ] 5 AUTOMATIC PUMP SHUTDOWN [X] 99 OTHER NONE

V. TANK LEAK DETECTION

[ ] 1 VISUAL CHECK [ ] 2 MANUAL INVENTORY RECONCILIATION [ ] 3 VADOZE MONITORING [ ] 4 AUTOMATIC TANK GAUGING [ ] 5 GROUND WATER MONITORING [ ] 6 ANNUAL TANK TESTING [ ] 7 CONTINUOUS INTERSTITIAL MONITORING [ ] 8 SIR [ ] 9 WEEKLY MANUAL TANK GAUGING [ ] 10 MONTHLY TANK TESTING [X] 95 UNKNOWN [ ] 99 OTHER

VI. TANK CLOSURE INFORMATION (PERMANENT CLOSURE IN-PLACE)

1. ESTIMATED DATE LAST USED (MO/DAY/YR) UNKNOWN

2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING 0.5 GALLONS

3. WAS TANK FILLED WITH INERT MATERIAL? YES [ ] NO [X]

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNER'S NAME (PRINTED & SIGNATURE) M. McDONALD DATE APRIL 6, 1999

LOCAL AGENCY USE ONLY

THE STATE I.D. NUMBER IS COMPOSED OF THE FOUR NUMBERS BELOW

STATE I.D.# COUNTY # JURISDICTION # FACILITY # TANK #

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APPENDIX B

CERTIFIED ANALYTICAL REPORTS

AND

CHAIN OF CUSTODY DOCUMENTATION

1-1

Columbia Analytical Services INC.
An Employee-Owned Company

February 26, 1999 Service Request No.: S9900593

Mr. Dan Easter
EMCON
1433 North Market Blvd.
Sacramento, CA 95834

RE: IKEA/22175-001.003

Dear Mr. Easter:

The following pages contain analytical results for sample(s) received by the laboratory on February 19, 1999. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 37, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

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

Sincerely,

Bernadette T. Cox

Bernadette T. Cox
Project Chemist

3334 Victor Court ▪ Santa Clara, CA 95054-2316 ▪ Telephone (408) 748-9700 ▪ Fax (408) 748-9860

COLUMBIA ANALYTICAL SERVICES, Inc.
Acronyms

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	2/19/99
Sample Matrix:	Soil	**Date Received:**	2/19/99

Halogenated Volatile Organic Compounds

Sample Name:	S-1	Units:	mg/Kg (ppm)
Lab Code:	S9900593-001	Basis:	Wet
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Dichlorodifluoromethane (CFC 12)	EPA 5030	8010	0.1	1	2/23/99	2/23/99	ND	
Chloromethane	EPA 5030	8010	0.1	1	2/23/99	2/23/99	ND	
Vinyl Chloride	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Bromomethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Chloroethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Trichlorofluoromethane (CFC 11)	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,1-Dichloroethene	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Trichlorotrifluoroethane (CFC 113)	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Methylene Chloride	EPA 5030	8010	0.5	1	2/23/99	2/23/99	ND	
trans-1,2-Dichloroethene	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
cis-1,2-Dichloroethene	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,1-Dichloroethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Chloroform	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,1,1-Trichloroethane (TCA)	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Carbon Tetrachloride	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,2-Dichloroethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Trichloroethene (TCE)	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,2-Dichloropropane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Bromodichloromethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
2-Chloroethyl Vinyl Ether	EPA 5030	8010	0.5	1	2/23/99	2/23/99	ND	
trans-1,3-Dichloropropene	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
cis-1,3-Dichloropropene	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,1,2-Trichloroethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Tetrachloroethene (PCE)	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Dibromochloromethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Chlorobenzene	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Bromoform	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,1,2,2-Tetrachloroethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,3-Dichlorobenzene	EPA 5030	8010	0.1	1	2/23/99	2/23/99	ND	
1,4-Dichlorobenzene	EPA 5030	8010	0.1	1	2/23/99	2/23/99	ND	
1,2-Dichlorobenzene	EPA 5030	8010	0.1	1	2/23/99	2/23/99	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Halogenated Volatile Organic Compounds

Sample Name:	Method Blank(5B)	Units:	mg/Kg (ppm)
Lab Code:	S990223-SB1	Basis:	Wet
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Dichlorodifluoromethane (CFC 12)	EPA 5030	8010	0.1	1	2/23/99	2/23/99	ND	
Chloromethane	EPA 5030	8010	0.1	1	2/23/99	2/23/99	ND	
Vinyl Chloride	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Bromomethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Chloroethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Trichlorofluoromethane (CFC 11)	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,1-Dichloroethene	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Trichlorotrifluoroethane (CFC 113)	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Methylene Chloride	EPA 5030	8010	0.5	1	2/23/99	2/23/99	ND	
trans-1,2-Dichloroethene	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
cis-1,2-Dichloroethene	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,1-Dichloroethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Chloroform	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,1,1-Trichloroethane (TCA)	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Carbon Tetrachloride	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,2-Dichloroethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Trichloroethene (TCE)	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,2-Dichloropropane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Bromodichloromethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
2-Chloroethyl Vinyl Ether	EPA 5030	8010	0.5	1	2/23/99	2/23/99	ND	
trans-1,3-Dichloropropene	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
cis-1,3-Dichloropropene	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,1,2-Trichloroethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Tetrachloroethene (PCE)	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Dibromochloromethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Chlorobenzene	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
Bromoform	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,1,2,2-Tetrachloroethane	EPA 5030	8010	0.05	1	2/23/99	2/23/99	ND	
1,3-Dichlorobenzene	EPA 5030	8010	0.1	1	2/23/99	2/23/99	ND	
1,4-Dichlorobenzene	EPA 5030	8010	0.1	1	2/23/99	2/23/99	ND	
1,2-Dichlorobenzene	EPA 5030	8010	0.1	1	2/23/99	2/23/99	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	2/19/99
Sample Matrix:	Water	**Date Received:**	2/19/99

Halogenated Volatile Organic Compounds

Sample Name:	W-1	Units:	ug/L (ppb)
Lab Code:	S9900593-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Dichlorodifluoromethane (CFC 12)	EPA 5030	8010	1	1	NA	2/23/99	ND	
Chloromethane	EPA 5030	8010	1	1	NA	2/23/99	ND	
Vinyl Chloride	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Bromomethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Chloroethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Trichlorofluoromethane (CFC 11)	EPA 5030	8010	0.5	1	NA	2/23/99	0.6	
1,1-Dichloroethene	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Trichlorotrifluoroethane (CFC 113)	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Methylene Chloride	EPA 5030	8010	5	1	NA	2/23/99	ND	
trans-1,2-Dichloroethene	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
cis-1,2-Dichloroethene	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,1-Dichloroethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Chloroform	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,1,1-Trichloroethane (TCA)	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Carbon Tetrachloride	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,2-Dichloroethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Trichloroethene (TCE)	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,2-Dichloropropane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Bromodichloromethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
2-Chloroethyl Vinyl Ether	EPA 5030	8010	5	1	NA	2/23/99	ND	
trans-1,3-Dichloropropene	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
cis-1,3-Dichloropropene	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,1,2-Trichloroethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Tetrachloroethene (PCE)	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Dibromochloromethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Chlorobenzene	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Bromoform	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,1,2,2-Tetrachloroethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,3-Dichlorobenzene	EPA 5030	8010	1	1	NA	2/23/99	ND	
1,4-Dichlorobenzene	EPA 5030	8010	1	1	NA	2/23/99	ND	
1,2-Dichlorobenzene	EPA 5030	8010	1	1	NA	2/23/99	ND	

1S44/111296

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Halogenated Volatile Organic Compounds

Sample Name:	Method Blank(5B)	Units:	ug/L (ppb)
Lab Code:	S990222-WB3	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Dichlorodifluoromethane (CFC 12)	EPA 5030	8010	1	1	NA	2/23/99	ND	
Chloromethane	EPA 5030	8010	1	1	NA	2/23/99	ND	
Vinyl Chloride	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Bromomethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Chloroethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Trichlorofluoromethane (CFC 11)	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,1-Dichloroethene	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Trichlorotrifluoroethane (CFC 113)	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Methylene Chloride	EPA 5030	8010	5	1	NA	2/23/99	ND	
trans-1,2-Dichloroethene	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
cis-1,2-Dichloroethene	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,1-Dichloroethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Chloroform	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,1,1-Trichloroethane (TCA)	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Carbon Tetrachloride	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,2-Dichloroethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Trichloroethene (TCE)	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,2-Dichloropropane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Bromodichloromethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
2-Chloroethyl Vinyl Ether	EPA 5030	8010	5	1	NA	2/23/99	ND	
trans-1,3-Dichloropropene	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
cis-1,3-Dichloropropene	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,1,2-Trichloroethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Tetrachloroethene (PCE)	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Dibromochloromethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Chlorobenzene	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
Bromoform	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,1,2,2-Tetrachloroethane	EPA 5030	8010	0.5	1	NA	2/23/99	ND	
1,3-Dichlorobenzene	EPA 5030	8010	1	1	NA	2/23/99	ND	
1,4-Dichlorobenzene	EPA 5030	8010	1	1	NA	2/23/99	ND	
1,2-Dichlorobenzene	EPA 5030	8010	1	1	NA	2/23/99	ND	

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	2/19/99
Sample Matrix:	Soil	**Date Received:**	2/19/99

Polychlorinated Biphenyls (PCBs)

Sample Name:	S-1	Units:	mg/Kg (ppm)
Lab Code:	S9900593-001	Basis:	Wet
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550C	8082	0.1	1	2/22/99	2/23/99	ND	
Aroclor 1221	EPA 3550C	8082	0.1	1	2/22/99	2/23/99	ND	
Aroclor 1232	EPA 3550C	8082	0.1	1	2/22/99	2/23/99	ND	
Aroclor 1242	EPA 3550C	8082	0.1	1	2/22/99	2/23/99	ND	
Aroclor 1248	EPA 3550C	8082	0.1	1	2/22/99	2/23/99	ND	
Aroclor 1254	EPA 3550C	8082	0.1	1	2/22/99	2/23/99	ND	
Aroclor 1260	EPA 3550C	8082	0.1	1	2/22/99	2/23/99	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	Units:	mg/Kg (ppm)
Lab Code:	S990222-MB	Basis:	Wet
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3550C	8082	0.1	1	2/22/99	2/23/99	ND	
Aroclor 1221	EPA 3550C	8082	0.1	1	2/22/99	2/23/99	ND	
Aroclor 1232	EPA 3550C	8082	0.1	1	2/22/99	2/23/99	ND	
Aroclor 1242	EPA 3550C	8082	0.1	1	2/22/99	2/23/99	ND	
Aroclor 1248	EPA 3550C	8082	0.1	1	2/22/99	2/23/99	ND	
Aroclor 1254	EPA 3550C	8082	0.1	1	2/22/99	2/23/99	ND	
Aroclor 1260	EPA 3550C	8082	0.1	1	2/22/99	2/23/99	ND	

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	2/19/99
Sample Matrix:	Water	**Date Received:**	2/19/99

Polychlorinated Biphenyls (PCBs)

Sample Name:	W-1	Units:	ug/L (ppb)
Lab Code:	S9900593-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3510A	8082	0.2	1	2/23/99	2/24/99	ND	
Aroclor 1221	EPA 3510A	8082	0.2	1	2/23/99	2/24/99	ND	
Aroclor 1232	EPA 3510A	8082	0.2	1	2/23/99	2/24/99	ND	
Aroclor 1242	EPA 3510A	8082	0.2	1	2/23/99	2/24/99	ND	
Aroclor 1248	EPA 3510A	8082	0.2	1	2/23/99	2/24/99	ND	
Aroclor 1254	EPA 3510A	8082	0.2	1	2/23/99	2/24/99	ND	
Aroclor 1260	EPA 3510A	8082	0.2	1	2/23/99	2/24/99	ND	

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	S990223-MB	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Aroclor 1016	EPA 3510A	8082	0.2	1	2/23/99	2/23/99	ND	
Aroclor 1221	EPA 3510A	8082	0.2	1	2/23/99	2/23/99	ND	
Aroclor 1232	EPA 3510A	8082	0.2	1	2/23/99	2/23/99	ND	
Aroclor 1242	EPA 3510A	8082	0.2	1	2/23/99	2/23/99	ND	
Aroclor 1248	EPA 3510A	8082	0.2	1	2/23/99	2/23/99	ND	
Aroclor 1254	EPA 3510A	8082	0.2	1	2/23/99	2/23/99	ND	
Aroclor 1260	EPA 3510A	8082	0.2	1	2/23/99	2/23/99	ND	

IS44/111296

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	2/19/99
Sample Matrix:	Soil	**Date Received:**	2/19/99

Polynuclear Aromatic Hydrocarbons

Sample Name:	S-1	Units:	mg/Kg (ppm)
Lab Code:	S9900593-001	Basis:	Wet
Test Notes:	M1		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Naphthalene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Acenaphthylene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Acenaphthene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Fluorene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Phenanthrene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Anthracene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Fluoranthene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Pyrene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Benz(a)anthracene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Chrysene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Benzo(b)fluoranthene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Benzo(k)fluoranthene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Benzo(a)pyrene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Indeno(1,2,3-cd)pyrene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Dibenz(a,h)anthracene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
Benzo(g,h,i)perylene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	
2-Methylnaphthalene	EPA 3550	8270C	0.3	5	2/22/99	2/24/99	<1.5	

M1 The MRL was elevated because of matrix interferences.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	Units:	mg/Kg (ppm)
Lab Code:	S990222-SB1	Basis:	Wet
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Naphthalene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Acenaphthylene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Acenaphthene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Fluorene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Phenanthrene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Anthracene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Fluoranthene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Pyrene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Benz(a)anthracene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Chrysene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Benzo(b)fluoranthene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Benzo(k)fluoranthene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Benzo(a)pyrene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Indeno(1,2,3-cd)pyrene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Dibenz(a,h)anthracene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
Benzo(g,h,i)perylene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	
2-Methylnaphthalene	EPA 3550	8270C	0.3	1	2/22/99	2/23/99	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	2/19/99
Sample Matrix:	Water	**Date Received:**	2/19/99

Polynuclear Aromatic Hydrocarbons

Sample Name:	W-1	Units:	ug/L (ppb)
Lab Code:	S9900593-002	Basis:	NA
Test Notes:	M1		

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Naphthalene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Acenaphthylene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Acenaphthene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Fluorene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Phenanthrene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Anthracene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Fluoranthene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Pyrene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Benz(a)anthracene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Chrysene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Benzo(b)fluoranthene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Benzo(k)fluoranthene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Benzo(a)pyrene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Indeno(1,2,3-cd)pyrene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Dibenz(a,h)anthracene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
Benzo(g,h,i)perylene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	
2-Methylnaphthalene	EPA 3510	8270C	5	10	2/23/99	2/24/99	<50	

M1 The MRL was elevated because of matrix interferences.

1S2p/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	S990223-WB1	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Naphthalene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Acenaphthylene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Acenaphthene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Fluorene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Phenanthrene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Anthracene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Fluoranthene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Pyrene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Benz(a)anthracene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Chrysene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Benzo(b)fluoranthene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Benzo(k)fluoranthene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Benzo(a)pyrene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Indeno(1,2,3-cd)pyrene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Dibenz(a,h)anthracene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Benzo(g,h,i)perylene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
2-Methylnaphthalene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	

1S2p/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON
Project: IKEA/22175-001.003
Sample Matrix: Soil

Service Request: S9900593
Date Collected: 2/19/99
Date Received: 2/19/99

Hydrocarbon Scan

Sample Name: S-1
Lab Code: S9900593-001
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	LUFT	Modified EPA 8015	1	1	2/20/99	2/25/99	ND	
Jet Fuel	LUFT	Modified EPA 8015	1	1	2/20/99	2/25/99	ND	
Kerosene	LUFT	Modified EPA 8015	1	1	2/20/99	2/25/99	ND	
Diesel	LUFT	Modified EPA 8015	1	1	2/20/99	2/25/99	ND	
Motor Oil	LUFT	Modified EPA 8015	5	1	2/20/99	2/25/99	21	

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON
Project: IKEA/22175-001.003
Sample Matrix: Soil

Service Request: S9900593
Date Collected: NA
Date Received: NA

Hydrocarbon Scan

Sample Name: Method Blank
Lab Code: S990220-MB
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	LUFT	Modified EPA 8015	1	1	2/20/99	2/25/99	ND	
Jet Fuel	LUFT	Modified EPA 8015	1	1	2/20/99	2/25/99	ND	
Kerosene	LUFT	Modified EPA 8015	1	1	2/20/99	2/25/99	ND	
Diesel	LUFT	Modified EPA 8015	1	1	2/20/99	2/25/99	ND	
Motor Oil	LUFT	Modified EPA 8015	5	1	2/20/99	2/25/99	ND	

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	2/19/99
Sample Matrix:	Water	**Date Received:**	2/19/99

Hydrocarbon Scan

Sample Name:	W-1	Units:	ug/L (ppb)
Lab Code:	S9900593-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510	Modified EPA 8015	50	5	2/20/99	2/24/99	<250	C1
Jet Fuel	EPA 3510	Modified EPA 8015	50	5	2/20/99	2/24/99	<250	C1
Kerosene	EPA 3510	Modified EPA 8015	50	5	2/20/99	2/24/99	<250	C1
Diesel	EPA 3510	Modified EPA 8015	50	5	2/20/99	2/24/99	<250	C1
Motor Oil*	EPA 3510	Modified EPA 8015	250	5	2/20/99	2/24/99	14000	

C1 The MRL was elevated due to high analyte concentration requiring sample dilution.

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON
Project: IKEA/22175-001.003
Sample Matrix: Water

Service Request: S9900593
Date Collected: NA
Date Received: NA

Hydrocarbon Scan

Sample Name: Method Blank
Lab Code: S990220-MB
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3510	Modified EPA 8015	50	1	2/20/99	2/22/99	ND	
Jet Fuel	EPA 3510	Modified EPA 8015	50	1	2/20/99	2/22/99	ND	
Kerosene	EPA 3510	Modified EPA 8015	50	1	2/20/99	2/22/99	ND	
Diesel	EPA 3510	Modified EPA 8015	50	1	2/20/99	2/22/99	ND	
Motor Oil*	EPA 3510	Modified EPA 8015	250	1	2/20/99	2/22/99	ND	

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	2/19/99
Sample Matrix:	Soil	**Date Received:**	2/19/99

BTEX, MTBE and TPH as Gasoline

Sample Name:	S-1	Units:	mg/Kg (ppm)
Lab Code:	S9900593-001	Basis:	Wet
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/20/99	2/20/99	ND	
Benzene	EPA 5030	8020	0.005	1	2/20/99	2/20/99	ND	
Toluene	EPA 5030	8020	0.005	1	2/20/99	2/20/99	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/20/99	2/20/99	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/20/99	2/20/99	ND	
Methyl tert-Butyl Ether	EPA 5030	8020	0.05	1	2/20/99	2/20/99	ND	

1822/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

BTEX, MTBE and TPH as Gasoline

Sample Name:	Method Blank	Units:	mg/Kg (ppm)
Lab Code:	S990220-SB1	Basis:	Wet
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/20/99	2/20/99	ND	
Benzene	EPA 5030	8020	0.005	1	2/20/99	2/20/99	ND	
Toluene	EPA 5030	8020	0.005	1	2/20/99	2/20/99	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/20/99	2/20/99	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/20/99	2/20/99	ND	
Methyl tert-Butyl Ether	EPA 5030	8020	0.05	1	2/20/99	2/20/99	ND	

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	2/19/99
Sample Matrix:	Water	**Date Received:**	2/19/99

BTEX, MTBE and TPH as Gasoline

Sample Name:	W-1	Units:	ug/L (ppb)
Lab Code:	S9900593-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	50	1	NA	2/20/99	ND	
Benzene	EPA 5030	8020	0.5	1	NA	2/20/99	ND	
Toluene	EPA 5030	8020	0.5	1	NA	2/20/99	ND	
Ethylbenzene	EPA 5030	8020	0.5	1	NA	2/20/99	ND	
Xylenes, Total	EPA 5030	8020	0.5	1	NA	2/20/99	ND	
Methyl *tert*-Butyl Ether	EPA 5030	8020	3	1	NA	2/20/99	ND	

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

BTEX, MTBE and TPH as Gasoline

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	S990220-WB1	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	50	1	NA	2/20/99	ND	
Benzene	EPA 5030	8020	0.5	1	NA	2/20/99	ND	
Toluene	EPA 5030	8020	0.5	1	NA	2/20/99	ND	
Ethylbenzene	EPA 5030	8020	0.5	1	NA	2/20/99	ND	
Xylenes, Total	EPA 5030	8020	0.5	1	NA	2/20/99	ND	
Methyl *tert*-Butyl Ether	EPA 5030	8020	3	1	NA	2/20/99	ND	

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	2/19/99
Sample Matrix:	Soil	**Date Received:**	2/19/99

Total Metals

Sample Name:	S-1	Units:	mg/Kg (ppm)
Lab Code:	S9900593-001	Basis:	Wet
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
Cadmium	EPA 3050BM	6010A	0.5	1	2/22/99	2/22/99	1.9	
Chromium	EPA 3050BM	6010A	1	1	2/22/99	2/22/99	81	
Lead	EPA 3050BM	6010A	5	1	2/22/99	2/22/99	ND	
Nickel	EPA 3050BM	6010A	2	1	2/22/99	2/22/99	95	
Zinc	EPA 3050BM	6010A	2	1	2/22/99	2/22/99	89	

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Total Metals

Sample Name:	Method Blank	Units:	mg/Kg (ppm)
Lab Code:	S990222-MB	Basis:	Wet
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
Cadmium	EPA 3050BM	6010A	0.5	1	2/22/99	2/22/99	ND	
Chromium	EPA 3050BM	6010A	1	1	2/22/99	2/22/99	ND	
Lead	EPA 3050BM	6010A	5	1	2/22/99	2/22/99	ND	
Nickel	EPA 3050BM	6010A	2	1	2/22/99	2/22/99	ND	
Zinc	EPA 3050BM	6010A	2	1	2/22/99	2/22/99	ND	

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	2/19/99
Sample Matrix:	Water	**Date Received:**	2/19/99

Dissolved Metals

Sample Name:	W-1	Units:	mg/L (ppm)
Lab Code:	S9900593-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
Cadmium	EPA 3005	6010A	0.005	1	NA	2/22/99	ND	
Chromium	EPA 3005	6010A	0.01	1	NA	2/22/99	ND	
Lead	EPA 3005	6010A	0.05	1	NA	2/22/99	ND	
Nickel	EPA 3005	6010A	0.02	1	NA	2/22/99	ND	
Zinc	EPA 3005	6010A	0.02	1	NA	2/22/99	ND	

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Dissolved Metals

Sample Name:	Method Blank	Units:	mg/L (ppm)
Lab Code:	S990222-MB	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
Cadmium	EPA 3005	6010A	0.005	1	NA	2/22/99	ND	
Chromium	EPA 3005	6010A	0.01	1	NA	2/22/99	ND	
Lead	EPA 3005	6010A	0.05	1	NA	2/22/99	ND	
Nickel	EPA 3005	6010A	0.02	1	NA	2/22/99	ND	
Zinc	EPA 3005	6010A	0.02	1	NA	2/22/99	ND	

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	NA

Surrogate Recovery Summary
Halogenated Volatile Organic Compounds

Prep Method:	EPA 5030	Units:	PERCENT
Analysis Method:	8010	Basis:	NA

Sample Name	Lab Code	Test Notes	Percent Recovery 4-Bromofluorobenzene
S-1	S9900593-001		100
Method Blank(5B)	S990223-SB1		106

CAS Acceptance Limits: 74-125

SUR3/052595

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	NA

Surrogate Recovery Summary
Halogenated Volatile Organic Compounds

Prep Method:	EPA 5030	Units:	PERCENT
Analysis Method:	8010	Basis:	NA

Sample Name	Lab Code	Test Notes	Percent Recovery 4-Bromofluorobenzene
W-1	S9900593-002		101
Method Blank(5B)	S990222-WB3		103

CAS Acceptance Limits: 74-125

SUR3/052595

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	NA

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Prep Method:	EPA 3550C	Units:	PERCENT
Analysis Method:	8082	Basis:	NA

Sample Name	Lab Code	Test Notes	Percent Recovery Decachlorobiphenyl
S-1	S9900593-001		117
Method Blank	S990222-MB		110

CAS Acceptance Limits: 49-145

SUR3/052595

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	NA

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Prep Method:	EPA 3510A	Units:	PERCENT
Analysis Method:	8082	Basis:	NA

Sample Name	Lab Code	Test Notes	Percent Recovery Decachlorobiphenyl
W-1	S9900593-002		34
Method Blank	S990223-MB		116

CAS Acceptance Limits: 19-127

SUR3/052595

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: IKEA/22175-001.003
Sample Matrix: Soil

Service Request: S9900593
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Prep Method: EPA 3550
Analysis Method: 8270C

Units: mg/Kg (ppm)
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery 2FP	PHL	NBZ	FBP	TBP	TPH
S-1	S9900593-001		NA	NA	60	78	NA	68
Method Blank	S990222-SB1		NA	NA	68	61	NA	32
CAS Acceptance Limits:			25-121	24-113	23-120	30-115	19-122	18-137

2FP	2-Fluorophenol
PHL	Phenol-D6
NBZ	Nitrobenzene-D5
FBP	2-Fluorobiphenyl
TBP	2,4,6-Tribromophenol
TPH	Terphenyl-D14

SUR6/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: IKEA/22175-001.003
Sample Matrix: Water

Service Request: S9900593
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Prep Method: EPA 3510
Analysis Method: 8270C

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery 2FP	PHL	NBZ	FBP	TBP	TPH
W-1	S9900593-002		NA	NA	34 S1	71	NA	60
Method Blank	S990223-WB1		NA	NA	61	65	NA	45
CAS Acceptance Limits:			21-100	10-94	35-114	43-116	10-123	33-141

2FP	2-Fluorophenol
PHL	Phenol-D6
NBZ	Nitrobenzene-D5
FBP	2-Fluorobiphenyl
TBP	2,4,6-Tribromophenol
TPH	Terphenyl-D14

S1 Surrogate recovery out of control limits due to matrix interference.

SUR6/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	NA

Surrogate Recovery Summary
Hydrocarbon Scan

Prep Method:	LUFT	Units:	PERCENT
Analysis Method:	Modified EPA 8015	Basis:	NA

Sample Name	Lab Code	Test Notes	Percent Recovery p-Terphenyl
S-1	S9900593-001		95
Method Blank	S990220-MB		104

CAS Acceptance Limits: 41-140

SUR1/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	NA

Surrogate Recovery Summary
Hydrocarbon Scan

Prep Method:	EPA 3510	Units:	PERCENT
Analysis Method:	Modified EPA 8015	Basis:	NA

Sample Name	Lab Code	Test Notes	Percent Recovery p-Terphenyl
W-1	S9900593-002		53
Method Blank	S990220-MB		87

CAS Acceptance Limits: 41-140

SUR1/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	S9900593
Project:	IKEA/22175-001.003	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	NA

Surrogate Recovery Summary
BTEX and TPH as Gasoline

Prep Method:	EPA 5030	Units:	PERCENT
Analysis Method:	8020 CA/LUFT	Basis:	NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
S-1	S9900593-001		86	86
Method Blank	S990220-SB1		85	89
CAS Acceptance Limits:			51-137	51-137

SUR2/020397p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: IKEA/22175-001.003
Sample Matrix: Water

Service Request: S9900593
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
BTEX, MTBE and TPH as Gasoline

Prep Method: EPA 5030
Analysis Method: 8020 CA/LUFT

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
W-1	S9900593-002		85	90
Method Blank	S990220-WB1		88	89
CAS Acceptance Limits:			69-116	69-116

SUR2/020397p

CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

Columbia Analytical Services, Inc.
An Employee-Owned Company
3334 Victor Court • Santa Clara, CA 95054
(408) 437-2400 • FAX (408) 437-9356

SERVICE REQUEST NO. S9900593 P.O.# _____ PAGE _____ OF _____

PROJECT NAME IKEA # 22175-001.003
PROJECT MGR. *Dan Easter
COMPANY EMCON - SAC
ADDRESS _____
PHONE _____
FAX _____
SAMPLER'S SIGNATURE _____

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	Volatile Organics GC/MS 624/8240/8260	Halogenated or Aromatic Volatiles 601/8010/8021	TPH as Gas/BTEX 8015/8020 MTBE X	TPH as Diesel/HBHC DHS LUFT	Base/Neu/Acid Organics GC/MS 625/8270 PNA 8252	Pesticides 608/8080 PCBs	TRPH - 418.1	Oil and Grease Method _____	Metals (total or dissolved) List Below see note below	pH, Cond, Cl, SO_4, F, TDS, TSS Alk, NO_3, NO_2 (circle)	NH_3-N, COD, Total-P, TKN, NO_3 / NO_2 (circle)	Total Organic Carbon TOC	Total Phenols	Cyanide				REMARKS *
				PRESERVATIVE		HCl	HCl	HCl	NP	NP	NP		HCl		HCl	HNO_3	NP	H_2SO_4	H_2SO_4	H_2SO_4	NaOH		
S-1	02/19/99		(1)	Soil		X	X	X	X	X			X										
W-1	↓		(2)	H_2O		X	X	X	X	X			X										

RELINQUISHED BY:
Signature: Christopher Fong
Printed Name: Christopher Fong
Firm: EMCON
Date/Time: 2/18/99 14:46

RECEIVED BY:
Signature: Brian Fuller
Printed Name: Brian Fuller
Firm: CAS
Date/Time: 2/19/99 14:46

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
___ 1 day ___ 2 day ___ 3 day
___ 5 day ___ Other
___ Standard (10 working days)
Results Due _____

REPORT REQUIREMENTS
X I. Routine Report
___ II. Report (includes MS, MSD, as required, may be charged as samples)
___ III. Data Validation Report (includes All Raw Data)
___ MDLs/PQLs/Trace #
___ Electronic Data Deliverables

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

Shipped Via/Tracking # _____

SAMPLE RECEIPT: Condition _____ Custody Seals _____

SPECIAL INSTRUCTIONS/COMMENTS: PNA by 8270 DUE: 2-26-99 R9 D3

Circle which metals are to be analyzed:

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

- Luft metals: Cd, Cr, Zn, Ni, Pb R11 D1 R11 D3
Filter sample @ lab before metals analysis

Storage:

*Will sample results be used in connection with drinking water regulations? ☐ Yes ☐ No If yes, you must so indicate by writing "DW" for each such sample.

W-2

Columbia Analytical Services INC.
An Employee-Owned Company

March 8, 1999

Service Request No.: S9900620

Mr. Dan Easter
EMCON
1433 North Market Blvd.
Sacramento, CA 95834

RE: IKEA/22175-001.003

Dear Mr. Easter:

The following pages contain analytical results for sample(s) received by the laboratory on February 23, 1999. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 25, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

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

Sincerely,

Bernadette T. Cox

Bernadette T. Cox
Project Chemist

3334 Victor Court • Santa Clara, CA 95054-2316 • Telephone (408) 748-9720 • Fax (408) 748-9860

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON
Project: IKEA/22175-001.003
Sample Matrix: Liquid

Service Request: S9900620
Date Collected: 2/23/99
Date Received: 2/23/99

Hydrocarbon Scan

Sample Name: W-2
Lab Code: S9900620-001
Test Notes:

Units: %
Basis: NA

Analyte	Prep Method	Analysis Method	MRL (ppb)	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3580A	Modified EPA 8015	50	10000000	2/23/99	2/25/99	<0.5%	C2
Jet Fuel	EPA 3580A	Modified EPA 8015	50	10000000	2/23/99	2/25/99	<0.5%	C2
Kerosene	EPA 3580A	Modified EPA 8015	50	10000000	2/23/99	2/25/99	<0.5%	C2
Diesel	EPA 3580A	Modified EPA 8015	50	10000000	2/23/99	2/25/99	46%	C2, X
Motor Oil*	EPA 3580A	Modified EPA 8015	250	10000000	2/23/99	2/25/99	<2.5%	C2

C2 1g of sample was diluted to 100mL using methylene chloride.
X Sample fingerprint most closely resembles diesel, but is not Diesel #2 which is used for calibration.

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON
Project: IKEA/22175-001.003
Sample Matrix: Liquid

Service Request: S9900620
Date Collected: NA
Date Received: NA

Hydrocarbon Scan

Sample Name: Method Blank
Lab Code: S990223-OB1
Test Notes:

Units: %
Basis: NA

Analyte	Prep Method	Analysis Method	MRL (ppb)	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Mineral Spirits	EPA 3580A	Modified EPA 8015	50	10000000	2/23/99	2/25/99	<0.5%	C2
Jet Fuel	EPA 3580A	Modified EPA 8015	50	10000000	2/23/99	2/25/99	<0.5%	C2
Kerosene	EPA 3580A	Modified EPA 8015	50	10000000	2/23/99	2/25/99	<0.5%	C2
Diesel	EPA 3580A	Modified EPA 8015	50	10000000	2/23/99	2/25/99	<0.5%	C2
Motor Oil*	EPA 3580A	Modified EPA 8015	250	10000000	2/23/99	2/25/99	<2.5%	C2

C2 1g of sample was diluted to 100mL using methylene chloride.

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: IKEA/22175-001.003
Sample Matrix: Liquid

Service Request: S9900620
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
Hydrocarbon Scan

Prep Method: EPA 3510
Analysis Method: Modified EPA 8015

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery p-Terphenyl
W-2	S9900620-001		T1
Method Blank	S990223-OB1		T1

CAS Acceptance Limits: 41-140

T1 Not Applicable because of sample matrix. Analysis of this sample required a dilution such that the surrogate concentration was diluted below the MRL.

SUR1/020597p

Columbia Analytical Services, Inc.
An Employee-Owned Company
3334 Victor Court • Santa Clara, CA 95054
(408) 437-2400 • FAX (408) 437-9356

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST

SERVICE REQUEST NO. S990620 P.O.# _____ PAGE 1 OF 1

PROJECT NAME IKEA #22195-001.003
PROJECT MGR. Easter
COMPANY EMCON
ADDRESS 1433 N. Market Blvd.
Sacramento, CA PHONE
FAX
SAMPLER'S SIGNATURE

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	Volatile Organics GC/MS 624/8240/8260	Halogenated or Aromatic Volatiles 601/8010 or 602/8020	TPH as Gas/BTEX DHS LUFT / 8020 MTBE	TPH as Diesel/HBHC DHS LUFT	Base/Neu/Acid Organics GC/MS 625/8270	Pesticides PCBs 608/8080	TRPH - 418.1	Oil and Grease Method	Metals (total or dissolved) List Below	pH, Cond, Cl, SO_4, F, TDS, TSS Alk, NO_3, NO_2 (circle)	NH_3-N, COD, Total-P, TKN, NO_3 / NO_2 (circle)	Total Organic Carbon TOC	Total Phenols	Cyanide				REMARKS *
					PRESERVATIVE	HCl	HCl	HCl	NP	NP	NP	HCl	HCl	HNO_3	NP	H_2SO_4	H_2SO_4	H_2SO_4	NaOH				
W-2	2-23	11:15	(1)	Aqueous	1		X	X	X	X	X			X									

RELINQUISHED BY:
Signature
Dan Easter
Printed Name
EMCON
Firm
2-23-99, 11:40
Date/Time

RECEIVED BY:
Signature
Printed Name
CAS
Firm
2/23/99 11:40
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
___ 1 day ___ 2 day ___ 3 day
X 5 day ___ Other
___ Standard (10 working days)
Results Due_____

REPORT REQUIREMENTS
___ I. Routine Report
(X) II. Report (includes MS, MSD, as required, may be charged as samples)
___ III. Data Validation Report (includes All Raw Data)
___ MDLs/PQLs/Trace #
___ Electronic Data Deliverables

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

Shipped Via/Tracking #

SAMPLE RECEIPT: Condition_____ Custody Seals_____

SPECIAL INSTRUCTIONS/COMMENTS: ~~Laboratory~~ DOE: 3/2/99 R2

Circle which metals are to be analyzed:

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

- per Lisa Fernandez, put sample "W-2" on HOLD for the following analyses: 8270, 8082, metals, TPHgas BTEX MTBE + 8010.
BTC 02/24/99

Storage:

*Will sample results be used in connection with drinking water regulations? ☐ Yes ☐ No If yes, you must so indicate by writing "DW" for each such sample.

T2-SW, T2-SE, T2-W

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900, Fax (510) 486-0532

ANALYTICAL REPORT

Prepared for:

EMCON
1433 North Market Boulevard
Sacramento, CA 95834

Date: 15-APR-99
Lab Job Number: 138424
Project ID: 22175-001.003
Location: IKEA Property, Inc.

Reviewed by:

Reviewed by:

Curtis & Tompkins, Ltd.

Laboratory Number: **138424**
Client: **EMCON,**
Project Name: **IKEA Property, Inc.**

Receipt Date: **03/12/99**

CASE NARRATIVE

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

Total Volatile Hydrocarbons/BTXE: The bromofluorobenzene surrogate recovery for the matrix spike duplicate sample was outside acceptance limits due to matrix interference. The surrogate recovery has been flagged. No other analytical problems were encountered.

Total Extractable Hydrocarbons: No analytical problems were encountered.

Semi-Volatile Organic Compounds: The terphenyl-d14 surrogate recovery for sample T2-W was outside acceptance limits due to matrix interference. The surrogate recovery has been flagged. No other analytical problems were encountered.

PCBs: No analytical problems were encountered.

Metals: No analytical problems were encountered.

CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

Columbia Analytical Services, Inc. — An Employee-Owned Company
3334 Victor Court • Santa Clara, CA 95054
(408) 748-9700 • FAX (408) 748-9860

SERVICE REQUEST NO. _____ P.O.# 55497/00 PAGE 1 OF 1

PROJECT NAME IKEA Property, Inc # 22175-00.023
PROJECT MGR. Dan Easter
COMPANY EMCON
ADDRESS 1433 N. Market Blvd.
Sacramento, CA PHONE 916-928-330
FAX _____
SAMPLER'S SIGNATURE _____

	SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	PRESERVATIVE	HCl	HCl	HCl	NP	NP	NP	HCl	HNO_3	NP	H_2SO_4	NaOH	REMARKS *
							Volatile Organics BY GCMS 624 ☐ 8240 ☐ 8260 ☐	Halogenated or Aromatic Volatiles 601/8010 ☐ 602/8020 ☐ 8021 ☐	TPH as Gas/BTEX ☐ TPH as Gas/BTEX/MTBE ☐	TPH as Diesel ☐ HBHC ☐	Base/Neu/Acid Organics / GCMS 625 ☐ 8270 ☐	Pesticides & PCBs 608/8082 ☐ Pesticides only 8081 ☐ PCBs 8082 ☐	TRPH - 418.1 ☐ Oil and Grease Method	Metals, Indicate below Total ☐ Dissolved ☐	pH; Cond, Cl, SO_4, F, TDS, TSS Alk, NO_3, NO_2 (circle)	NH_3-N, COD, Total-P, TKN, TOC NO_3 / NO_2, Phenols (circle)	Cyanide			
1	TZ-SW	3-12			Soil	4		X	X	X	X		X						
2	TZ-SE	3-12			Soil	1		X	X	X	X		X						
3	TZ-W	3-12			water	9		X	X	X	X		X						

RELINQUISHED BY:
Signature _____
Printed Name Dan Easter
Firm EMCON
Date/Time 3-12-99, 1:50

RECEIVED BY:
Signature _____
Printed Name M TRAVERS
Firm C&T
Date/Time 3/12/99 1350

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

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

TURNAROUND REQUIREMENTS
___ 1 day (X) 2 day ___ 3 day
___ 5 day ___ Other
___ Standard (10 working days)
Results Due _____

REPORT REQUIREMENTS
___ I. Routine Report
(X) II. Report (includes MS MSD, as required, may be charged as samples)
___ III. Data Validation Report (includes All Raw Data)
___ MDLs/PQLs/Trace #
___ Electronic Data Deliverables

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

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

Shipped Via/Tracking # _____

SAMPLE RECEIPT: Condition _____ Custody Seals _____

SPECIAL INSTRUCTIONS/COMMENTS:

Circle which metals are to be analyzed:

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

Only

Storage:

*Will sample results be used in connection with drinking water regulations? ☐ Yes (X) No If yes, you must so indicate by writing "DW" for each such sample.

TVH-Total Volatile Hydrocarbons

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8015M
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
138424-003	T2-W	46766	03/12/99	03/13/99	03/13/99	

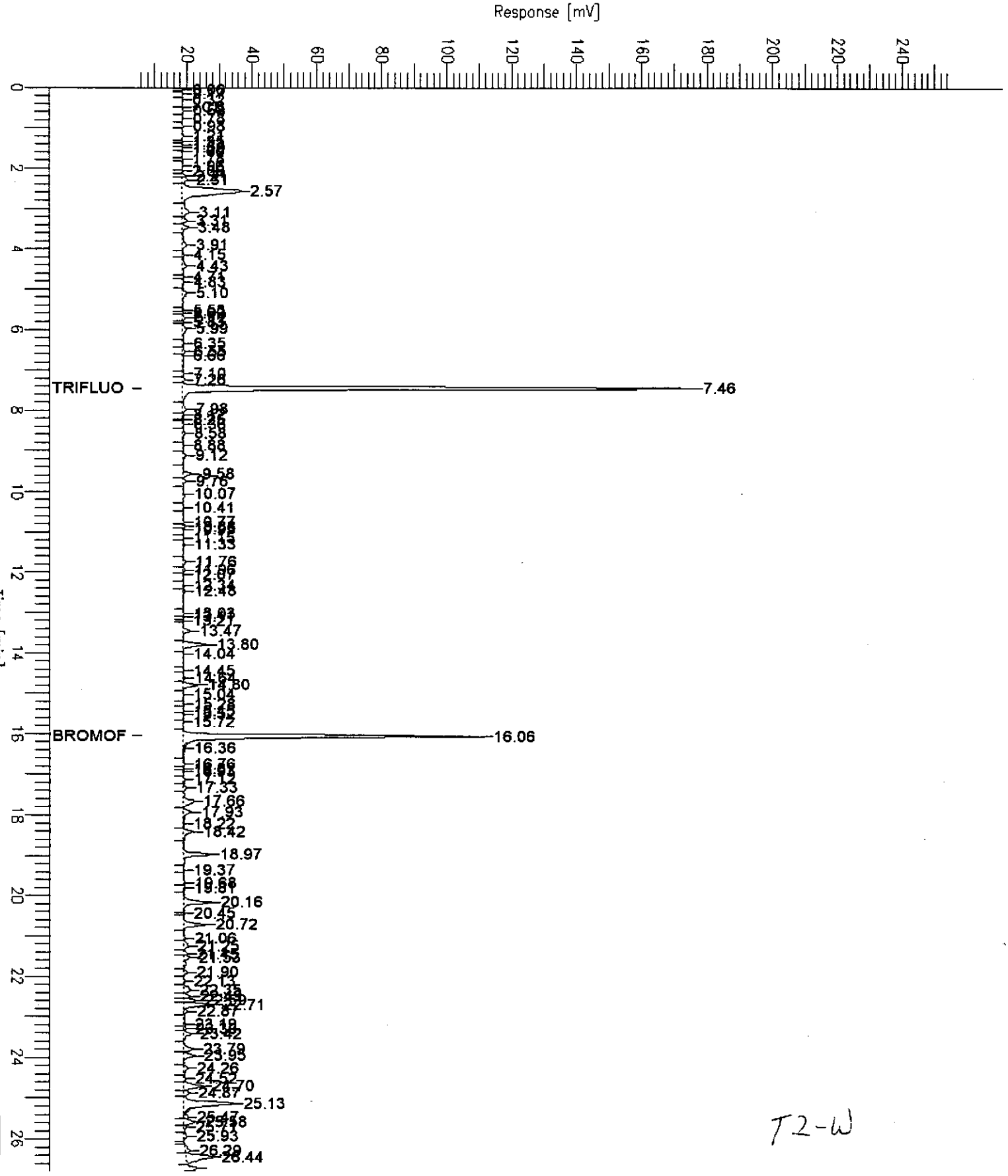
Matrix: Water

Analyte	Units	138424-003
Diln Fac:		1
Gasoline C7-C12	ug/L	120
Surrogate		
Trifluorotoluene	%REC	97
Bromofluorobenzene	%REC	97

GC19 TVH 'X' Data File (FID)

Sample Name : 138424-003,46766,+MTBE
FileName : G:\GC19\DATA\071X012.RAW
Method :
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 6 mV

Sample #: pH<2 Page 1 of 1
Date : 3/15/99 05:08 PM
Time of Injection: 3/13/99 05:27 AM
Low Point : 5.92 mV High Point : 255.92 mV
Plot Scale: 250.0 mV

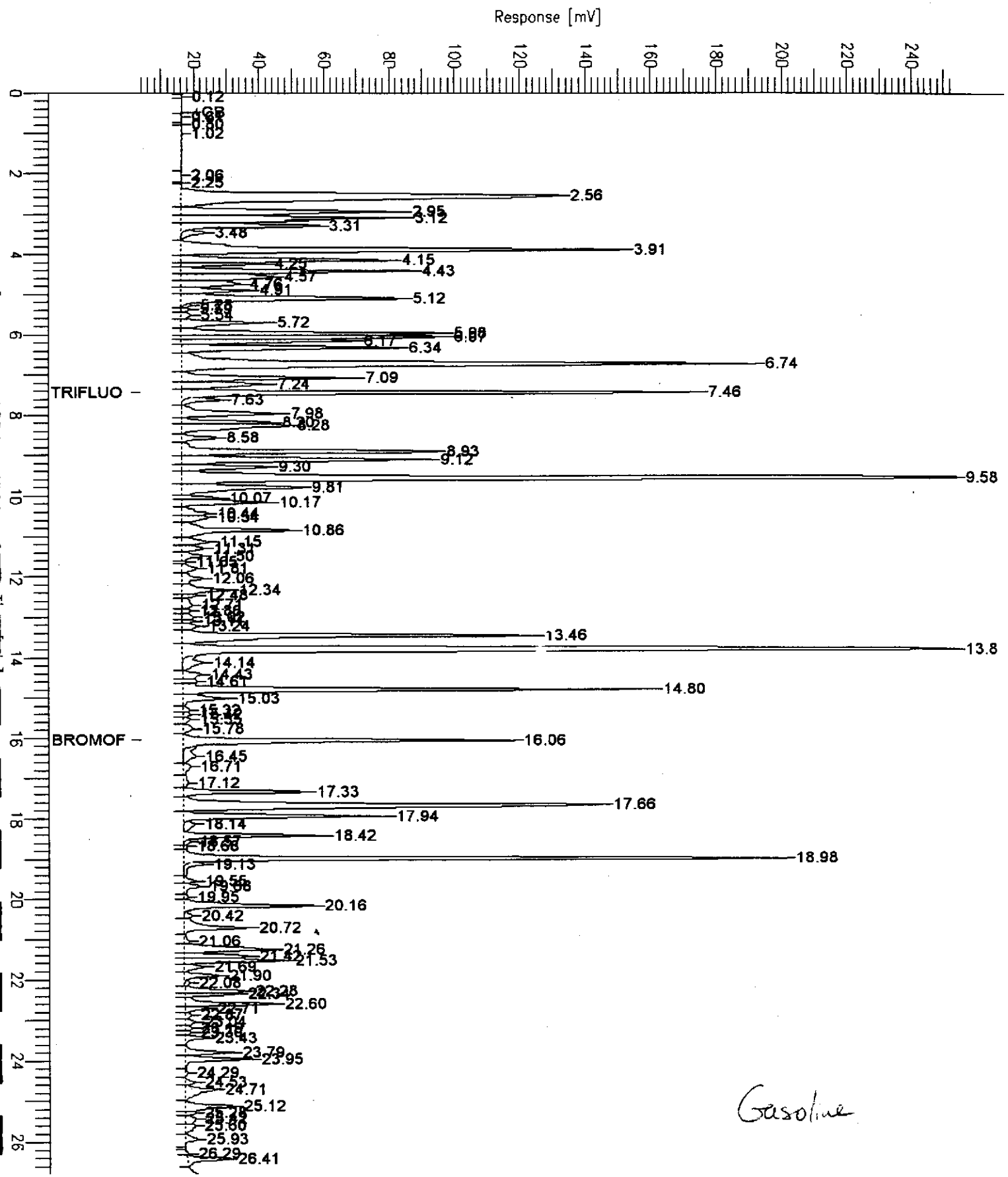


T2-W

GC19 TVH 'X' Data File (FID)

Sample Name : ccv/lcs,qc92756,99ws7126,46766
FileName : g:\gc19\data\070x038.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 4 mV

Sample #: gas Page 1 of 1
Date : 3/15/99 03:37 PM
Time of Injection: 3/12/99 08:17 PM
Low Point : 3.72 mV High Point : 253.72 mV
Plot Scale: 250.0 mV



Gasoline

TVH-Total Volatile Hydrocarbons

Client:	EMCON	Analysis Method:	EPA 8015M
Project#:	22175-001.003	Prep Method:	EPA 5030
Location:	IKEA Property, Inc.		

METHOD BLANK

Matrix:	Water	Prep Date:	03/12/99
Batch#:	46766	Analysis Date:	03/12/99
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC92755

Analyte	Result
Gasoline C7-C12	<50

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	93	53-150
Bromofluorobenzene	95	53-149

TVH-Total Volatile Hydrocarbons

Client: EMCON	Analysis Method: EPA 8015M
Project#: 22175-001.003	Prep Method: EPA 5030
Location: IKEA Property, Inc.	

LABORATORY CONTROL SAMPLE

Matrix: Water	Prep Date: 03/12/99
Batch#: 46766	Analysis Date: 03/12/99
Units: ug/L	
Diln Fac: 1	

LCS Lab ID: QC92756

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline C7-C12	1858	2000	93	77-117

Surrogate	%Rec	Limits
Trifluorotoluene	102	53-150
Bromofluorobenzene	120	53-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

TVH-Total Volatile Hydrocarbons

Client:	EMCON	Analysis Method:	EPA 8015M
Project#:	22175-001.003	Prep Method:	EPA 5030
Location:	IKEA Property, Inc.		

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID:	ZZZZZZ	Sample Date:	03/04/99
Lab ID:	138316-003	Received Date:	03/05/99
Matrix:	Water	Prep Date:	03/13/99
Batch#:	46766	Analysis Date:	03/13/99
Units:	ug/L		
Diln Fac:	1		

MS Lab ID: QC92757

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline C7-C12	2000	547.1	2425	94	69-131

Surrogate	%Rec	Limits
Trifluorotoluene	106	53-150
Bromofluorobenzene	149	53-149

MSD Lab ID: QC92758

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline C7-C12	2000	2463	96	69-131	2	13

Surrogate	%Rec	Limits
Trifluorotoluene	103	53-150
Bromofluorobenzene	156*	53-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

BTXE

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8021B
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
138424-003	T2-W	46766	03/12/99	03/13/99	03/13/99	

Matrix: Water

Analyte	Units	138424-003
Diln Fac:		1
MTBE	ug/L	<2
Benzene	ug/L	<0.5
Toluene	ug/L	0.89
Ethylbenzene	ug/L	0.65
m,p-Xylenes	ug/L	2.1
o-Xylene	ug/L	1.3
Surrogate		
Trifluorotoluene	%REC	91
Bromofluorobenzene	%REC	95

BTXE	
Client: EMCON	Analysis Method: EPA 8021B
Project#: 22175-001.003	Prep Method: EPA 5030
Location: IKEA Property, Inc.	

METHOD BLANK	
Matrix: Water	Prep Date: 03/12/99
Batch#: 46766	Analysis Date: 03/12/99
Units: ug/L	
Diln Fac: 1	

MB Lab ID: QC92755

Analyte	Result
Benzene	<0.5
Toluene	<0.5
Ethylbenzene	<0.5
m,p-Xylenes	<0.5
o-Xylene	<0.5

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	88	51-143
Bromofluorobenzene	95	37-146

BTXE

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8021B
Prep Method: EPA 5030

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 46766
Units: ug/L
Diln Fac: 1

Prep Date: 03/13/99
Analysis Date: 03/13/99

BS Lab ID: QC92759

Analyte	Spike Added	BS	%Rec #	Limits
Benzene	20	19.9	100	65-111
Toluene	20	19.44	97	76-117
Ethylbenzene	20	18.91	95	71-121
m,p-Xylenes	40	35.32	88	80-123
o-Xylene	20	17.88	89	75-127

Surrogate	%Rec	Limits
Trifluorotoluene	95	51-143
Bromofluorobenzene	104	37-146

BSD Lab ID: QC92760

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Benzene	20	20.6	103	65-111	3	10
Toluene	20	20.29	101	76-117	4	10
Ethylbenzene	20	19.83	99	71-121	5	11
m,p-Xylenes	40	36.73	92	80-123	4	10
o-Xylene	20	18.51	93	75-127	3	11

Surrogate	%Rec	Limits
Trifluorotoluene	95	51-143
Bromofluorobenzene	100	37-146

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

TVH-Total Volatile Hydrocarbons

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8015M
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
138424-001	T2-SW	46770	03/12/99	03/13/99	03/13/99	
138424-002	T2-SE	46770	03/12/99	03/13/99	03/13/99	

Matrix: Soil

Analyte	Units	138424-001	138424-002
Diln Fac:		1	1
Gasoline C7-C12	mg/Kg	<1	<1
Surrogate			
Trifluorotoluene	%REC	88	93
Bromofluorobenzene	%REC	112	85

TVH-Total Volatile Hydrocarbons

Client:	EMCON	Analysis Method:	EPA 8015M
Project#:	22175-001.003	Prep Method:	EPA 5030
Location:	IKEA Property,Inc.		

METHOD BLANK

Matrix:	Soil	Prep Date:	03/12/99
Batch#:	46770	Analysis Date:	03/12/99
Units:	mg/Kg		
Diln Fac:	1		

MB Lab ID: QC92777

Analyte	Result
Gasoline C7-C12	<1.0

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	91	62-143
Bromofluorobenzene	85	59-150

TVH-Total Volatile Hydrocarbons

Client:	EMCON	Analysis Method:	EPA 8015M
Project#:	22175-001.003	Prep Method:	EPA 5030
Location:	IKEA Property, Inc.		

LABORATORY CONTROL SAMPLE

Matrix:	Soil	Prep Date:	03/12/99
Batch#:	46770	Analysis Date:	03/12/99
Units:	mg/Kg		
Diln Fac:	1		

LCS Lab ID: QC92775

Analyte	Result	Spike Added	%Rec #	Limits
Gasoline C7-C12	9.95	10	100	77-122

Surrogate	%Rec	Limits
Trifluorotoluene	88	62-143
Bromofluorobenzene	102	59-150

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

TVH-Total Volatile Hydrocarbons

Client:	EMCON	Analysis Method:	EPA 8015M
Project#:	22175-001.003	Prep Method:	EPA 5030
Location:	IKEA Property, Inc.		

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID:	ZZZZZZ	Sample Date:	03/11/99
Lab ID:	138418-001	Received Date:	03/12/99
Matrix:	Soil	Prep Date:	03/13/99
Batch#:	46770	Analysis Date:	03/13/99
Units:	mg/Kg		
Diln Fac:	1		

MS Lab ID: QC92778

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Gasoline C7-C12	10	<1	10.71	107	55-134

Surrogate	%Rec	Limits
Trifluorotoluene	88	62-143
Bromofluorobenzene	104	59-150

MSD Lab ID: QC92779

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Gasoline C7-C12	10	10.41	104	55-134	3	30

Surrogate	%Rec	Limits
Trifluorotoluene	88	62-143
Bromofluorobenzene	103	59-150

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

BTXE

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8021B
Prep Method: EPA 5030

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
138424-001	T2-SW	46770	03/12/99	03/13/99	03/13/99	
138424-002	T2-SE	46770	03/12/99	03/13/99	03/13/99	

Matrix: Soil

Analyte	Units	138424-001	138424-002
Diln Fac:		1	1
MTBE	ug/Kg	<20	<20
Benzene	ug/Kg	<5	<5
Toluene	ug/Kg	<5	<5
Ethylbenzene	ug/Kg	<5	<5
m,p-Xylenes	ug/Kg	<5	<5
o-Xylene	ug/Kg	<5	<5
Surrogate			
Trifluorotoluene	%REC	104	104
Bromofluorobenzene	%REC	101	101

BTXE

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8021B
Prep Method: EPA 5030

METHOD BLANK

Matrix: Soil
Batch#: 46770
Units: ug/Kg
Diln Fac: 1

Prep Date: 03/12/99
Analysis Date: 03/12/99

MB Lab ID: QC92777

Analyte	Result
MTBE	<20
Benzene	<5.0
Toluene	<5.0
Ethylbenzene	<5.0
m,p-Xylenes	<5.0
o-Xylene	<5.0

Surrogate	%Rec	Recovery Limits
Trifluorotoluene	96	59-134
Bromofluorobenzene	96	38-150

BTXE

Client:	EMCON	Analysis Method:	EPA 8021B
Project#:	22175-001.003	Prep Method:	EPA 5030
Location:	IKEA Property, Inc.		

LABORATORY CONTROL SAMPLE

Matrix:	Soil	Prep Date:	03/12/99
Batch#:	46770	Analysis Date:	03/12/99
Units:	ug/Kg		
Diln Fac:	1		

LCS Lab ID: QC92776

Analyte	Result	Spike Added	%Rec #	Limits
MTBE	88.43	100	88	59-135
Benzene	89.38	100	89	67-116
Toluene	90.19	100	90	77-122
Ethylbenzene	87.42	100	87	70-124
m,p-Xylenes	184.5	200	92	75-125
o-Xylene	91.56	100	92	75-126

Surrogate	%Rec	Limits
Trifluorotoluene	99	59-134
Bromofluorobenzene	95	38-150

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 6 outside limits

TEH-Tot Ext Hydrocarbons

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8015M
Prep Method: EPA 3520

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
138424-003	T2-W	46774	03/12/99	03/12/99	03/15/99	

Matrix: Water

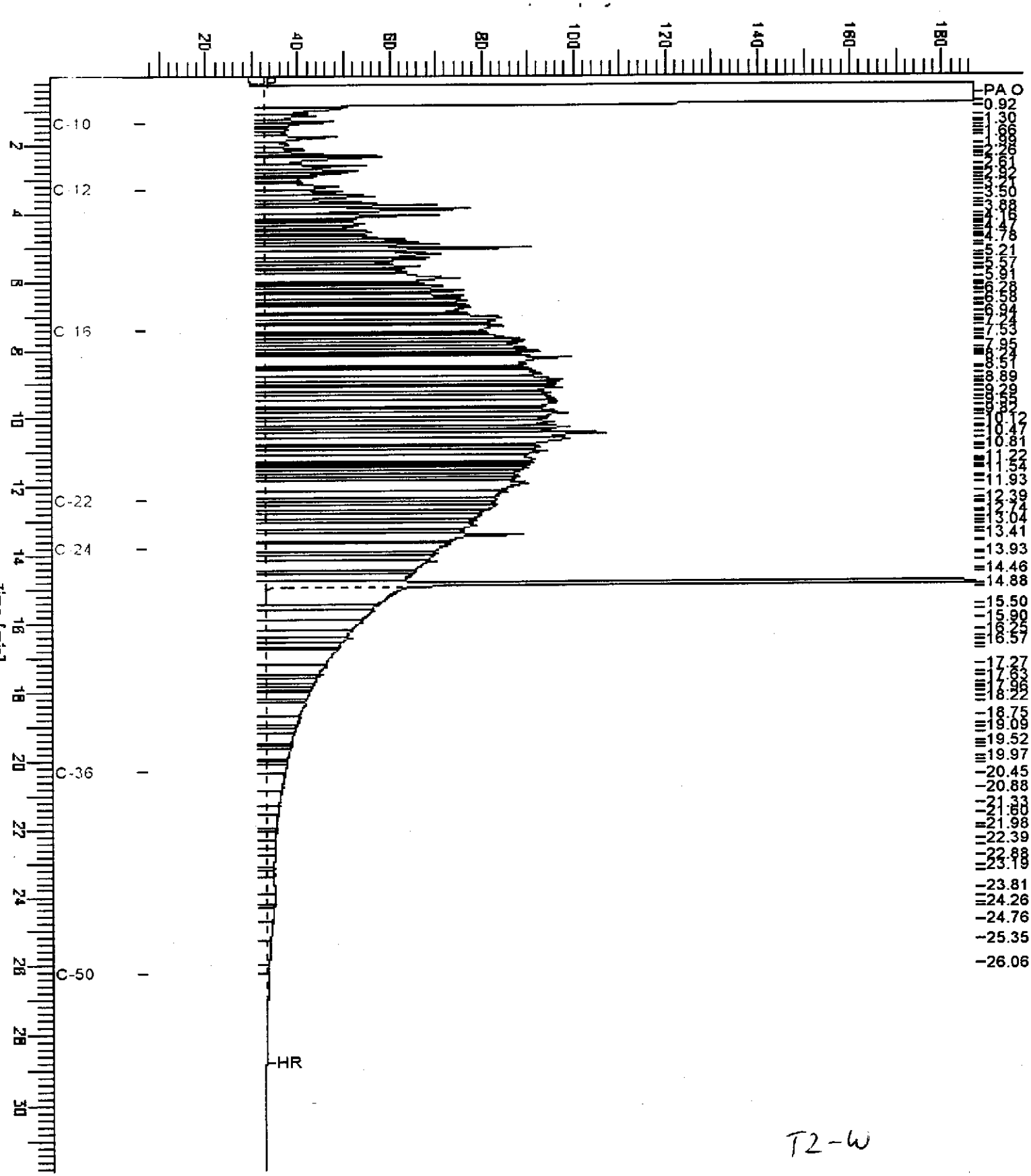
Analyte	Units	138424-003	
Diln Fac:		1	
Diesel C10-C24	ug/L	2800	YH
Surrogate			
Hexacosane	%REC	79	

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard

Chromatogram

Sample Name : 138428-003,46774
FileName : G:\GC13\CHB\074B010.RAW
Method : BTEH015.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor : 0.0 Plot Offset: 7 mV

Sample #: 46774
Date : 3/16/99 09:43 AM
Time of Injection: 3/15/99 07:12 PM
Low Point : 6.66 mV High Point : 187.21 mV
Plot Scale: 180.5 mV



T2-W

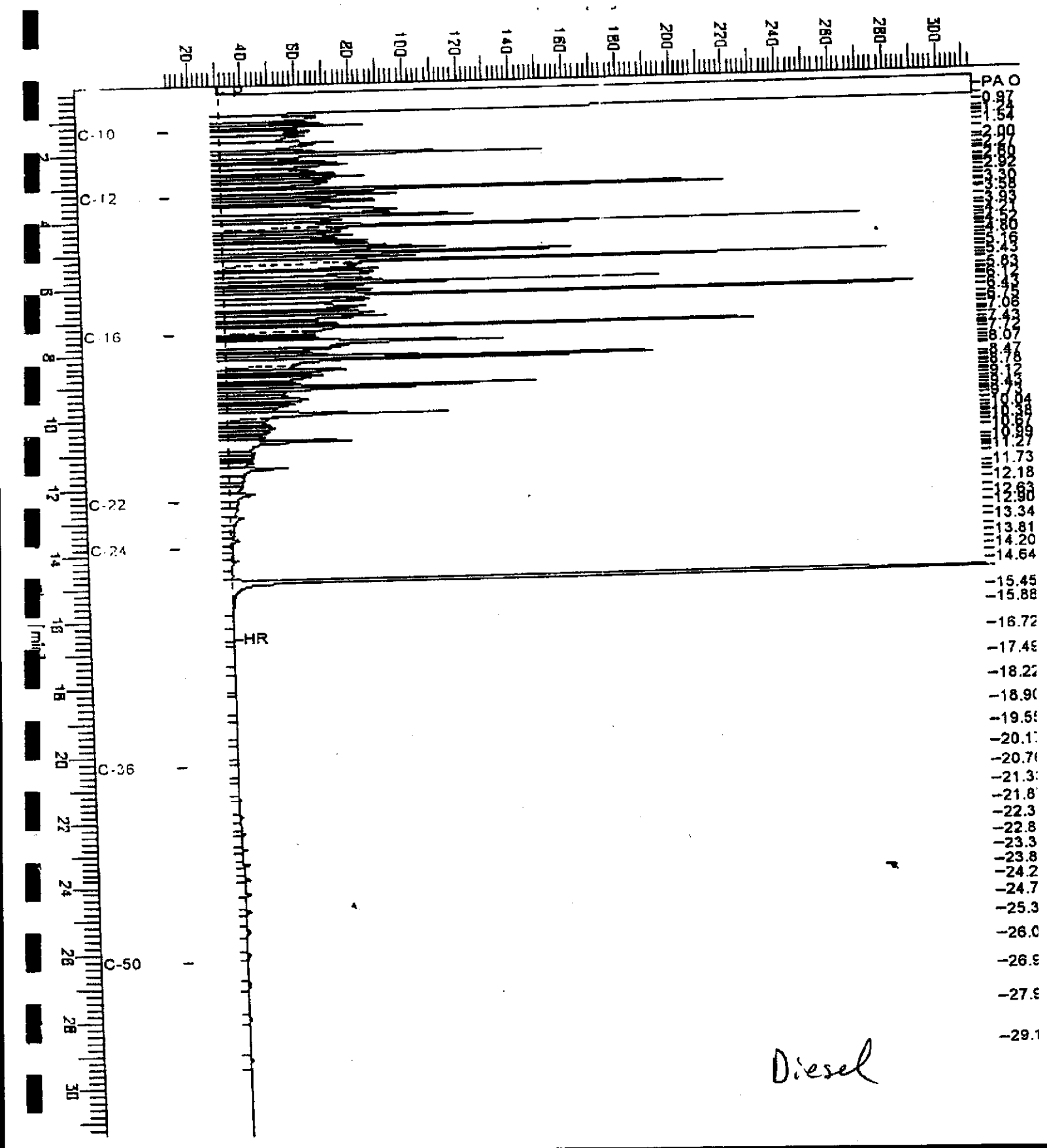
Chromatogram

Sample Name : ...,99ws7216,dsl
FileName : ...3C13\CHB\074B003.RAW
Method : ...SH015.MTH
Start Time : ...1 min
Scale Factor : ...0

End Time : 31.61 min
Plot Offset: 12 mV

Sample # : 50 mg/l
Date : 3/15/99 03:28 PM
Time of Injection: 3/15/99 11:16 AM
Low Point : 1.99 mV
Plot Scale: 401.8 mV

High Point : 313.73 mV



TEH-Tot Ext Hydrocarbons

Client:	EMCON	Analysis Method:	EPA 8015M
Project#:	22175-001.003	Prep Method:	EPA 3520
Location:	IKEA Property, Inc.		

METHOD BLANK

Matrix:	Water	Prep Date:	03/12/99
Batch#:	46774	Analysis Date:	03/16/99
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC92791

Analyte	Result
Diesel C10-C24	<50

Surrogate	%Rec	Recovery Limits
Hexacosane	91	58-128

TEH-Tot Ext Hydrocarbons

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8015M
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 46774
Units: ug/L
Diln Fac: 1

Prep Date: 03/12/99
Analysis Date: 03/16/99

BS Lab ID: QC92792

Analyte	Spike Added	BS	%Rec #	Limits
Diesel C10-C24	2475	1871	76	50-114

Surrogate	%Rec	Limits
Hexacosane	83	58-128

BSD Lab ID: QC92793

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel C10-C24	2475	1762	71	50-114	6	25

Surrogate	%Rec	Limits
Hexacosane	85	58-128

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

TEH-Tot Ext Hydrocarbons

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8015M
Prep Method: CA LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
138424-001	T2-SW	46765	03/12/99	03/12/99	03/13/99	
138424-002	T2-SE	46765	03/12/99	03/12/99	03/13/99	

Matrix: Soil

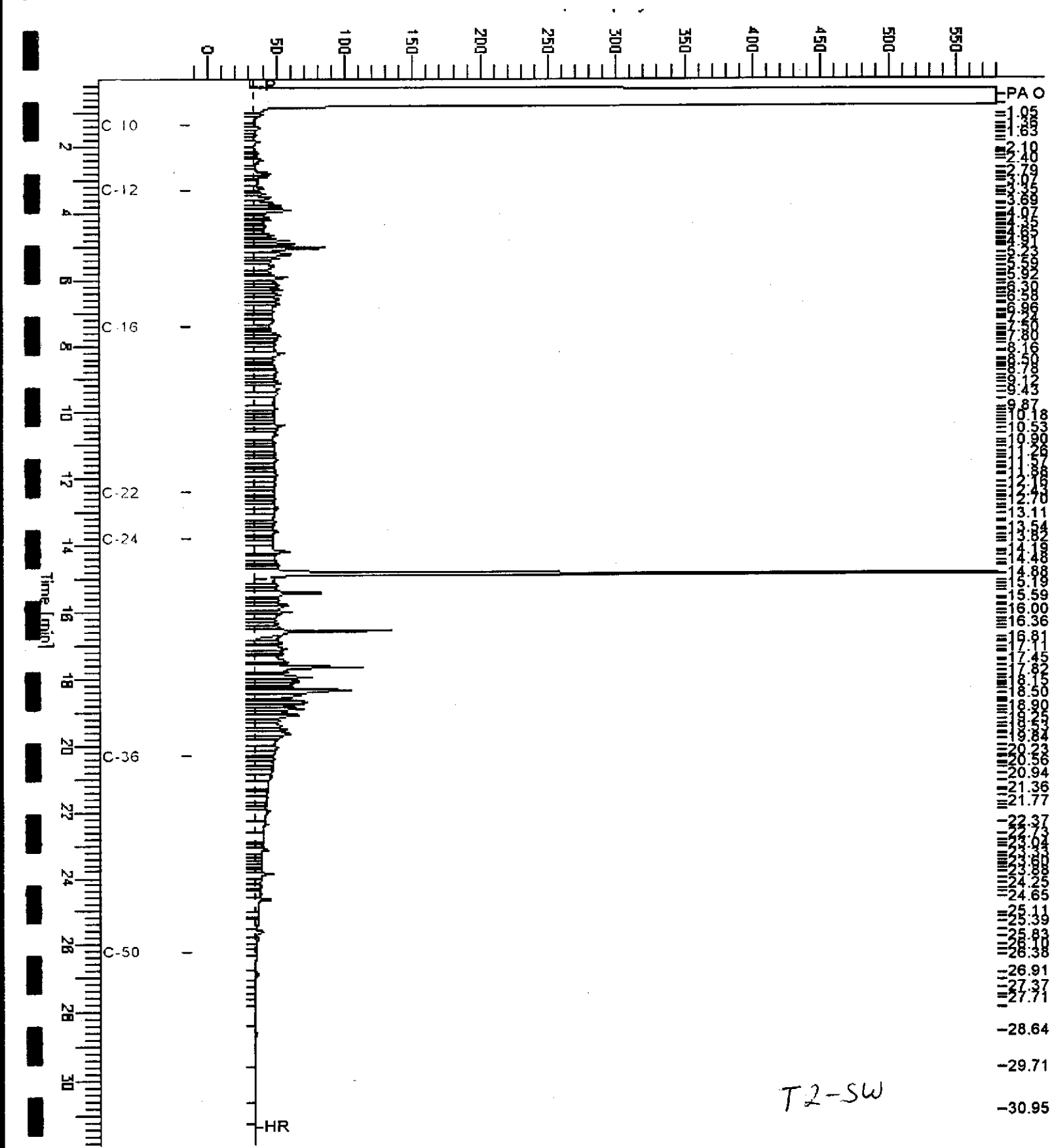
Analyte	Units	138424-001	138424-002
Diln Fac:		1	1
Diesel C10-C24	mg/Kg	18 YH	2.6YH
Surrogate			
Hexacosane	%REC	96	94

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard

Chromatogram

Sample Nam : 119424-001,46765
FileName : G:\GC13\CHB\072B010.RAW
Method : RTXH015.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Fact : 0.0 Plot Offset: -14 mV

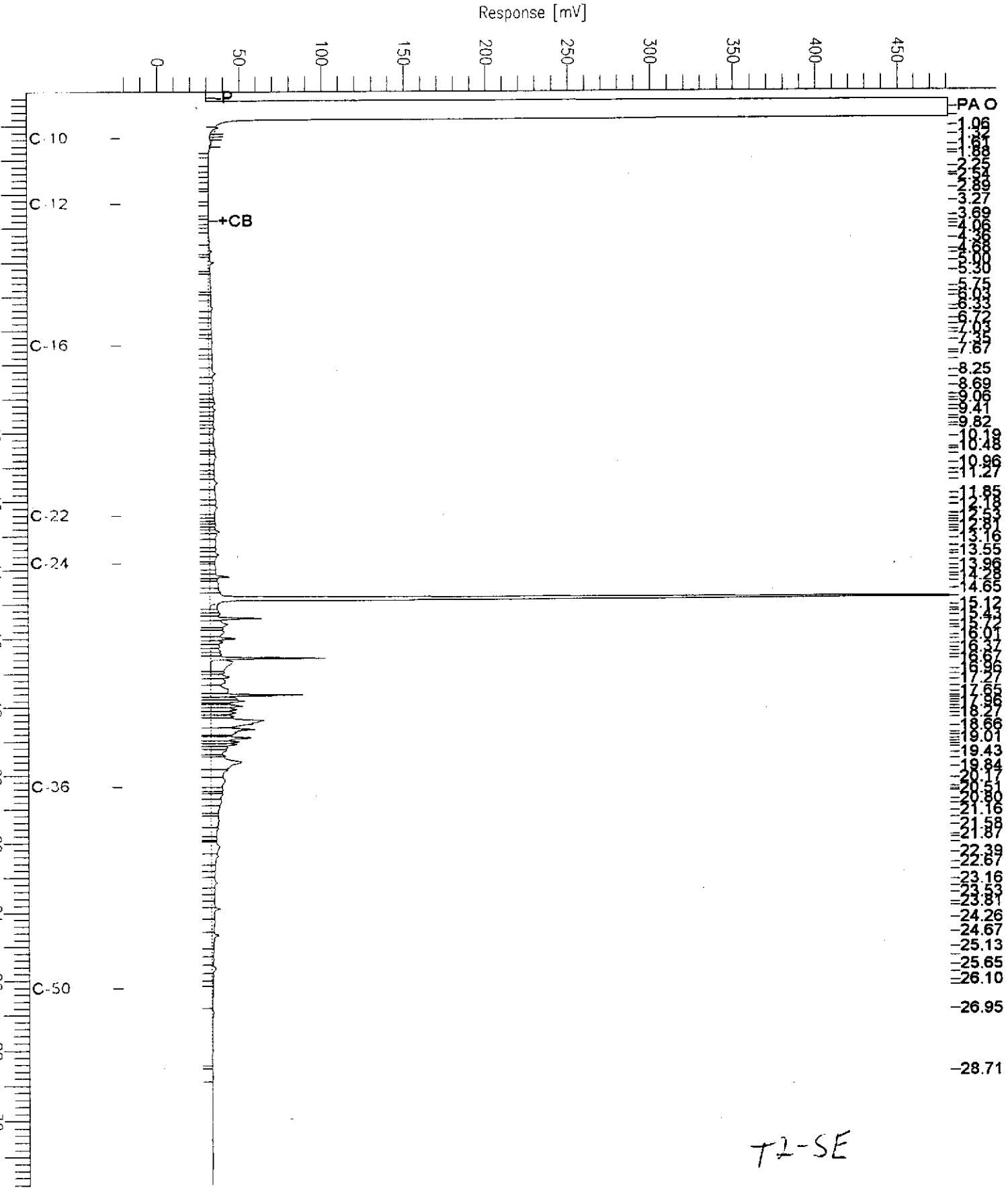
Sample #: 46765 Page 1 of 1
Date : 3/16/99 10:46 AM
Time of Injection: 3/13/99 09:10 PM
Low Point : -14.12 mV High Point : 580.12 mV
Plot Scale: 594.2 mV



Chromatogram

Sample Nar : [redacted]424-002,46765
FileName : G:\GC13\CHB\072B009.RAW
Method : BTEH015.MTH
Start Time : 0.01 min End Time : 31.83 min
Scale Fact : 0.0 Plot Offset: -22 mV

Sample #: 46765 Page 1 of 1
Date : 3/16/99 10:39 AM
Time of Injection: 3/13/99 08:29 PM
Low Point : -22.43 mV High Point : 481.03 mV
Plot Scale: 503.5 mV

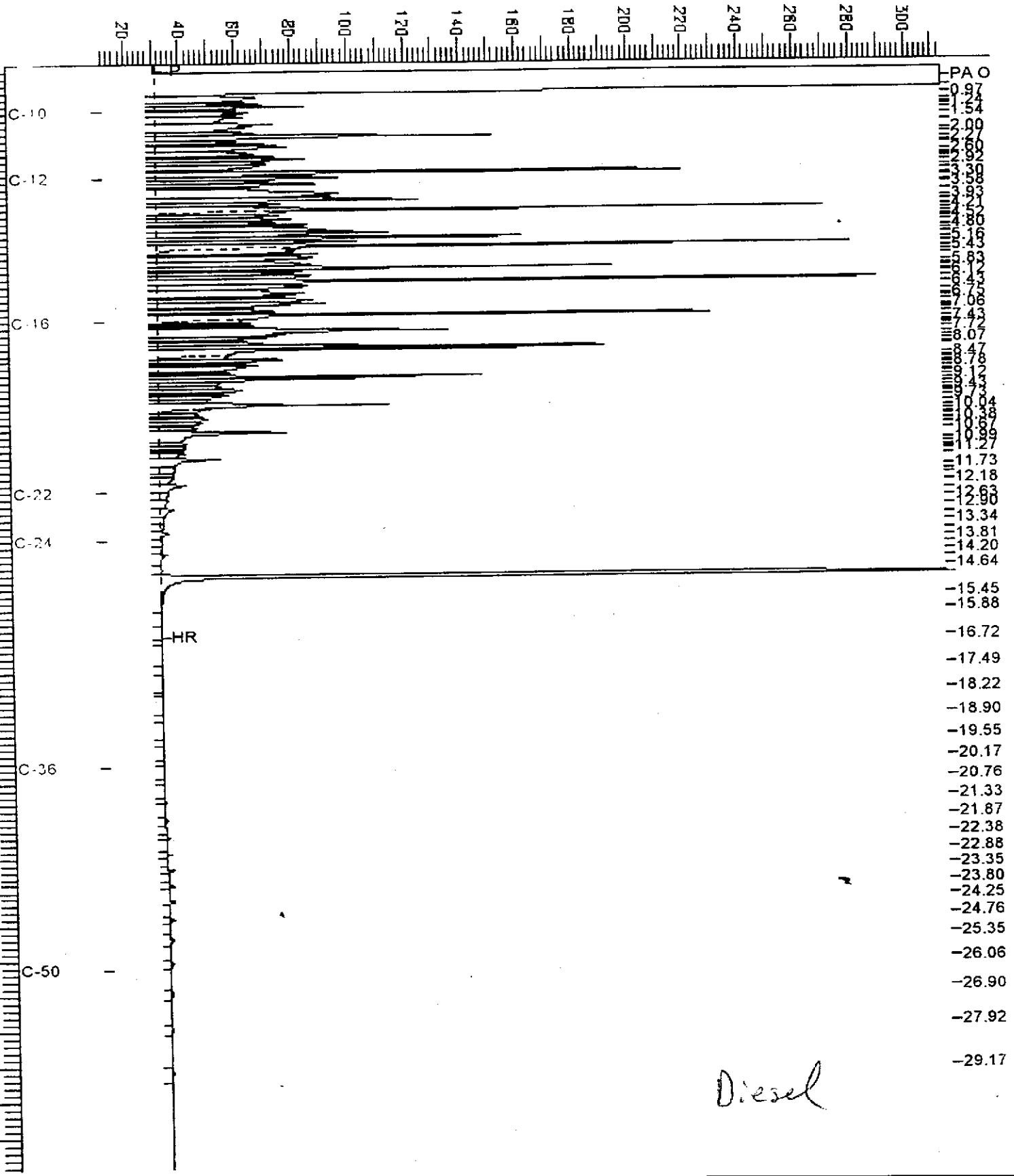


T2-SE

Chromatogram

Sample No: [illegible],99ws7210,dsl
FileName: [illegible]\CHB\0748003.RAW
Method: [illegible]CH015.MTH
Start Time: [illegible] min
File Fac: [illegible].0
End Time: [illegible] min
Plot Offset: 12 mV

Sample #: 500mg/l
Date: [illegible]
Time of Injection: 3/15/99 11:16 AM
Low Point: 11.89 mV
Plot Scale: 301.8 mV
High Point: 313.73 mV



Diesel

Curtis & Tompkins, Ltd.

TEH-Tot Ext Hydrocarbons

Client:	EMCON	Analysis Method:	EPA 8015M
Project#:	22175-001.003	Prep Method:	CA LUFT
Location:	IKEA Property,Inc.		

METHOD BLANK

Matrix:	Soil	Prep Date:	03/12/99
Batch#:	46765	Analysis Date:	03/13/99
Units:	mg/Kg		
Diln Fac:	1		

MB Lab ID: QC92751

Analyte	Result	
Diesel C10-C24	<1.0	
Surrogate	**%Rec**	**Recovery Limits**
Hexacosane	106	52-137

TEH-Tot Ext Hydrocarbons

Client:	EMCON	Analysis Method:	EPA 8015M
Project#:	22175-001.003	Prep Method:	CA LUFT
Location:	IKEA Property, Inc.		

LABORATORY CONTROL SAMPLE

Matrix:	Soil	Prep Date:	03/12/99
Batch#:	46765	Analysis Date:	03/13/99
Units:	mg/Kg		
Diln Fac:	1		

LCS Lab ID: QC92752

Analyte	Result	Spike Added	%Rec #	Limits
Diesel C10-C24	47.11	49.5	95	52-117
Surrogate	**%Rec**	**Limits**		
Hexacosane	103	52-137		

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

TEH-Tot Ext Hydrocarbons

Client:	EMCON	Analysis Method:	EPA 8015M
Project#:	22175-001.003	Prep Method:	CA LUFT
Location:	IKEA Property, Inc.		

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID:	ZZZZZZ	Sample Date:	03/09/99
Lab ID:	138397-006	Received Date:	03/11/99
Matrix:	Soil	Prep Date:	03/12/99
Batch#:	46765	Analysis Date:	03/13/99
Units:	mg/Kg		
Diln Fac:	1		

MS Lab ID: QC92753

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Diesel C10-C24	49.5	2.43	48.32	93	41-135

Surrogate	%Rec	Limits
Hexacosane	97	52-137

MSD Lab ID: QC92754

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Diesel C10-C24	49.5	54.01	104	41-135	11	37

Surrogate	%Rec	Limits
Hexacosane	110	52-137

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

Semivolatile Organics by GC/MS

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8270B
Prep Method: EPA 3520

Field ID: T2-W
Lab ID: 138424-003
Matrix: Water
Batch#: 46773
Units: ug/L
Diln Fac: 1

Sampled: 03/12/99
Received: 03/12/99
Extracted: 03/12/99
Analyzed: 03/15/99

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	9.4
Phenol	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
2-Chlorophenol	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
Benzyl alcohol	ND	9.4
1,2-Dichlorobenzene	ND	9.4
2-Methylphenol	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
3,4-Methylphenol	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
2-Nitrophenol	ND	47
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
bis(2-Chloroethoxy)methane	ND	9.4
2,4-Dichlorophenol	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	5.4 J	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2-Methylnaphthalene	10	9.4
Hexachlorocyclopentadiene	ND	47
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	47
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	47
Acenaphthene	ND	9.4
2,4-Dinitrophenol	ND	47
4-Nitrophenol	ND	47

Semivolatile Organics by GC/MS

Field ID:	T2-W	Sampled:	03/12/99
Lab ID:	138424-003	Received:	03/12/99
Matrix:	Water	Extracted:	03/12/99
Batch#:	46773	Analyzed:	03/15/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
Fluorene	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
4-Nitroaniline	ND	47
4,6-Dinitro-2-methylphenol	ND	47
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Pentachlorophenol	ND	47
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	47
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b,k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	65	30-136
Phenol-d5	74	33-140
2,4,6-Tribromophenol	78	31-140
Nitrobenzene-d5	73	24-128
2-Fluorobiphenyl	63	35-116
Terphenyl-d14	14*	16-139

J: Estimated Value
* Values outside of QC limits

EPA 8270 Semi-Volatile Organics

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8270B
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 46773
Units: ug/L
Diln Fac: 1

Prep Date: 03/12/99
Analysis Date: 03/15/99

MB Lab ID: QC92788

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
3,4-Methylphenol	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	50
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	50
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	50
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	50
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	50
4-Nitrophenol	ND	50
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10

EPA 8270 Semi-Volatile Organics

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8270B
Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
Batch#: 46773
Units: ug/L
Diln Fac: 1

Prep Date: 03/12/99
Analysis Date: 03/15/99

MB Lab ID: QC92788

Analyte	Result	Reporting Limit
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	50
4,6-Dinitro-2-methylphenol	ND	50
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	50
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	50
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b,k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%Rec	Recovery Limits
2-Fluorophenol	68	30-136
Phenol-d5	73	33-140
2,4,6-Tribromophenol	74	31-140
Nitrobenzene-d5	75	24-128
2-Fluorobiphenyl	69	35-116
Terphenyl-d14	69	16-139

EPA 8270 Semi-Volatile Organics

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8270B
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 46773
Units: ug/L
Diln Fac: 1

Prep Date: 03/12/99
Analysis Date: 03/15/99

BS Lab ID: QC92789

Analyte	Spike Added	BS	%Rec #	Limits
Phenol	100	74.02	74	41-110
2-Chlorophenol	100	80.59	81	38-110
1,4-Dichlorobenzene	50	29.17	58	36-110
N-Nitroso-di-n-propylamine	50	46.57	93	22-112
1,2,4-Trichlorobenzene	50	29.63	59	36-110
4-Chloro-3-methylphenol	100	74.1	74	44-110
Acenaphthene	50	38.28	77	43-110
4-Nitrophenol	100	65.43	65	25-110
2,4-Dinitrotoluene	50	40.05	80	40-110
Pentachlorophenol	100	64.62	65	17-137
Pyrene	50	37.22	74	35-107

Surrogate	%Rec	Limits
2-Fluorophenol	71	30-136
Phenol-d5	78	33-140
2,4,6-Tribromophenol	86	31-140
Nitrobenzene-d5	77	24-128
2-Fluorobiphenyl	73	35-116
Terphenyl-d14	75	16-139

BSD Lab ID: QC92790

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Phenol	100	68.5	69	41-110	8	26
2-Chlorophenol	100	75.3	75	38-110	7	27
1,4-Dichlorobenzene	50	27.29	55	36-110	7	24
N-Nitroso-di-n-propylamine	50	43.07	86	22-112	8	27
1,2,4-Trichlorobenzene	50	28.63	57	36-110	3	26
4-Chloro-3-methylphenol	100	70.84	71	44-110	4	27
Acenaphthene	50	36.59	73	43-110	5	26
4-Nitrophenol	100	62.32	62	25-110	5	37
2,4-Dinitrotoluene	50	37.5	75	40-110	7	25
Pentachlorophenol	100	60.85	61	17-137	6	43
Pyrene	50	35.75	71	35-107	4	27

Surrogate	%Rec	Limits
2-Fluorophenol	68	30-136
Phenol-d5	73	33-140
2,4,6-Tribromophenol	81	31-140
Nitrobenzene-d5	74	24-128
2-Fluorobiphenyl	70	35-116
Terphenyl-d14	72	16-139

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

Curtis & Tompkins, Ltd.

Semivolatile Organics by GC/MS

Client:	EMCON	Analysis Method:	EPA 8270B
Project#:	22175-001.003	Prep Method:	EPA 3550
Location:	IKEA Property, Inc.		
Field ID:	T2-SW	Sampled:	03/12/99
Lab ID:	138424-001	Received:	03/12/99
Matrix:	Soil	Extracted:	03/12/99
Batch#:	46763	Analyzed:	03/12/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
Aniline	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
3,4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	1700
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700
Acenaphthene	ND	330
2,4-Dinitrophenol	ND	1700

Semivolatile Organics by GC/MS

Field ID:	T2-SW	Sampled:	03/12/99
Lab ID:	138424-001	Received:	03/12/99
Matrix:	Soil	Extracted:	03/12/99
Batch#:	46763	Analyzed:	03/12/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
4-Nitrophenol	ND	1700
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	330
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	1700
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Benzidine	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	ND	330
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b,k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	97	15-129
Phenol-d5	98	38-132
2,4,6-Tribromophenol	82	23-144
Nitrobenzene-d5	89	22-132
2-Fluorobiphenyl	88	26-137
Terphenyl-d14	95	22-149

Curtis & Tompkins Ltd.

Semivolatile Organics by GC/MS

Client:	EMCON	Analysis Method:	EPA 8270B
Project#:	22175-001.003	Prep Method:	EPA 3550
Location:	IKEA Property, Inc.		
Field ID:	T2-SE	Sampled:	03/12/99
Lab ID:	138424-002	Received:	03/12/99
Matrix:	Soil	Extracted:	03/12/99
Batch#:	46763	Analyzed:	03/12/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
Aniline	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
3,4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	1700
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700
Acenaphthene	ND	330
2,4-Dinitrophenol	ND	1700

Semivolatile Organics by GC/MS

Field ID:	T2-SE	Sampled:	03/12/99
Lab ID:	138424-002	Received:	03/12/99
Matrix:	Soil	Extracted:	03/12/99
Batch#:	46763	Analyzed:	03/12/99
Units:	ug/Kg		
Diln Fac:	1		

Analyte	Result	Reporting Limit
4-Nitrophenol	ND	1700
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	330
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	1700
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Benzidine	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	ND	330
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b,k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	104	15-129
Phenol-d5	101	38-132
2,4,6-Tribromophenol	81	23-144
Nitrobenzene-d5	89	22-132
2-Fluorobiphenyl	94	26-137
Terphenyl-d14	107	22-149

EPA 8270 Semi-Volatile Organics

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8270B
Prep Method: EPA 3550

METHOD BLANK

Matrix: Soil
Batch#: 46763
Units: ug/Kg
Diln Fac: 1

Prep Date: 03/12/99
Analysis Date: 03/12/99

MB Lab ID: QC92741

Analyte	Result	Reporting Limit
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
Aniline	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
3,4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	1700
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	1700
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	1700
Acenaphthene	ND	330
2,4-Dinitrophenol	ND	1700
4-Nitrophenol	ND	1700
Dibenzofuran	ND	330

EPA 8270 Semi-Volatile Organics

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8270B
Prep Method: EPA 3550

METHOD BLANK

Matrix: Soil
Batch#: 46763
Units: ug/Kg
Diln Fac: 1

Prep Date: 03/12/99
Analysis Date: 03/12/99

MB Lab ID: QC92741

Analyte	Result	Reporting Limit
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	330
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	1700
4,6-Dinitro-2-methylphenol	ND	1700
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	1700
Phenanthrene	ND	330
Anthracene	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Benzidine	ND	330
Pyrene	ND	330
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	ND	330
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b,k)fluoranthene	ND	330
Benzo(a)pyrene	ND	330
Indeno(1,2,3-cd)pyrene	ND	330
Dibenz(a,h)anthracene	ND	330
Benzo(g,h,i)perylene	ND	330

Surrogate	%Rec	Recovery Limits
2-Fluorophenol	91	15-129
Phenol-d5	91	38-132
2,4,6-Tribromophenol	81	23-144
Nitrobenzene-d5	88	22-132
2-Fluorobiphenyl	85	26-137
Terphenyl-d14	83	22-149

Lab #: 138424 BATCH QC REPORT Curtis & Tompkins Ltd.

EPA 8270 Semi-Volatile Organics

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8270B
Prep Method: EPA 3550

LABORATORY CONTROL SAMPLE

Matrix: Soil
Batch#: 46763
Units: ug/Kg
Diln Fac: 1

Prep Date: 03/12/99
Analysis Date: 03/12/99

LCS Lab ID: QC92742

Analyte	Result	Spike Added	%Rec #	Limits
Phenol	3103	3333	93	30-139
2-Chlorophenol	3436	3333	103	25-142
1,4-Dichlorobenzene	1489	1667	89	28-120
N-Nitroso-di-n-propylamine	1703	1667	102	30-122
1,2,4-Trichlorobenzene	1500	1667	90	29-119
4-Chloro-3-methylphenol	3050	3333	92	29-139
Acenaphthene	1483	1667	89	31-120
4-Nitrophenol	2450	3333	73	26-141
2,4-Dinitrotoluene	1405	1667	84	29-111
Pentachlorophenol	2136	3333	64	15-148
Pyrene	1463	1667	88	22-122

Surrogate	%Rec	Limits
2-Fluorophenol	105	15-129
Phenol-d5	104	38-132
2,4,6-Tribromophenol	98	23-144
Nitrobenzene-d5	95	22-132
2-Fluorobiphenyl	90	26-137
Terphenyl-d14	93	22-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 11 outside limits

Lab #: 138424 BATCH QC REPORT Curtis & Tompkins, Ltd.

EPA 8270 Semi-Volatile Organics

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8270B
Prep Method: EPA 3550

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 138419-004
Matrix: Soil
Batch#: 46763
Units: ug/Kg
Diln Fac: 1

Sample Date: 03/09/99
Received Date: 03/12/99
Prep Date: 03/12/99
Analysis Date: 03/12/99

MS Lab ID: QC92743

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Phenol	3333	49.64	2786	82	36-122
2-Chlorophenol	3333	<333.3	3046	91	34-123
1,4-Dichlorobenzene	1667	<333.3	1312	79	21-117
N-Nitroso-di-n-propylamine	1667	262.8	1482	89	18-116
1,2,4-Trichlorobenzene	1667	<333.3	1336	80	26-119
4-Chloro-3-methylphenol	3333	<333.3	2704	81	35-122
Acenaphthene	1667	<333.3	1332	80	23-129
4-Nitrophenol	3333	<1667	2140	64	24-114
2,4-Dinitrotoluene	1667	<333.3	1269	76	27-110
Pentachlorophenol	3333	<1667	1603	48	15-119
Pyrene	1667	<333.3	1428	86	29-127

Surrogate	%Rec	Limits
2-Fluorophenol	93	15-129
Phenol-d5	93	38-132
2,4,6-Tribromophenol	83	23-144
Nitrobenzene-d5	84	22-132
2-Fluorobiphenyl	81	26-137
Terphenyl-d14	91	22-149

MSD Lab ID: QC92744

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Phenol	3333	2943	87	36-122	5	26
2-Chlorophenol	3333	3222	97	34-123	6	27
1,4-Dichlorobenzene	1667	1396	84	21-117	6	30
N-Nitroso-di-n-propylamine	1667	1567	94	18-116	6	27
1,2,4-Trichlorobenzene	1667	1416	85	26-119	6	27
4-Chloro-3-methylphenol	3333	2797	84	35-122	3	27
Acenaphthene	1667	1416	85	23-129	6	29
4-Nitrophenol	3333	2291	69	24-114	7	32
2,4-Dinitrotoluene	1667	1319	79	27-110	4	31
Pentachlorophenol	3333	1651	50	15-119	3	50
Pyrene	1667	1576	95	29-127	10	45

Surrogate	%Rec	Limits
2-Fluorophenol	99	15-129
Phenol-d5	98	38-132
2,4,6-Tribromophenol	88	23-144
Nitrobenzene-d5	87	22-132
2-Fluorobiphenyl	87	26-137
Terphenyl-d14	99	22-149

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

PCBs

Client:	EMCON	Analysis Method:	EPA 8082
Project#:	22175-001.003	Prep Method:	EPA 3520
Location:	IKEA Property, Inc.		

Field ID:	T2-W	Sampled:	03/12/99
Lab ID:	138424-003	Received:	03/12/99
Matrix:	Water	Extracted:	03/12/99
Batch#:	46772	Analyzed:	03/16/99
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Aroclor-1016	ND	0.47
Aroclor-1221	ND	0.94
Aroclor-1232	ND	0.47
Aroclor-1242	ND	0.47
Aroclor-1248	ND	0.47
Aroclor-1254	ND	0.47
Aroclor-1260	ND	0.47

Surrogate	%Recovery	Recovery Limits
TCMX	50	18-129
Decachlorobiphenyl	42	15-138

Polychlorinated Biphenyls

Client:	EMCON	Analysis Method:	EPA 8082
Project#:	22175-001.003	Prep Method:	EPA 3520
Location:	IKEA Property, Inc.		

METHOD BLANK

Matrix:	Water	Prep Date:	03/12/99
Batch#:	46772	Analysis Date:	03/15/99
Units:	ug/L		
Diln Fac:	1		

MB Lab ID: QC92785

Analyte	Result	Reporting Limit
Aroclor-1016	ND	0.5
Aroclor-1221	ND	0.5
Aroclor-1232	ND	0.5
Aroclor-1242	ND	0.5
Aroclor-1248	ND	0.5
Aroclor-1254	ND	0.5
Aroclor-1260	ND	0.5

Surrogate	%Rec	Recovery Limits
TCMX	64	18-129
Decachlorobiphenyl	47	15-138

Polychlorinated Biphenyls

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property, Inc.

Analysis Method: EPA 8082
Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 46772
Units: ug/L
Diln Fac: 1

Prep Date: 03/12/99
Analysis Date: 03/16/99

BS Lab ID: QC92786

Analyte	Spike Added	BS	%Rec #	Limits
Aroclor-1260	5	4.18	84	55-105

Surrogate	%Rec	Limits
TCMX	68	18-129
Decachlorobiphenyl	44	15-138

BSD Lab ID: QC92787

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Aroclor-1260	5	3.93	79	55-105	6	16

Surrogate	%Rec	Limits
TCMX	64	18-129
Decachlorobiphenyl	46	15-138

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

PCBs

Client:	EMCON	Analysis Method:	EPA 8082
Project#:	22175-001.003	Prep Method:	EPA 3550
Location:	IKEA Property, Inc.		
Field ID:	T2-SW	Sampled:	03/12/99
Lab ID:	138424-001	Received:	03/12/99
Matrix:	Soil	Extracted:	03/15/99
Batch#:	46788	Analyzed:	03/16/99
Units:	ug/Kg		
Diln Fac:	1		

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

Surrogate	%Recovery	Recovery Limits
TCMX	89	32-149
Decachlorobiphenyl	76	17-134

PCBs

Client:	EMCON	Analysis Method:	EPA 8082
Project#:	22175-001.003	Prep Method:	EPA 3550
Location:	IKEA Property, Inc.		

Field ID:	T2-SE	Sampled:	03/12/99
Lab ID:	138424-002	Received:	03/12/99
Matrix:	Soil	Extracted:	03/15/99
Batch#:	46788	Analyzed:	03/16/99
Units:	ug/Kg		
Diln Fac:	1		

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

Surrogate	%Recovery	Recovery Limits
TCMX	87	32-149
Decachlorobiphenyl	74	17-134

Polychlorinated Biphenyls

Client: EMCON
Project#: 22175-001.003
Location: IKEA Property,Inc.

Analysis Method: EPA 8082
Prep Method: EPA 3550

METHOD BLANK

Matrix: Soil
Batch#: 46788
Units: ug/Kg
Diln Fac: 1

Prep Date: 03/15/99
Analysis Date: 03/16/99

MB Lab ID: QC92836

Analyte	Result	Reporting Limit
Aroclor-1016	ND	12
Aroclor-1221	ND	12
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%Rec	Recovery Limits
TCMX	92	32-149
Decachlorobiphenyl	76	17-134

Polychlorinated Biphenyls

Client:	EMCON	Analysis Method:	EPA 8082
Project#:	22175-001.003	Prep Method:	EPA 3550
Location:	IKEA Property, Inc.		

LABORATORY CONTROL SAMPLE

Matrix:	Soil	Prep Date:	03/15/99
Batch#:	46788	Analysis Date:	03/16/99
Units:	ug/Kg		
Diln Fac:	1		

LCS Lab ID: QC92837

Analyte	Result	Spike Added	%Rec #	Limits
Aroclor-1260	163.5	166.7	98	63-111

Surrogate	%Rec	Limits
TCMX	89	32-149
Decachlorobiphenyl	74	17-134

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

Polychlorinated Biphenyls

Client:	EMCON	Analysis Method:	EPA 8082
Project#:	22175-001.003	Prep Method:	EPA 3550
Location:	IKEA Property, Inc.		

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID:	T2-SE	Sample Date:	03/12/99
Lab ID:	138424-002	Received Date:	03/12/99
Matrix:	Soil	Prep Date:	03/15/99
Batch#:	46788	Analysis Date:	03/16/99
Units:	ug/Kg		
Diln Fac:	1		

MS Lab ID: QC92838

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Aroclor-1260	166.7	<12	169.2	101	31-128

Surrogate	%Rec	Limits
TCMX	96	32-149
Decachlorobiphenyl	78	17-134

MSD Lab ID: QC92839

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Aroclor-1260	166.7	170.3	102	31-128	1	38

Surrogate	%Rec	Limits
TCMX	92	32-149
Decachlorobiphenyl	77	17-134

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

CLIENT: EMCON
PROJECT ID: 22175-001.003
LOCATION: IKEA Property,Inc.
MATRIX: Soil

DATE REPORTED: 03/16/99

Metals Analytical Report

				Lead					
Sample ID	Lab ID	Sample Date	Receive Date	Result (mg/Kg)	Reporting Limit (mg/Kg)	IDF	QC Batch	Method	Analysis Date
T2-SW	138424-001	03/12/99	03/12/99	3.5	0.14	1	46764	EPA 6010A	03/16/99
T2-SE	138424-002	03/12/99	03/12/99	7.1	0.15	1	46764	EPA 6010A	03/16/99

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SAMPLE ID: T2-W
LAB ID: 138424-003
CLIENT: EMCON
PROJECT ID: 22175-001.003
LOCATION: IKEA Property,Inc.
MATRIX: Water

DATE SAMPLED: 03/12/99
DATE RECEIVED: 03/12/99
DATE REPORTED: 03/16/99

Metals Analytical Report

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Lead	330	3.0	1	46799	EPA 6010A	03/16/99

Curtis & Tompkins, Ltd.

CLIENT: EMCON
JOB NUMBER: 138424

DATE REPORTED: 03/16/99

BATCH QC REPORT
PREP BLANK

Compound	Result	Reporting Limit	Units	IDF	QC Batch	Method	Analysis Date
Lead	ND	0.15	mg/Kg	1	46764	EPA 6010A	03/16/99
Lead	ND	3	ug/L	1	46799	EPA 6010A	03/16/99

ND = Not Detected at or above reporting limit

Curtis & Tompkins, Ltd.

CLIENT: EMCON
JOB NUMBER: 138424
DATE REPORTED: 03/16/99

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS% Rec.	BSD% Rec.	Rec. Limits	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Lead	25	23.2	22.85	mg/Kg	93	91	80-120	2	35	46764	EPA 6010A	03/16/99
Lead	500	487	504	ug/L	97	101	80-120	3	35	46799	EPA 6010A	03/16/99

Curtis & Tompkins, Ltd.

CLIENT: EMCON
JOB NUMBER: 138424

DATE REPORTED: 03/16/99

BATCH QC REPORT
SAMPLE DUPLICATE

Compound	Sample	Sample Result	Duplicate Result	Units	RPD %	RPD Limit	QC Batch	Method	Analysis Date
Lead	138372-001	<0.146	<0.146	mg/Kg	NC	35	46764	EPA 6010A	03/16/99
Lead	138298-001	<3.000	<3.000	ug/L	NC	20	46799	EPA 6010A	03/16/99

NC = Not Calculable

Curtis & Tompkins, Ltd.

CLIENT: EMCON
JOB NUMBER: 138424
DATE REPORTED: 03/16/99

BATCH QC REPORT
SAMPLE SPIKE

Compound	Spike Amount	Sample	Sample Result	Spike Result	Units	Percent Rec.	Rec. Limit	QC Batch	Method	Analysis Date
Lead	24.75	138372-001	<0.149	23.51	mg/Kg	95	65-135	46764	EPA 6010A	03/16/99
Lead	500	138298-001	<3.000	492	ug/L	98	65-135	46799	EPA 6010A	03/16/99

EX-1

Columbia Analytical Services INC.
An Employee-Owned Company

May 3, 1999

Service Request No.: S9901288

10:52 5.3.99

Mr. Dan Easter
EMCON
1433 North Market Blvd.
Sacramento, CA 95834

RE: Barbary Coast Steel/20G01-001.013

Dear Mr. Easter:

The following pages contain analytical results for sample(s) received by the laboratory on April 23, 1999. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 10, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

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

Sincerely,

Bernadette T. Cox

Bernadette T. Cox
Project Chemist

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

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

ACRONLST.DOC 7/14/95

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON
Project: Barbary Coast Steel 20G01-001.013
Sample Matrix: Soil

Service Request: S9901288
Date Collected: 4/23/99
Date Received: 4/23/99

Halogenated Volatile Organic Compounds

Sample Name: EX-1
Lab Code: S9901288-001
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	EPA 5030	8020	0.05	1	4/23/99	4/28/99	ND	
Toluene	EPA 5030	8020	0.1	1	4/23/99	4/28/99	ND	
Ethylbenzene	EPA 5030	8020	0.1	1	4/23/99	4/28/99	ND	
Total Xylenes	EPA 5030	8020	0.1	1	4/23/99	4/28/99	ND	

1R44/111296

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON
Project: Barbary Coast Steel/20G01-001.013
Sample Matrix: Soil

Service Request: S9901288
Date Collected: NA
Date Received: NA

Halogenated Volatile Organic Compounds

Sample Name: Method Blank(5A)
Lab Code: S990423-SB1
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Benzene	EPA 5030	8020	0.05	1	4/23/99	4/28/99	ND	
Toluene	EPA 5030	8020	0.1	1	4/23/99	4/28/99	ND	
Ethylbenzene	EPA 5030	8020	0.1	1	4/23/99	4/28/99	ND	
Total Xylenes	EPA 5030	8020	0.1	1	4/23/99	4/28/99	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON
Project: Barbary Coast Steel/20G01-001.013
Sample Matrix: Soil

Service Request: S9901288
Date Collected: 4/23/99
Date Received: 4/23/99

TPH as Diesel

Prep Method: LUFT
Analysis Method: California DHS LUFT
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
EX-1	S9901288-001	1	10	4/24/99	4/26/99	1100	D2
Method Blank	S990424-SB1	1	1	4/24/99	4/26/99	ND	

D2 The sample contains a higher boiling point hydrocarbon mixture quantitated diesel. The chromatogram does not match the typical diesel fingerprint.

1A/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: Barbary Coast Steel/20G01-001.013
Sample Matrix: Soil

Service Request: S9901288
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
Halogenated Volatile Organic Compounds

Prep Method: EPA 5030
Analysis Method: 8020

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery 1,4-Difluorobenzene
EX-1	S9901288-001		89
Batch QC	S9901276-002MS		98
Batch QC	S9901276-002DMS		96
Method Blank(5A)	S990423-SB1		88

CAS Acceptance Limits: 74-125

SURV052595

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON	**Service Request:**	S9901288
Project:	Barbary Coast Steel/20G01-001.013	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Extracted:	4/28/99
		Date Analyzed:	4/28/99

Matrix Spike/Duplicate Matrix Spike Summary
Halogenated Volatile Organic Compounds

Sample Name:	Batch QC	**Units:**	mg/Kg (ppm)
Lab Code:	S9901276-002MS, S9901276-002DMS	**Basis:**	Wet
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Percent Recovery MS	Percent Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Benzene	EPA 5030	8020	0.5	0.5	0.5	ND	0.64	0.62	128	124	58-133	3	
Toluene	EPA 5030	8020	1	0.5	0.5	ND	2.2	0.71	440	142	42-154	102	A
Ethylbenzene	EPA 5030	8020	1	0.5	0.5	ND	0.57	0.56	114	112	58-140	1	

A Outside of acceptance limits. Because LCS results were acceptable, no further corrective action was taken.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: Burbary Coast Steel/20G01-001.013
Sample Matrix: Soil

Service Request: S9901288
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
TPH as Diesel

Prep Method: LUFT
Analysis Method: California DHS LUFT

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery p-Terphenyl
EX-1	S9901288-001		87
Method Blank	SS990424-SB1		85
Lab Control Sample	S990424-SL1		72

CAS Acceptance Limits: 41-140

SUR1/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON
Project: Barbary Coast Steel/20G01-001.013
LCS Matrix: Soil

Service Request: S9901288
Date Collected: NA
Date Received: NA
Date Extracted: 4/24/99
Date Analyzed: 4/26/99

Laboratory Control Sample Summary
TPH as Diesel

Sample Name: Lab Control Sample
Lab Code: S990424-LCS
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
TPH as Diesel	LUFT	California DHS LUFT	100	85	85	28-157	

LCR/020397p

CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

Columbia Analytical Services, Inc.
An Employee-Owned Company
3334 Victor Court • Santa Clara, CA 95054
(408) 748-9700 • FAX (408) 748-9860

SERVICE REQUEST NO. S990 1288 P.O.# _____ PAGE 1 OF 1

PROJECT NAME Barbary Coast Steel #20601-001.013
PROJECT MGR. Dan Easter
COMPANY EMCON
ADDRESS 1433 N. Market Blvd.
Sacramento, CA PHONE 916-928-3300
SAMPLER'S SIGNATURE _____ FAX _____

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	ANALYSIS REQUESTED: PRESERVATIVE	HCl	HCl	HCl	NP	NP	NP	HCl	HNO3	NP	H2SO4	NaOH	REMARKS *
						Volatile Organics BY GCMS 624 ☐ 8240 ☐ 8260 ☐	Halogenated or Aromatic Volatiles 601/8010 ☐ 602/8020 ☐ 8021 ☐	TPH as Gas (BTEX) TPH as Gas/BTEX/MTBE ☐	TPH as Diesel HBHC ☐	Base/Neu/Acid Organics / GCMS 625 ☐ 8270 ☐	Pesticides & PCBs 608/8082 ☐ Pesticides only 8081 ☐ PCBs 8082 ☐	TRPH - 418.1 ☐ Oil and Grease Method	Metals: indicate below Total ☐ Dissolved ☐	pH, Cond, Cl, SO4, F, TDS, TSS Alk, NO3, NO2 (circle)	NH3-N, COD, Total-P, TKN, TOC NO3 / NO2, Phenols (circle)	Cyanide			
EX-1	4-23	12:00	1	Soil	1			X	X										

RELINQUISHED BY:
Signature _____
Printed Name Dan Easter
Firm EMCON
Date/Time 4-23-99, 2:15

RECEIVED BY:
Signature _____
Printed Name _____
Firm _____
Date/Time 4/23/99 1415

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

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Firm _____
Date/Time _____

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

Shipped Via/Tracking # _____

TURNAROUND REQUIREMENTS
___ 1 day ___ 2 day ___ 3 day
X 5 day ___ Other
___ Standard (10 working days)
Results Due 4/30/99

REPORT REQUIREMENTS
I. Routine Report
X II. Report (includes MS, MSD, as required, may be charged as samples)
___ III. Data Validation Report (includes All Raw Data)
___ MDLs/PQLs/Trace #
___ Electronic Data Deliverables

SAMPLE RECEIPT: Condition _____ Custody Seals _____

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

Storage: R3

*Will sample results be used in connection with drinking water regulations? ☐ Yes ☐ No If yes, you must so indicate by writing "DW" for each such sample.