



February 26, 1999

Service Request No.: S9900593

metals 81 ppm Cu, 95 Ni, 89 ppm ND= Pb; 1.9 Cd.

Tank 1 results

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

RE: **IKEA/22175-001.003**

	Soil ppm	Head and	metals ND
TPH md.	21	14,000	
HVOCs	ND	0.6 (CFC)	
PCBS	ND	ND	
Semi VOCs	ND	ND	
TPH ms	ND	ND (L210)	
jet fuel	ND	ND	
Motor oil	ND	ND	
Diesel	ND	ND	
Gas	ND	ND	
MIBK	ND	ND	
BTEX	ND	ND	

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
Project Chemist

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

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

Halogenated Volatile Organic Compounds

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
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
Project: IKEA/22175-001.003
Sample Matrix: Soil

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

Halogenated Volatile Organic Compounds

Sample Name: Method Blank(5B)
 Lab Code: S990223-SB1
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

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
Project: IKEA/22175-001.003
Sample Matrix: Water

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

Halogenated Volatile Organic Compounds

Sample Name: W-1
 Lab Code: S9900593-002
 Test Notes:

Units: ug/L (ppb)
 Basis: NA

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	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

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

Halogenated Volatile Organic Compounds

Sample Name: Method Blank(5B)
 Lab Code: S990222-WB3
 Test Notes:

Units: ug/L (ppb)
 Basis: NA

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	

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

Polychlorinated Biphenyls (PCBs)

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
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
Project: IKEA/22175-001.003
Sample Matrix: Soil

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

Polychlorinated Biphenyls (PCBs)

Sample Name: Method Blank
Lab Code: S990222-MB
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

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
Project: IKEA/22175-001.003
Sample Matrix: Water

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

Polychlorinated Biphenyls (PCBs)

Sample Name: W-1
Lab Code: S9900593-002
Test Notes:

Units: ug/L (ppb)
Basis: NA

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	

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

Polychlorinated Biphenyls (PCBs)

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

Units: ug/L (ppb)
Basis: NA

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	

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

Polynuclear Aromatic Hydrocarbons

Sample Name: S-1
Lab Code: S9900593-001
Test Notes: M1

Units: mg/Kg (ppm)
Basis: Wet

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
Project: IKEA/22175-001.003
Sample Matrix: Soil

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

Polynuclear Aromatic Hydrocarbons

Sample Name: Method Blank
 Lab Code: S990222-SB1
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

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
Project: IKEA/22175-001.003
Sample Matrix: Water

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

Polynuclear Aromatic Hydrocarbons

Sample Name: W-1
Lab Code: S9900593-002
Test Notes: M1

Units: ug/L (ppb)
Basis: NA

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.

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

Polynuclear Aromatic Hydrocarbons

Sample Name: Method Blank
Lab Code: S990223-WB1
Test Notes:

Units: ug/L (ppb)
Basis: NA

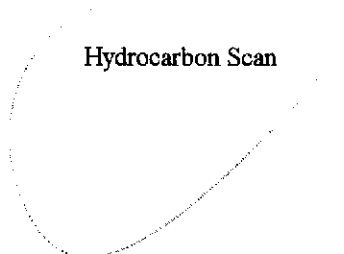
Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Naphthalene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Acenaphthylene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Acenaphthene	EPA 3510	8270C	5	1	2/23/99	2/24/99	ND	
Fluorene	EPA 3510	8270C	5	1	2/23/99	2/24/99	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	

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



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	

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	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

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

Hydrocarbon Scan

Sample Name: W-1
Lab Code: S9900593-002
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	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.

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	

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

BTEX, MTBE and TPH as Gasoline

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
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	

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

BTEX, MTBE and TPH as Gasoline

Sample Name: Method Blank
Lab Code: S990220-SB1
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

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	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

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

BTEX, MTBE and TPH as Gasoline

Sample Name: W-1
 Lab Code: S9900593-002
 Test Notes:

Units: ug/L (ppb)
 Basis: NA

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 <i>tert</i> -Butyl Ether	EPA 5030	8020	3	1	NA	2/20/99	ND	

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

BTEX, MTBE and TPH as Gasoline

Sample Name: Method Blank
 Lab Code: S990220-WB1
 Test Notes:

Units: ug/L (ppb)
 Basis: NA

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 <i>tert</i> -Butyl Ether	EPA 5030	8020	3	1	NA	2/20/99	ND	

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

Total Metals

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 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	

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

Total Metals

Sample Name: Method Blank
 Lab Code: S990222-MB
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

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	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

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

Dissolved Metals

Sample Name: W-1
Lab Code: S9900593-002
Test Notes:

Units: mg/L (ppm)
Basis: NA

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	

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

Dissolved Metals

Sample Name: Method Blank
Lab Code: S990222-MB
Test Notes:

Units: mg/L (ppm)
Basis: NA

Analyte	Prep	Analysis	MRL	Dilution	Date	Date	Result	Notes
	Method	Method		Factor	Prepared	Analyzed		
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	

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
Halogenated Volatile Organic Compounds

Prep Method: EPA 5030
Analysis Method: 8010

Units: PERCENT
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

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
Halogenated Volatile Organic Compounds

Prep Method: EPA 5030
Analysis Method: 8010

Units: PERCENT
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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

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

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

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Prep Method: EPA 3550C
Analysis Method: 8082

Units: PERCENT
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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

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

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

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Prep Method: EPA 3510A
Analysis Method: 8082

Units: PERCENT
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

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	P e r c e n t R e c o v e r y				TPH	
			2FP	PHL	NBZ	FBP		TBP
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

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	P e r c e n t R e c o v e r y					TPH
			2FP	PHL	NBZ	FBP	TBP	
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.

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
Hydrocarbon Scan

Prep Method: LUFT
Analysis Method: Modified EPA 8015

Units: PERCENT
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

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
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-1	S9900593-002		53
Method Blank	S990220-MB		87

CAS Acceptance Limits: 41-140

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

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

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

Surrogate Recovery Summary
BTEX 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
S-1	S9900593-001		86	86
Method Blank	S990220-SB1		85	89

CAS Acceptance Limits: 51-137 51-137

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



Columbia Analytical Services
 3334 Victor Court • Santa Clara, CA 95054
 (408) 437-2400 • FAX (408) 437-9356

CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

SERVICE REQUEST NO. **59900593** P.O.# _____ PAGE _____ OF _____

PROJECT NAME: **ISKEA # 22175-001-003**

PROJECT MGR: **Dan Easter**

COMPANY: **EMCON - SAC**

ADDRESS: _____

PHONE: _____

FAX: _____

SAMPLER'S SIGNATURE: _____

NUMBER OF CONTAINERS	ANALYSIS REQUESTED														REMARKS *					
	PRESERVATIVE	HCl	HCl	HCl	NP	NP	NP	HCl	HCl	HNO ₃	NP	H ₂ SO ₄	H ₂ SO ₄	H ₂ SO ₄		NaOH				
	<i>GC/MS 624/8240/8260</i> <i>Halogenated or Aromatic Volatiles</i> <i>608/8080</i> <i>TPH as Gas/BTEX</i> <i>DRSTPH - 8990</i> <i>TPH as Diesel/HBHC</i> <i>DHS LUFT</i> <i>Base/New/Acid Organics</i> <i>GC/MS 624/8270</i> <i>Pesticides</i> <i>608/8080</i> <i>PCBs</i> <i>TRPH - 418.1</i> <i>8202</i> <i>PNA</i> <i>Oil and Grease Method</i> <i>Metals (total or dissolved)</i> <i>List Below See note 546</i> <i>pH, Cond, Cl, SO₄, F, TDS, TSS</i> <i>Alk, NO₃, NO₂ (circle)</i> <i>NH₃-N, COD, Total-P, TKN</i> <i>NO₃ / NO₂ (circle)</i> <i>Total Organic Carbon</i> <i>TOC</i> <i>Total Phenols</i> <i>Cyanide</i>																			
	X	X	X	X	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

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: _____

SAMPLE RECEIPT: Condition _____ Custody Seals _____

SPECIAL INSTRUCTIONS/COMMENTS: **PNA by 8270**

Circle which metals are to be analyzed:

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

- Luft metals : Cd, Cr, Zn, Ni, Pb

Filter sample @ Lab before metals analysis

DOE: 2-26-99
R903
R11D1
R11D3

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.