SDMS DOCID# 1118005

EMCON
ASSOCIATES
Consultants in Wastes
Management and
Environmental Control

November 7, 1990
Project E55-01.01

Ms. Glenda Rousseau
Inspectional Section, East Region
Hazardous Materials Control Program
Los Angeles County Department of Health Services
3131 North Figueroa Street
Los Angeles, California 90012

Re: Soils Management Plan: Diversey Wyandotte Corporation

Dear Ms. Rousseau:

Please find attached a Soils Management Plan (SMP) for Diversey Corporation. Soil excavation is scheduled to commence on Thursday, November 15, 1990. Questions or comments regarding this SMP should be directed to the undersigned.

Regards,

EMCON Associates

David P. Jackson
Manager, Waste Minimization Services

Katherine R. Winsor
Director,
Environmental Services

DPJ/KRW:see

Attachment: As stated

3300 N. San Fernando Blvd., Burbank, California 91504, (818) 841-1160

rec'd 11/15/90 KA

EMCON ASSOCIATES
Consultants in Wastes Management and Environmental Control

November 6, 1990
Project E55-01.01

Mr. Richard F. Galle
Diversey Corporation
8921 Dice Road
Santa Fe Springs, California 90670

Re: Soils Management Plan (SMP)

Dear Mr. Galle:

EMCON Associates (EMCON) is pleased to submit this soils management plan (SMP) to Diversey Corporation (Diversey) as specified in the soils sampling and analysis workplan (EMCON, September 1990). This SMP was developed following implementation of the workplan for the berm soils and includes:

- Sampling and analytical procedures for berm soils
- Analytical results for composited soil samples
- Recommendations for best management practices (BMPs) for hydrocarbon impacted subsurface and stock-piled soils

This information is presented below.

SAMPLING AND ANALYTICAL WORKPLAN

Soil Sampling Procedures

Thirteen soil samples were obtained from the Santa Fe Springs site by EMCON Associates on September 12, 1990. Five locations were sampled within the interior perimeter of the bermed area (E55-2 through E55-6), and one location adjacent to and outside of the bermed area (E55-1) using a soil penetrometer equipped with brass rings. Soil samples were collected from depths of 2 and 4 feet below grade for subsequent compositing and analysis as specified in the referenced EMCON workplan. In addition, Diversey requested that a sample be taken from a

3300 N. San Fernando Blvd. Burbank, California 91504, (818) 841-1160

stockpile of excavated soil (E55-7) and tested in accordance with the procedures specified for the berm area samples. Sample E55-7 consisted of a random surface sampling (composite) of the stockpiled soil.

All samples were identified, preserved (refrigerated), and packaged in accordance with EPA sample quality control and assurance requirements for shipment to EMCON's California-certified analytical laboratory, Columbia Analytical Services (CAS). Chain-of-custody forms are presented in Appendix A.

During the soil sampling, EMCON attempted to measure the soil samples for the presence of volatile organic compound vapors using a photoionization detector (PID). Following calibration of the PID using an isobutylene source, unknown ambient vapor interferences caused an overload condition to develop during PID "zeroing" operations. Therefore, no valid field data was obtained from the PID.

Analytical Procedures and Results

For each boring, the two samples collected were composited prior to chemical analysis. The sample obtained from the stockpiled soils was analyzed discretely. The resulting seven samples were prepared and analyzed for semivolatile organics in accordance with U.S. EPA Method 8270.

No detectable levels of U.S. EPA Method 8270 series semivolatile organics were detected in the seven samples analyzed. However, the laboratory indicated that some heavy hydrocarbon compounds appeared to be present. Subsequently, a hydrocarbon scan (U.S. EPA Methods 3550 and 8015 Modified) was performed on each sample extract from the 8270 series testing to determine the nature of the hydrocarbons present. As shown in Table 1, results from this second battery of testing indicate the presence of heavy hydrocarbons (oils) ranging from nondetectable (ND) (E55-5 Comp.) to 9,200 mg/kg in the stockpiled soil (E55-7-S).

Certified analytical reports and chain-of-custody data for samples E55-1 Comp. through E55-7-S are provided in Appendix B.

CONCLUSIONS

It appears that the soils recovered from the site in the interval of 2 to 4 feet below grade contain varying concentrations of heavy hydrocarbons. The hydrocarbons present may possibly be the result of biodegraded or photodegraded residuals of Shellflex 214 or Telura 619 (see Appendix C for

product information), which was previously stored in aboveground tanks within the berm area. Heavy hydrocarbons also exist in the stockpiled soil adjacent to the bermed area.

Previous investigative work performed by Thorne Environmental (Thorne, July 1989) within the bermed area supports this conclusion. The expected vertical extent of oil intrusion should not exceed 4 to 5 feet in most of the bermed area. The possible exception may be the pipeline trench area where previous excavation and backfill operations performed by Diversey indicated that impact is probably deeper.

As shown in Tables 2 and 3, soil samples previously recovered and analyzed by Thorne within the bermed area (SB-1 through SB-4) and in the vicinity of the pipeline (SS-1 and SS-2) do not indicate the presence of heavy hydrocarbon compounds at depths below 5 feet. Analytical data for soil samples taken by Thorne support the conclusion that the presence of the oily compounds is predominantly a surface intrusion concern.

Liquid Waste Management (LWM), a Class II landfill located in McKittrick, California, will accept oil-impacted soils as "waste-oil" contaminated material, provided that total petroleum hydrocarbons (TPH), persistent and bioaccumulative metals (Section 66699, Title 22, California Code of Regulations), and solvent screening criteria are met. It appears that the soils in and around the berm area, including the stockpiled soil, meet with LWM's TPH criteria of 10,000 mg/kg. Additionally, other applicable disposal criteria may be met (i.e., metals, solvents) by

- supplying material safety data sheets (MSDSs) as "known evidence" information
- submitting the CAS analytical reports
- submitting tank usage data, i.e., history of materials stored in the tank farm area

EMCON has received verbal concurrence from LWM with regard to utilization of this information to determine acceptance of the waste stream. LWM acceptance criteria and a blank predisposal data sheet are supplied as reference material in Appendix D.

Based upon our findings and conclusions, the following SMP is recommended as the best approach for the impacted soils in and around the berm area, including the stockpiled soil adjacent to the berm area.

SOILS MANAGEMENT PLAN

Excavation and Stockpiling

Diversey should arrange for the excavation of surface and subsurface berm soils (approximately 40 feet x 40 feet) to an estimated average depth of 4 feet using three stages: removal of the top 2 feet, followed by removal of two additional 1-foot lifts (and so on as needed). Following removal of the first 2 feet of soil, confirmation testing will be performed at representative (exposed) berm locations to determine if hydrocarbons are present. The sampling and analyses will be performed in accordance with confirmation analysis procedures specified in the following section. The excavation and testing cycles will be repeated until the concentrations of hydrocarbons are at or below laboratory detection limits.

In addition to the shallow soil removal activities, deeper soils will need to be removed in the pipeline area. Figures 2 and 3 illustrate the proposed excavation perimeter and stockpiling area and expected excavation plot plan respectively. The estimated soil volume to be excavated is 160 cubic yards. This estimate includes the berm walls, the stockpiled soils, and the anticipated 10-feet-deep excavation in the pipeline area.

The existing stockpiled soil should be moved and combined with the excavated soils in the indicated stockpiling area. Alternatively, Diversey may choose to schedule delivery of roll-off bins for temporary storage of the soils.

EMCON will provide a specialist to perform project management and soil sampling. In addition, EMCON will arrange for an on-site mobile laboratory to perform the confirmation analysis.

Following receipt and review of the final analytical data, EMCON will prepare a LWM pre-disposal data sheet and approval request for Diversey's review and approval. A draft of the data sheet will be developed immediately following approval of this SMP by Diversey. EMCON will submit the finalized data sheet and approval request along with analytical data to obtain the necessary site disposal approval number for soils disposal.

Sampling and Testing Procedures

EMCON will provide on-site sampling and testing of excavated (exposed) areas for the presence of oily compounds. A contract mobile lab and an EMCON field technician will perform sampling and testing operations as specified below.

EMCON will collect surface samples from exposed areas following excavation procedures. Samples will be collected in accordance with the procedures specified in Test Methods for the Evaluation of Solid Waste; Physical/Chemical Methods. U.S. EPA SW-846. November 1986. Relatively undisturbed soil samples will be collected using a standard penetrometer equipped with brass sample collection rings. Recovered soil samples will be retained in the rings, sealed using Teflon sheets and PVC end caps, labeled with the sampler's initials and a plot location identifier, sealed in clean glass jars, and delivered to the mobile laboratory for analysis.

The mobile lab will employ a screening test for high-boiling-point hydrocarbons using U.S. EPA Method 418.1 (total recoverable petroleum hydrocarbons [TRPH]). The TRPH method will be used as a go/no-go indicator for determining the need for further excavation in specific areas. Once the TRPH results indicate the absence of oily substances, a second sample will be taken from the "clean" area for confirmation analysis using U.S. EPA Method 8015 (modified). Final confirmation sampling will be conducted by CAS and the data will be presented in a report to the Los Angeles County Department of Health Services (LACDHS) for the purposes of site closure.

Disposal

Diversey should arrange for pickup, transport, and disposal of excavated soils to the LMW Class II landfill following approval of the predisposal data sheet and assignment of a profile number by LWM. The soils need to be accompanied by a nonhazardous waste manifest and/or bill of lading.

Site Closure

Following receipt and review of the analytical data for the confirmation samples recovered from the excavated areas, EMCON will prepare and submit a letter to the LACDHS requesting site inspection and closure approval. This letter will include a copy of the SMP and results of the confirmation testing performed during and following excavation activities.

The LACDHS letter will be submitted to Diversey in draft form for review and comment. Upon receipt of Diversey's comments, the letter will be finalized. Two copies will be submitted to Diversey and a third copy will be forwarded to:

County of Los Angeles
Department of Health Services
Inspectional Section, East Region

Attention: Glenda Rousseau

PROJECT SCHEDULE

This SMP will be initiated immediately upon receipt of authorization to proceed from Diversey. The mobile lab will require at least a 1 week notice for scheduling purposes. Accordingly, EMCON and Diversey will coordinate mobilization and demobilization dates for the field laboratory and heavy equipment, including delivery of roll-off bins to the site (if applicable).

This SMP has been prepared and reviewed by the individuals whose names appear below.

Respectfully submitted,

EMCON Associates

David P. Jackson
Senior Environmental Scientist

Katherine R. Winsor
Director,
Environmental Services

cc: Don Bossow, Diversey Corp.

Attachments: References
Table 1 - Results of the hydrocarbon scan for EMCON borings
Table 2 - Results of the hydrocarbon scan for Thorne borings
Table 3 - Results of the hydrocarbon scan for Thorne surface samples
Figure 1 - Soil sample locations
Figure 2 - Plot plan
Figure 3 - Excavation perimeter and plot plan
Appendix A - Chain-of-custody records
Appendix B - EMCON/CAS soils analysis, quality assurance, and chain-of-custody data
Appendix C - MSDS's for Shellflex 214 and Telura 619
Appendix D - LWM Acceptance Criteria and Blank Predisposal Data Sheet

REFERENCES

EMCON Associates, September 5, 1990, Workplan for Soils Remediation of Concrete Sump Area: Diversey Wyandotte Corporation, 8921 Dice Road, Santa Fe Spnngs, California: EMCON Associates, Burbank, California.

Thorne Environmental, July 14, 1989, Limited Site Characterization, Diversey Wyandotte Corporation, 8921 Dice Road, Santa Fe Springs, California: Thorne Environmental, Anaheim, California.

TABLE 1
RESULTS OF THE HYDROCARBON SCAN FOR EMCON BORINGS

Hydrocarbon Scan
EPA Methods 3550/Modified 8015
mg/kg (ppm)
As Received Basis

Sample Name	Lab Code	MRL	Diesel	Jet Fuel	Gasoline	Kerosene	Mineral Spirits	Oil*
E55-1 Comp.	3342C-1	10	ND	ND	ND	ND	ND	1,300
E55-2 Comp.	3342C-2	10	ND	ND	ND	ND	ND	3,100
E55-3 Comp.	3342C-3	10	ND	ND	ND	ND	ND	5,100
E55-4 Comp.	3342C-4	10	ND	ND	ND	ND	ND	30
E55-5 Comp.	3342C-5	10	ND	ND	ND	ND	ND	ND
E55-6 Comp.	3342C-6	10	ND	60	ND	ND	ND	1,300
E55-7-S	3342C-7	10	ND	ND	ND	ND	ND	9,200

* Quantitated using hydraulic oil as a standard.
ND Means None Detected at or above the MRL.
MRL Means Method Reporting Limit

Data Source: EMCON/CAS Laboratory
Analyzed 10/08/90
(Appendix B)

TABLE 2
RESULTS OF THE HYDROCARBON SCAN FOR THORNE BORINGS

Parts Per Million (mg/kg)

Sample Number	Gasoline	Diesel Fuel	Kerosene	Mineral Spirits	C_{20} - C_{26} Hydrocarbons
SB-1 @4	ND	ND	ND	ND	ND
SB-1 @14	ND	ND	ND	ND	ND
SB-1 @19	ND	ND	ND	ND	ND
SB-2 @5	ND	ND	ND	ND	ND
SB-2 @10	ND	ND	ND	ND	ND
SB-2 @20	ND	ND	ND	ND	ND
SB-3 @1	ND	ND	ND	ND	ND
SB-3 @10	ND	ND	ND	ND	ND
SB-3 @15	ND	ND	ND	ND	ND
SB-3 @20	ND	ND	ND	ND	ND
SB-4 @5	ND	ND	ND	ND	ND
SB-4 @15	ND	ND	ND	ND	ND
SB-4 @20	ND	ND	ND	ND	ND
SB-5 @5	ND	ND	ND	ND	ND
SB-5 @15	ND	ND	ND	ND	ND
SB-5 @20	ND	ND	ND	ND	ND
SB-6 @5	ND	ND	ND	ND	ND
SB-6 @10	ND	ND	ND	ND	ND
SB-7 @1	ND	ND	ND	ND	ND
SB-7 @10	ND	ND	ND	ND	ND
SB-8 @5	ND	ND	ND	ND	TR<100
SB-9 @1	ND	ND	3,900	ND	1,700
SB-9 @5	ND	ND	4,900	ND	ND
SB-9 @10	ND	ND	1,200	ND	ND
Detection Limit	10	10	10	10	100

ND Not Detected
TR Trace

Dates Analyzed: 6-19-89 & 6-21-89

Data Source: Thorne Environmental
Report to Mr. Richard Galle
Diversey Wyandotte Corp.
8921 Dice Road
Santa Fe Springs, California
"Limited Site Characterization," Table I

TABLE 3
RESULTS OF THE HYDROCARBON SCAN FOR THORNE SURFACE SAMPLES

Parts Per Million (mg/kg)

Sample Number	Gasoline	Diesel Fuel	Kerosene	Mineral Spirits	C_{20} - C_{26} Hydrocarbons
SS-1	ND	ND	ND	ND	91,000*
SS-2	ND	ND	ND	ND	98,000*
SS-3	ND	ND	ND	ND	28,000*
Detection Limit	50	50	50	50	500

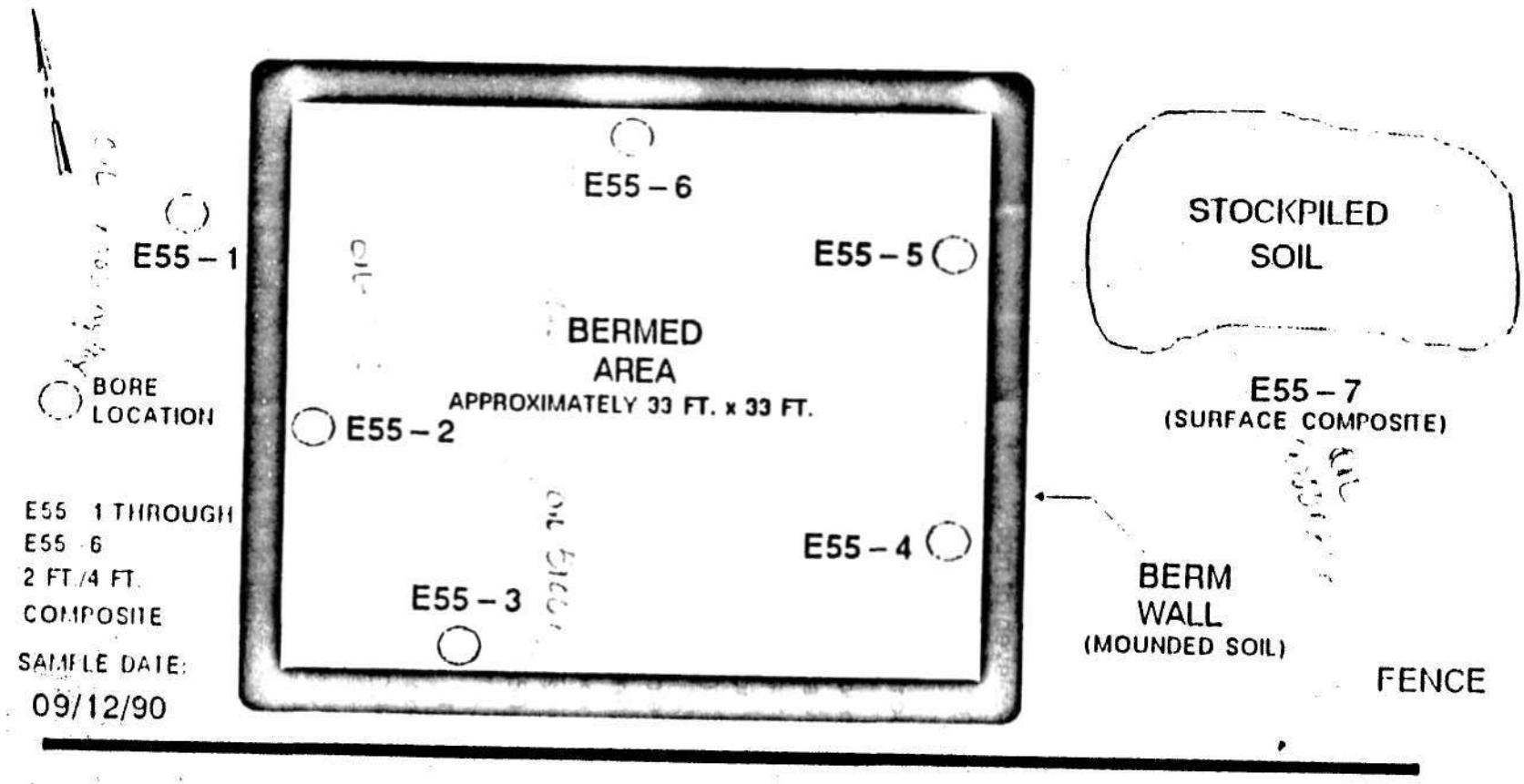
* An Oil

ND Not Detected

Dates Analyzed: 6-19-89 & 6-21-89

Data Source: Thorne Environmental
Report to Mr. Richard Galle
Diversey Wyandotte Corp.
8921 Dice Road
Santa Fe Springs, California
"Limited Site Characterization," Table II

120453



EMCON Associates

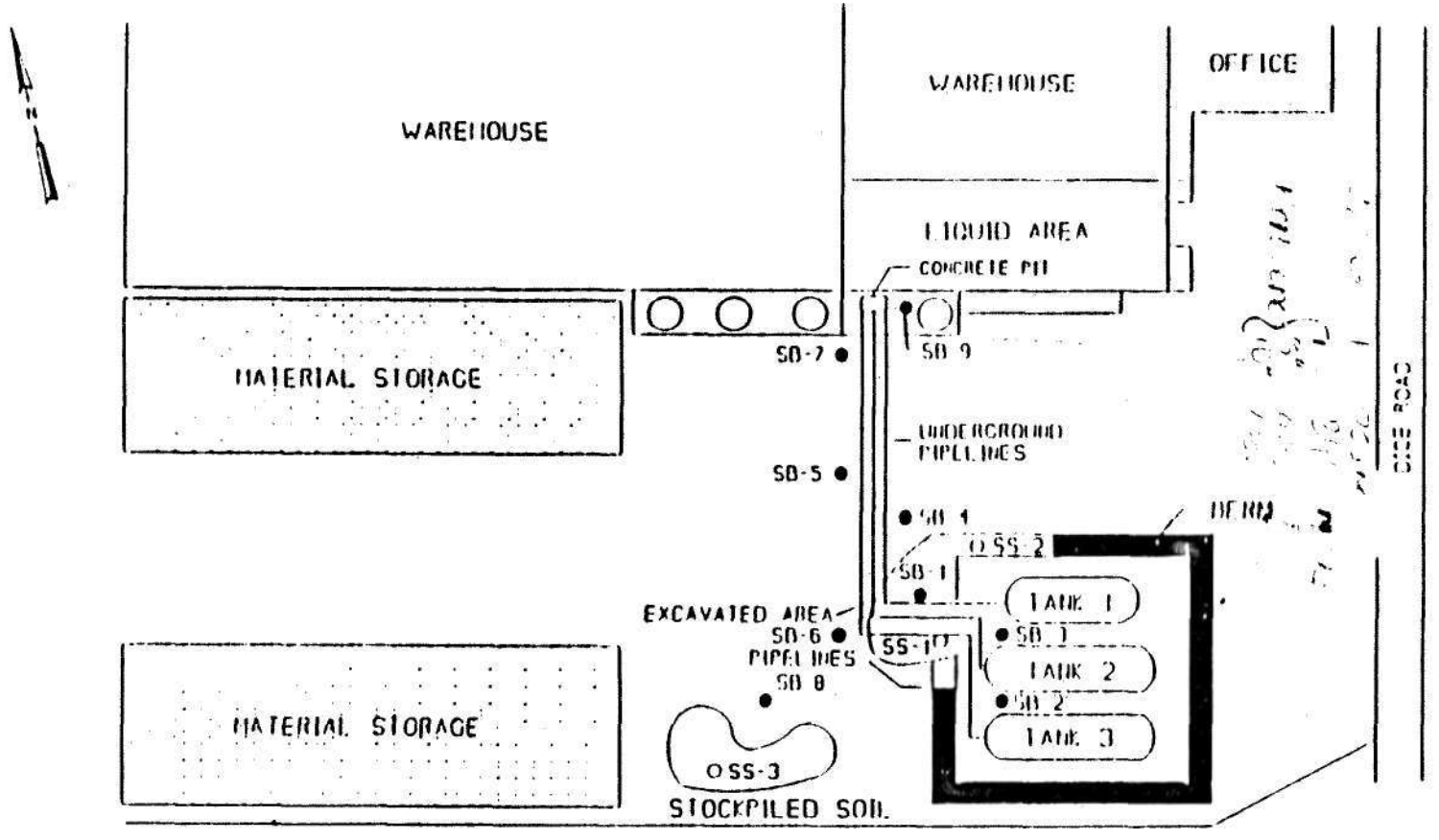
DIVERSEY CORPORATION
8921 DICE ROAD
SANTA FE SPRINGS, CALIFORNIA

SOIL SAMPLE LOCATIONS

FIGURE
1

PROJECT NO
E55 01.01

129453



EXPLANATION

SB-1 ● SOIL BORING

SS-1 ○ SURFACE SAMPLE

NOT TO SCALE

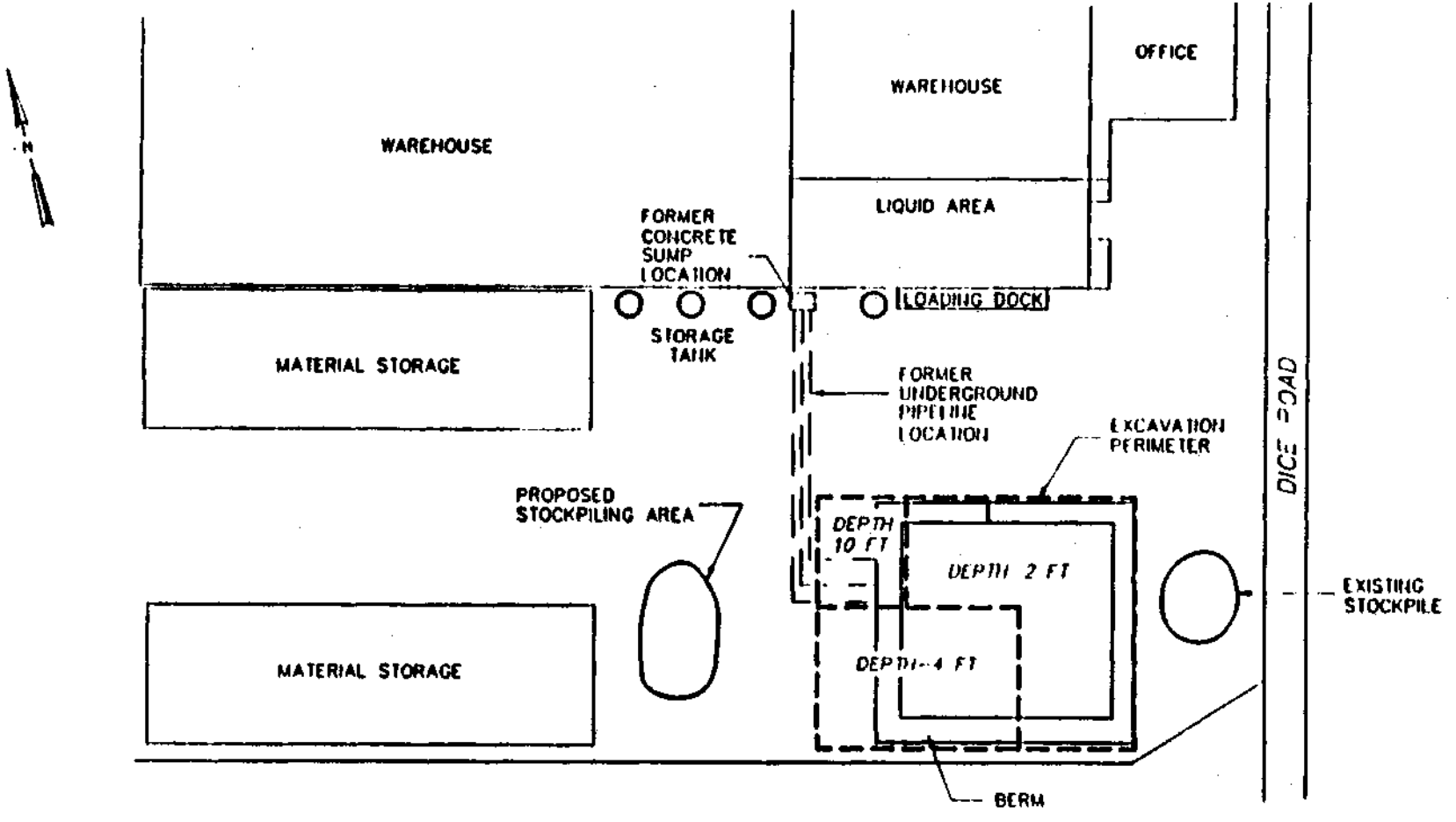
EMCON Associates

DIVERSEY CORPORATION
8921 DICE ROAD
SANTA FE SPRINGS, CALIFORNIA

PLOT PLAN

FIGURE 2

PROJECT NO ESS 0101



NOT TO SCALE

EMCON Associates

DIVERSEY CORPORATION
8921 DICE ROAD
SANTA FE SPRINGS, CALIFORNIA 90670

EXCAVATION PERIMETER AND PLOT PLAN

FIGURE 3

PROJECT NO E55-01.01

CADD FILE E55010011
DATE LAST REVISED 11-2-93

APPENDIX A

CHAIN-OF-CUSTODY RECORDS

SAMPLING AND ANALYSIS CHAIN OF CUSTODY RECORD

EMCON

PROJECT NO ES5-01.01 SAMPLE TYPE SOIL EMCON LABORATORY NO

Sample Information			Bottle Information				Lab Information		Chain of Custody Documentation							
Sample ID	Lab ID	Parameters	No	Type	Pres.	Filt	Lab	PO #	Sampler	Date	Rec'd By	Date	Comments	Rec'd By	Date	Comments
ES5 -1-2		EPA 8270	1		UP	N			PH/DI	9/12/90						
E-55 -1-4																
E-55 -2-2																
ES5 -2-4																
ES5 -3-2																
ES5 -3-4																
ES5 -4-2																
ES5 -4-4																
ES5 -5-2																
ES5 -5-4																
E-55 -6-2																
ES5 -6-4																

Sampled By

Laboratory Representative

Relinquished By

Received By

Relinquished By

Received By

Relinquished By

Received By

SAMPLING AND ANALYSIS CHAIN OF CUSTODY RECORD

EMCON

PROJECT NO ESS-01.01 SAMPLE TYPE SOIL EMCON LABORATORY NO

Sample Information			Bottle Information				Lab Information	
Sample ID	Lab ID	Parameters	No	Type	Pres.	Filt	Lab	PO #
ESS -7-5		EPA 8270	1		NP	N		

Chain of Custody Documentation							
Sampler	Date	Rec'd By	Date	Comments	Rec'd By	Date	Comments
DJ/PH	9-12-9						

Sampled By

Laboratory Representative

Relinquished By

Received By

Relinquished By

Received By

Relinquished By

Received By

APPENDIX B

EMCON/CAS SOILS ANALYSIS, QUALITY ASSURANCE, AND CHAIN-OF-CUSTODY DATA

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/20,21,27/90
DATE ANALYZED: 10/08/90
WORK ORDER #: K903342C

Hydrocarbon Scan
EPA Methods 3550/Modified 8015
mg/Kg (ppm)
As Received Basis

Sample Name	Lab Code	MRL	Diesel	Jet Fuel	Gasoline	Kerosene	Mineral Spirits	Oil*
E55-1 Comp.	3342C-1	10	ND	ND	ND	ND	ND	1,300
E55-2 Comp.	3342C-2	10	ND	ND	ND	ND	ND	3,100
E55-3 Comp.	3342C-3	10	ND	ND	ND	ND	ND	5,100
E55-4 Comp.	3342C-4	10	ND	ND	ND	ND	ND	30
E55-5 Comp.	3342C-5	10	ND	ND	ND	ND	ND	ND
E55-6 Comp.	3342C-6	10	ND	60	ND	ND	ND	1,300
E55-7-S	3342C-7	10	ND	ND	ND	ND	ND	9,200

* Quantitated using hydraulic oil as a standard.
ND means None Detected at or above the MRL.
MRL means Method Reporting Limit

Approved by Abie Spielman Date 10/10/90

1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 206/577-7222 • Fax 206/636-10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/27/90
DATE ANALYZED: 10/02/90
WORK ORDER #: K903342C

Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270
mg/Kg (ppm) As Received Basis

SAMPLE NAME: E55-1 Comp.
LAB CODE: 3342C-1

PARAMETER	MRL*	mg/Kg
N-Nitrosodimethylamine	3	ND
Aniline	3	ND
Bis(2-chloroethyl)ether	3	ND
1,2-Dichlorobenzene	3	ND
1,3-Dichlorobenzene	3	ND
1,4-Dichlorobenzene	3	ND
Bis(2-chloroisopropyl)ether	3	ND
N-Nitroso-di-n-propyl-amine	3	ND
Hexachloroethane	3	ND
Nitrobenzene	3	ND
Isophorone	3	ND
Bis(2-Chloroethoxy)methane	3	ND
1,2,4-Trichlorobenzene	3	ND
Naphthalene	3	ND
4-Chloroaniline	3	ND
Hexachlorobutadiene	3	ND
2-Methylnaphthalene	3	ND
Hexachlorocyclopentadiene	3	ND
2-Chloronapthalene	3	ND
2-Nitroaniline	20	ND
Dimethylphthalate	3	ND
Acenaphthylene	3	ND
3-Nitroaniline	20	ND
Acenaphthene	3	ND
Dibenzofuran	3	ND
2,4-Dinitrotoluene	3	ND
2,6-Dinitrotoluene	3	ND
Diethylphthalate	3	ND
4-Chlorophenyl phenyl ether	3	ND
Fluorene	3	ND
4-Nitroaniline	20	ND
N-Nitrosodiphenylamine	3	ND
4-Bromophenyl phenyl ether	3	ND
Hexachlorobenzene	3	ND

PARAMETER	MRL*	mg/Kg
Phenanthrene	3	ND
Anthracene	3	ND
Dibutylphthalate	3	ND
Fluoranthene	3	ND
Pyrene	3	ND
Butyl benzyl phthalate	3	ND
3,3'-Dichlorobenzidine	3	ND
Benzo(a)anthracene	3	ND
Bis(2-ethylhexyl)phthalate	3	ND
Chrysene	3	ND
Di-n-octyl phthalate	3	ND
Benzo(b)fluoranthene	3	ND
Benzo(k)fluoranthene	3	ND
Benzo(a)pyrene	3	ND
Indeno(1,2,3-c,d)pyrene	3	ND
Dibenzo(a,h)anthracene	3	ND
Benzo(g,h,i)perylene	3	ND
Phenol	3	ND
2-Chlorophenol	3	ND
Benzyl Alcohol	3	ND
2-Methylphenol	3	ND
4-Methylphenol	3	ND
2-Nitrophenol	3	ND
2,4-Dimethylphenol	3	ND
Benzoic Acid	20	ND
2,4-Dichlorophenol	3	ND
4-Chloro-3-methylphenol	3	ND
2,4,6-Trichlorophenol	3	ND
2,4,5-Trichlorophenol	3	ND
2,4-Dinitrophenol	20	ND
4-Nitrophenol	20	ND
2-Methyl-4,6-dinitrophenol	20	ND
Pentachlorophenol	20	ND

ND means None Detected at or above the MRL.
MRL means Method Reporting Limit.
* Elevated MRLs due to matrix interferences.

Approved by Abbie Spielman Date 10/10/90

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/27/90
DATE ANALYZED: 10/02/90
WORK ORDER #: K903342C

Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270
mg/Kg (ppm) As Received Basis

SAMPLE NAME: E55-2 Comp.
LAB CODE: 3342C-2

PARAMETER	MRL*	mg/Kg
N-Nitrosodimethylamine	3	ND
Aniline	3	ND
Bis(2-chloroethyl)ether	3	ND
1,2-Dichlorobenzene	3	ND
1,3-Dichlorobenzene	3	ND
1,4-Dichlorobenzene	3	ND
Bis(2-chloroisopropyl)ether	3	ND
N-Nitroso-di-n-propyl-amine	3	ND
Hexachloroethane	3	ND
Nitrobenzene	3	ND
Isophorone	3	ND
Bis(2-Chloroethoxy)methane	3	ND
1,2,4-Trichlorobenzene	3	ND
Naphthalene	3	ND
4-Chloroaniline	3	ND
Hexachlorobutadiene	3	ND
2-Methylnaphthalene	3	ND
Hexachlorocyclopentadiene	3	ND
2-Chloronapthalene	3	ND
2-Nitroaniline	20	ND
Dimethylphthalate	3	ND
Acenaphthylene	3	ND
3-Nitroaniline	20	ND
Acenaphthene	3	ND
Dibenzofuran	3	ND
2,4-Dinitrotoluene	3	ND
2,6-Dinitrotoluene	3	ND
Diethylphthalate	3	ND
4-Chlorophenyl phenyl ether	3	ND
Fluorene	3	ND
4-Nitroaniline	20	ND
N-Nitrosodiphenylamine	3	ND
4-Bromophenyl phenyl ether	3	ND
Hexachlorobenzene	3	ND

PARAMETER	MRL*	mg/Kg
Phenanthrene	3	ND
Anthracene	3	ND
Dibutylphthalate	3	ND
Fluoranthene	3	ND
Pyrene	3	ND
Butyl benzyl phthalate	3	ND
3,3'-Dichlorobenzidine	3	ND
Benzo(a)anthracene	3	ND
Bis(2-ethylhexyl)phthalate	3	ND
Chrysene	3	ND
Di-n-octyl phthalate	3	ND
Benzo(b)fluoranthene	3	ND
Benzo(k)fluoranthene	3	ND
Benzo(a)pyrene	3	ND
Indeno(1,2,3-c,d)pyrene	3	ND
Dibenzo(a,h)anthracene	3	ND
Benzo(g,h,i)perylene	3	ND
Phenol	3	ND
2-Chlorophenol	3	ND
Benzyl Alcohol	3	ND
2-Methylphenol	3	ND
4-Methylphenol	3	ND
2-Nitrophenol	3	ND
2,4-Dimethylphenol	3	ND
Benzoic Acid	20	ND
2,4-Dichlorophenol	3	ND
4-Chloro-3-methylphenol	3	ND
2,4,6-Trichlorophenol	3	ND
2,4,5-Trichlorophenol	3	ND
2,4-Dinitrophenol	20	ND
4-Nitrophenol	20	ND
2-Methyl-4,6-dinitrophenol	20	ND
Pentachlorophenol	20	ND

ND means None Detected at or above the MRL.
MRL means Method Reporting Limit.
* Elevated MRLs due to matrix interferences.

Approved by Abhi Spielman Date 10/10/90

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/21/90
DATE ANALYZED: 09/25/90
WORK ORDER #: K903342C

Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270
mg/Kg (ppm) As Received Basis

SAMPLE NAME: E55-3 Comp.
LAB CODE: 3342C-3

PARAMETER	MRL*	mg/Kg
N-Nitrosodimethylamine	3	ND
Aniline	3	ND
Bis(2-chloroethyl)ether	3	ND
1,2-Dichlorobenzene	3	ND
1,3-Dichlorobenzene	3	ND
1,4-Dichlorobenzene	3	ND
Bis(2-chloroisopropyl)ether	3	ND
N-Nitroso-di-n-propyl-amine	3	ND
Hexachloroethane	3	ND
Nitrobenzene	3	ND
Isophorone	3	ND
Bis(2-Chloroethoxy)methane	3	ND
1,2,4-Trichlorobenzene	3	ND
Naphthalene	3	ND
4-Chloroaniline	3	ND
Hexachlorobutadiene	3	ND
2-Methylnaphthalene	3	ND
Hexachlorocyclopentadiene	3	ND
2-Chloronapthalene	3	ND
2-Nitroaniline	20	ND
Dimethylphthalate	3	ND
Acenaphthylene	3	ND
3-Nitroaniline	20	ND
Acenaphthene	3	ND
Dibenzofuran	3	ND
2,4-Dinitrotoluene	3	ND
2,6-Dinitrotoluene	3	ND
Diethylphthalate	3	ND
4-Chlorophenyl phenyl ether	3	ND
Fluorene	3	ND
4-Nitroaniline	20	ND
N-Nitrosodiphenylamine	3	ND
4-Bromophenyl phenyl ether	3	ND
Hexachlorobenzene	3	ND

PARAMETER	MRL*	mg/Kg
Phenanthrene	3	ND
Anthracene	3	ND
Dibutylphthalate	3	ND
Fluoranthene	3	ND
Pyrene	3	ND
Butyl benzyl phthalate	3	ND
3,3'-Dichlorobenzidine	3	ND
Benzo(a)anthracene	3	ND
Bis(2-ethylhexyl)phthalate	3	ND
Chrysene	3	ND
Di-n-octyl phthalate	3	ND
Benzo(b)fluoranthene	3	ND
Benzo(k)fluoranthene	3	ND
Benzo(a)pyrene	3	ND
Indeno(1,2,3-c,d)pyrene	3	ND
Dibenzo(a,h)anthracene	3	ND
Benzo(g,h,i)perylene	3	ND
Phenol	3	ND
2-Chlorophenol	3	ND
Benzyl Alcohol	3	ND
2-Methylphenol	3	ND
4-Methylphenol	3	ND
2-Nitrophenol	3	ND
2,4-Dimethylphenol	3	ND
Benzoic Acid	20	ND
2,4-Dichlorophenol	3	ND
4-Chloro-3-methylphenol	3	ND
2,4,6-Trichlorophenol	3	ND
2,4,5-Trichlorophenol	3	ND
2,4-Dinitrophenol	20	ND
4-Nitrophenol	20	ND
2-Methyl-4,6-dinitrophenol	20	ND
Pentachlorophenol	20	ND

ND means None Detected at or above the MRL
MRL means Method Reporting Limit.
* Elevated MRLs due to matrix interferences.

Approved by Abie Spielman Date 10/10/90

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/20/90
DATE ANALYZED: 09/24/90
WORK ORDER #: K903342C

Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270
mg/Kg (ppm) As Received Basis

SAMPLE NAME: E55-4 Comp.
LAB CODE: 3342C-4

PARAMETER	MRL	mg/Kg
N-Nitrosodimethylamine	0.3	ND
Aniline	0.3	ND
Bis(2-chloroethyl)ether	0.3	ND
1,2-Dichlorobenzene	0.3	ND
1,3-Dichlorobenzene	0.3	ND
1,4-Dichlorobenzene	0.3	ND
Bis(2-chloroisopropyl)ether	0.3	ND
N-Nitroso-di-n-propyl-amine	0.3	ND
Hexachloroethane	0.3	ND
Nitrobenzene	0.3	ND
Isophorone	0.3	ND
Bis(2-Chloroethoxy)methane	0.3	ND
1,2,4-Trichlorobenzene	0.3	ND
Naphthalene	0.3	ND
4-Chloroaniline	0.3	ND
Hexachlorobutadiene	0.3	ND
2-Methylnaphthalene	0.3	ND
Hexachlorocyclopentadiene	0.3	ND
2-Chloronapthalene	0.3	ND
2-Nitroaniline	2	ND
Dimethylphthalate	0.3	ND
Acenaphthylene	0.3	ND
3-Nitroaniline	2	ND
Acenaphthene	0.3	ND
Dibenzofuran	0.3	ND
2,4-Dinitrotoluene	0.3	ND
2,6-Dinitrotoluene	0.3	ND
Diethylphthalate	0.3	ND
4-Chlorophenyl phenyl ether	0.3	ND
Fluorene	0.3	ND
4-Nitroaniline	2	ND
N-Nitrosodiphenylamine	0.3	ND
4-Bromophenyl phenyl ether	0.3	ND
Hexachlorobenzene	0.3	ND

PARAMETER	MRL	mg/Kg
Phenanthrene	0.3	ND
Anthracene	0.3	ND
Dibutylphthalate	0.3	ND
Fluoranthene	0.3	ND
Pyrene	0.3	ND
Butyl benzyl phthalate	0.3	ND
3,3'-Dichlorobenzidine	0.3	ND
Benzo(a)anthracene	0.3	ND
Bis(2-ethylhexyl)phthalate	0.3	ND
Chrysene	0.3	ND
Di-n-octyl phthalate	0.3	ND
Benzo(b)fluoranthene	0.3	ND
Benzo(k)fluoranthene	0.3	ND
Benzo(a)pyrene	0.3	ND
Indeno(1,2,3-c,d)pyrene	0.3	ND
Dibenzo(a,h)anthracene	0.3	ND
Benzo(g,h,i)perylene	0.3	ND
Phenol	0.3	ND
2-Chlorophenol	0.3	ND
Benzyl Alcohol	0.3	ND
2-Methylphenol	0.3	ND
4-Methylphenol	0.3	ND
2-Nitrophenol	0.3	ND
2,4-Dimethylphenol	0.3	ND
Benzoic Acid	2	ND
2,4-Dichlorophenol	0.3	ND
4-Chloro-3-methylphenol	0.3	ND
2,4,6-Trichlorophenol	0.3	ND
2,4,5-Trichlorophenol	0.3	ND
2,4-Dinitrophenol	2	ND
4-Nitrophenol	2	ND
2-Methyl-4,6-dinitrophenol	2	ND
Pentachlorophenol	2	ND

ND means None Detected at or above the MRL.
MRL means Method Reporting Limit.

Approved by Abbie Spielman Date 10/10/90

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COLUMBIA ANALYTICAL SERVICES. INC.

Analytical Report

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/21/90
DATE ANALYZED: 09/24/90
WORK ORDER #: K903342C

Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270
mg/Kg (ppm) As Received Basis

SAMPLE NAME: E55-5 Comp.
LAB CODE: 3342C-5

PARAMETER	MRL	mg/Kg
N-Nitrosodimethylamine	0.3	ND
Aniline	0.3	ND
Bis(2-chloroethyl)ether	0.3	ND
1,2-Dichlorobenzene	0.3	ND
1,3-Dichlorobenzene	0.3	ND
1,4-Dichlorobenzene	0.3	ND
Bis(2-chloroisopropyl)ether	0.3	ND
N-Nitroso-di-n-propyl-amine	0.3	ND
Hexachloroethane	0.3	ND
Nitrobenzene	0.3	ND
Isophorone	0.3	ND
Bis(2-Chloroethoxy)methane	0.3	ND
1,2,4-Trichlorobenzene	0.3	ND
Naphthalene	0.3	ND
4-Chloroaniline	0.3	ND
Hexachlorobutadiene	0.3	ND
2-Methylnaphthalene	0.3	ND
Hexachlorocyclopentadiene	0.3	ND
2-Chloronapthalene	0.3	ND
2-Nitroaniline	2	ND
Dimethylphthalate	0.3	ND
Acenaphthylene	0.3	ND
3-Nitroaniline	2	ND
Acenaphthene	0.3	ND
Dibenzofuran	0.3	ND
2,4-Dinitrotoluene	0.3	ND
2,6-Dinitrotoluene	0.3	ND
Diethylphthalate	0.3	0.3
4-Chlorophenyl phenyl ether	0.3	ND
Fluorene	0.3	ND
4-Nitroaniline	2	ND
N-Nitrosodiphenylamine	0.3	ND
4-Bromophenyl phenyl ether	0.3	ND
Hexachlorobenzene	0.3	ND

PARAMETER	MRL	mg/Kg
Phenanthrene	0.3	ND
Anthracene	0.3	ND
Dibutylphthalate	0.3	ND
Fluoranthene	0.3	ND
Pyrene	0.3	ND
Butyl benzyl phthalate	0.3	ND
3,3'-Dichlorobenzidine	0.3	ND
Benzo(a)anthracene	0.3	ND
Bis(2-ethylhexyl)phthalate	0.3	ND
Chrysene	0.3	ND
Di-n-octyl phthalate	0.3	ND
Benzo(b)fluoranthene	0.3	ND
Benzo(k)fluoranthene	0.3	ND
Benzo(a)pyrene	0.3	ND
Indeno(1,2,3-c,d)pyrene	0.3	ND
Dibenzo(a,h)anthracene	0.3	ND
Benzo(g,h,i)perylene	0.3	ND
Phenol	0.3	ND
2-Chlorophenol	0.3	ND
Benzyl Alcohol	0.3	ND
2-Methylphenol	0.3	ND
4-Methylphenol	0.3	ND
2-Nitrophenol	0.3	ND
2,4-Dimethylphenol	0.3	ND
Benzoic Acid	2	ND
2,4-Dichlorophenol	0.3	ND
4-Chloro-3-methylphenol	0.3	ND
2,4,6-Trichlorophenol	0.3	ND
2,4,5-Trichlorophenol	0.3	ND
2,4-Dinitrophenol	2	ND
4-Nitrophenol	2	ND
2-Methyl-4,6-dinitrophenol	2	ND
Pentachlorophenol	2	ND

ND means None Detected at or above the MRL.
MRL means Method Reporting Limit.

Approved by Abbie Spielman Date 10/10/90

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT. Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/27/90
DATE ANALYZED: 10/03/90
WORK ORDER #: K903342C

Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270
mg/Kg (ppm) As Received Basis

SAMPLE NAME: E55-6 Comp.
LAB CODE: 3342C-6

PARAMETER	MRL*	mg/Kg
N-Nitrosodimethylamine	3	ND
Aniline	3	ND
Bis(2-chloroethyl)ether	3	ND
1,2-Dichlorobenzene	3	ND
1,3-Dichlorobenzene	3	ND
1,4-Dichlorobenzene	3	ND
Bis(2-chloroisopropyl)ether	3	ND
N-Nitroso-di-n-propyl-amine	3	ND
Hexachloroethane	3	ND
Nitrobenzene	3	ND
Isophorone	3	ND
Bis(2-Chloroethoxy)methane	3	ND
1,2,4-Trichlorobenzene	3	ND
Naphthalene	3	ND
4-Chloroaniline	3	ND
Hexachlorobutadiene	3	ND
2-Methylnaphthalene	3	ND
Hexachlorocyclopentadiene	3	ND
2-Chloronapthalene	3	ND
2-Nitroaniline	20	ND
Dimethylphthalate	3	ND
Acenaphthylene	3	ND
3-Nitroaniline	20	ND
Acenaphthene	3	ND
Dibenzofuran	3	ND
2,4-Dinitrotoluene	3	ND
2,6-Dinitrotoluene	3	ND
Diethylphthalate	3	ND
4-Chlorophenyl phenyl ether	3	ND
Fluorene	3	ND
4-Nitroaniline	20	ND
N-Nitrosodiphenylamine	3	ND
4-Bromophenyl phenyl ether	3	ND
Hexachlorobenzene	3	ND

PARAMETER	MRL*	mg/Kg
Phenanthrene	3	ND
Anthracene	3	ND
Dibutylphthalate	3	ND
Fluoranthene	3	ND
Pyrene	3	ND
Butyl benzyl phthalate	3	ND
3,3'-Dichlorobenzidine	3	ND
Benzo(a)anthracene	3	ND
Bis(2-ethylhexyl)phthalate	3	ND
Chrysene	3	ND
Di-n-octyl phthalate	3	ND
Benzo(b)fluoranthene	3	ND
Benzo(k)fluoranthene	3	ND
Benzo(a)pyrene	3	ND
Indeno(1,2,3-c,d)pyrene	3	ND
Dibenzo(a,h)anthracene	3	ND
Benzo(g,h,i)perylene	3	ND
Phenol	3	ND
2-Chlorophenol	3	ND
Benzyl Alcohol	3	ND
2-Methylphenol	3	ND
4-Methylphenol	3	ND
2-Nitrophenol	3	ND
2,4-Dimethylphenol	3	ND
Benzoic Acid	20	ND
2,4-Dichlorophenol	3	ND
4-Chloro-3-methylphenol	3	ND
2,4,6-Trichlorophenol	3	ND
2,4,5-Trichlorophenol	3	ND
2,4-Dinitrophenol	20	ND
4-Nitrophenol	20	ND
2-Methyl-4,6-dinitrophenol	20	ND
Pentachlorophenol	20	ND

ND means None Detected at or above the MRL.
MRL means Method Reporting Limit.
* Elevated MRLs due to matrix interferences.

Approved by Abbie Spielman Date 10/10/90

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/27/90
DATE ANALYZED: 10/01/90
WORK ORDER #: K903342C

Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270
mg/Kg (ppm) As Received Basis

SAMPLE NAME: E55-7-S
LAB CODE: 3342C-7

PARAMETER	MRL*	mg/Kg
N-Nitrosodimethylamine	6	ND
Aniline	6	ND
Bis(2-chloroethyl)ether	6	ND
1,2-Dichlorobenzene	6	ND
1,3-Dichlorobenzene	6	ND
1,4-Dichlorobenzene	6	ND
Bis(2-chloroisopropyl)ether	6	ND
N-Nitroso-di-n-propyl-amine	6	ND
Hexachloroethane	6	ND
Nitrobenzene	6	ND
Isophorone	6	ND
Bis(2-Chloroethoxy)methane	6	ND
1,2,4-Trichlorobenzene	6	ND
Naphthalene	6	ND
4-Chloroaniline	6	ND
Hexachlorobutadiene	6	ND
2-Methylnaphthalene	6	ND
Hexachlorocyclopentadiene	6	ND
2-Chloronapthalene	6	ND
2-Nitroaniline	40	ND
Dimethylphthalate	6	ND
Acenaphthylene	6	ND
3-Nitroaniline	40	ND
Acenaphthene	6	ND
Dibenzofuran	6	ND
2,4-Dinitrotoluene	6	ND
2,6-Dinitrotoluene	6	ND
Diethylphthalate	6	ND
4-Chlorophenyl phenyl ether	6	ND
Fluorene	6	ND
4-Nitroaniline	40	ND
N-Nitrosodiphenylamine	6	ND
4-Bromophenyl phenyl ether	6	ND
Hexachlorobenzene	6	ND

PARAMETER	MRL*	mg/Kg
Phenanthrene	6	ND
Anthracene	6	ND
Dibutylphthalate	6	ND
Fluoranthene	6	ND
Pyrene	6	ND
Butyl benzyl phthalate	6	ND
3,3'-Dichlorobenzidine	6	ND
Benzo(a)anthracene	6	ND
Bis(2-ethylhexyl)phthalate	6	ND
Chrysene	6	ND
Di-n-octyl phthalate	6	ND
Benzo(b)fluoranthene	6	ND
Benzo(k)fluoranthene	6	ND
Benzo(a)pyrene	6	ND
Indeno(1,2,3-c,d)pyrene	6	ND
Dibenzo(a,h)anthracene	6	ND
Benzo(g,h,i)perylene	6	ND
Phenol	6	ND
2-Chlorophenol	6	ND
Benzyl Alcohol	6	ND
2-Methylphenol	6	ND
4-Methylphenol	6	ND
2-Nitrophenol	6	ND
2,4-Dimethylphenol	6	ND
Benzoic Acid	40	ND
2,4-Dichlorophenol	6	ND
4-Chloro-3-methylphenol	6	ND
2,4,6-Trichlorophenol	6	ND
2,4,5-Trichlorophenol	6	ND
2,4-Dinitrophenol	40	ND
4-Nitrophenol	40	ND
2-Methyl-4,6-dinitrophenol	40	ND
Pentachlorophenol	40	ND

ND means None Detected at or above the MRL
MRL means Method Reporting Limit
* Elevated MRLs due to matrix interferences.

Approved by Akhi Appelman Date 10/10/90

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/21/90
DATE ANALYZED: 09/24/90
WORK ORDER #: K903342C

Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270
mg/Kg (ppm) As Received Basis

SAMPLE NAME: Method Blank
LAB CODE: 3342C-MB

PARAMETER	MRL	mg/Kg
N-Nitrosodimethylamine	0.3	ND
Aniline	0.3	ND
Bis(2-chloroethyl)ether	0.3	ND
1,2-Dichlorobenzene	0.3	ND
1,3-Dichlorobenzene	0.3	ND
1,4-Dichlorobenzene	0.3	ND
Bis(2-chloroisopropyl)ether	0.3	ND
N-Nitroso-di-n-propyl-amine	0.3	ND
Hexachloroethane	0.3	ND
Nitrobenzene	0.3	ND
Isophorone	0.3	ND
Bis(2-Chloroethoxy)methane	0.3	ND
1,2,4-Trichlorobenzene	0.3	ND
Naphthalene	0.3	ND
4-Chloroaniline	0.3	ND
Hexachlorobutadiene	0.3	ND
2-Methylnaphthalene	0.3	ND
Hexachlorocyclopentadiene	0.3	ND
2-Chloronapthalene	0.3	ND
2-Nitroaniline	2	ND
Dimethylphthalate	0.3	ND
Acenaphthylene	0.3	ND
3-Nitroaniline	2	ND
Acenaphthene	0.3	ND
Dibenzofuran	0.3	ND
2,4-Dinitrotoluene	0.3	ND
2,6-Dinitrotoluene	0.3	ND
Diethylphthalate	0.3	ND
4-Chlorophenyl phenyl ether	0.3	ND
Fluorene	0.3	ND
4-Nitroaniline	2	ND
N-Nitrosodiphenylamine	0.3	ND
4-Bromophenyl phenyl ether	0.3	ND
Hexachlorobenzene	0.3	ND

PARAMETER	MRL	mg/Kg
Phenanthrene	0.3	ND
Anthracene	0.3	ND
Dibutylphthalate	0.3	ND
Fluoranthene	0.3	ND
Pyrene	0.3	ND
Butyl benzyl phthalate	0.3	ND
3,3'-Dichlorobenzidine	0.3	ND
Benzo(a)anthracene	0.3	ND
Bis(2-ethylhexyl)phthalate	0.3	ND
Chrysene	0.3	ND
Di-n-octyl phthalate	0.3	ND
Benzo(b)fluoranthene	0.3	ND
Benzo(k)fluoranthene	0.3	ND
Benzo(a)pyrene	0.3	ND
Indeno(1,2,3-c,d)pyrene	0.3	ND
Dibenzo(a,h)anthracene	0.3	ND
Benzo(g,h,i)perylene	0.3	ND
Phenol	0.3	ND
2-Chlorophenol	0.3	ND
Benzyl Alcohol	0.3	ND
2-Methylphenol	0.3	ND
4-Methylphenol	0.3	ND
2-Nitrophenol	0.3	ND
2,4-Dimethylphenol	0.3	ND
Benzoic Acid	2	ND
2,4-Dichlorophenol	0.3	ND
4-Chloro-3-methylphenol	0.3	ND
2,4,6-Trichlorophenol	0.3	ND
2,4,5-Trichlorophenol	0.3	ND
2,4-Dinitrophenol	2	ND
4-Nitrophenol	2	ND
2-Methyl-4,6-dinitrophenol	2	ND
Pentachlorophenol	2	ND

ND means None Detected at or above the MRL.
MRL means Method Reporting Limit.

Approved by Abbie Spielman Date 10/10/90

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/27/90
DATE ANALYZED: 10/01/90
WORK ORDER #: K903342C

Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270
mg/Kg (ppm) As Received Basis

SAMPLE NAME: Method Blank
LAB CODE: 3342C-MB

PARAMETER	MRL	mg/Kg
N-Nitrosodimethylamine	0.3	ND
Aniline	0.3	ND
Bis(2-chloroethyl)ether	0.3	ND
1,2-Dichlorobenzene	0.3	ND
1,3-Dichlorobenzene	0.3	ND
1,4-Dichlorobenzene	0.3	ND
Bis(2-chloroisopropyl)ether	0.3	ND
N-Nitroso-di-n-propyl-amine	0.3	ND
Hexachloroethane	0.3	ND
Nitrobenzene	0.3	ND
Isophorone	0.3	ND
Bis(2-Chloroethoxy)methane	0.3	ND
1,2,4-Trichlorobenzene	0.3	ND
Naphthalene	0.3	ND
4-Chloroaniline	0.3	ND
Hexachlorobutadiene	0.3	ND
2-Methylnaphthalene	0.3	ND
Hexachlorocyclopentadiene	0.3	ND
2-Chloronapthalene	0.3	ND
2-Nitroaniline	2	ND
Dimethylphthalate	0.3	ND
Acenaphthylene	0.3	ND
3-Nitroaniline	2	ND
Acenaphthene	0.3	ND
Dibenzofuran	0.3	ND
2,4-Dinitrotoluene	0.3	ND
2,6-Dinitrotoluene	0.3	ND
Diethylphthalate	0.3	0.3
4-Chlorophenyl phenyl ether	0.3	ND
Fluorene	0.3	ND
4-Nitroaniline	2	ND
N-Nitrosodiphenylamine	0.3	ND
4-Bromophenyl phenyl ether	0.3	ND
Hexachlorobenzene	0.3	ND

PARAMETER	MRL	mg/Kg
Phenanthrene	0.3	ND
Anthracene	0.3	ND
Dibutylphthalate	0.3	ND
Fluoranthene	0.3	ND
Pyrene	0.3	ND
Butyl benzyl phthalate	0.3	ND
3,3'-Dichlorobenzidine	0.3	ND
Benzo(a)anthracene	0.3	ND
Bis(2-ethylhexyl)phthalate	0.3	ND
Chrysene	0.3	ND
Di-n-octyl phthalate	0.3	ND
Benzo(b)fluoranthene	0.3	ND
Benzo(k)fluoranthene	0.3	ND
Benzo(a)pyrene	0.3	ND
Indeno(1,2,3-c,d)pyrene	0.3	ND
Dibenzo(a,h)anthracene	0.3	ND
Benzo(g,h,i)perylene	0.3	ND
Phenol	0.3	ND
2-Chlorophenol	0.3	ND
Benzyl Alcohol	0.3	ND
2-Methylphenol	0.3	ND
4-Methylphenol	0.3	ND
2-Nitrophenol	0.3	ND
2,4-Dimethylphenol	0.3	ND
Benzoic Acid	2	ND
2,4-Dichlorophenol	0.3	ND
4-Chloro-3-methylphenol	0.3	ND
2,4,6-Trichlorophenol	0.3	ND
2,4,5-Trichlorophenol	0.3	ND
2,4-Dinitrophenol	2	ND
4-Nitrophenol	2	ND
2-Methyl-4 6-dinitrophenol	2	ND
Pentachlorophenol	2	ND

ND means None Detected at or above the MRL
MRL means Method Reporting Limit

Approved by Abbie Spielman Date 10/10/90

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COLUMBIA ANALYTICAL SERVICES, INC.

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/27/90
WORK ORDER #: K903342C

QA/QC Report
Surrogate Recovery Summary
Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270

	Percent Recovery			
Sample Name:	E55-1 Comp.	E55-2 Comp.	E55-6 Comp.	EPA % Acceptance Criteria
Lab Code:	3342C-1	3342C-2	3342C-6	
Parameter				
2-Fluorophenol	NA	NA	NA	25-121
D_6-Phenol	NA	NA	NA	24-113
2,4,6-Tribromophenol	NA	NA	NA	19-122
D_5-Nitrobenzene	NA	NA	NA	23-120
2-Fluorobiphenyl	NA	NA	NA	30-115
D_{14}-Terphenyl	NA	NA	NA	18-137

NA means Not Applicable due to sample matrix. Surrogates are below the MRL since this sample matrix required extra dilutions prior to instrumental analysis.

Approved by Abhi Spilman Date 10/10/90

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COLUMBIA ANALYTICAL SERVICES, INC.

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/21/90
WORK ORDER #: K903342C

QA/QC Report
Surrogate Recovery Summary
Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270

	Percent Recovery	
Sample Name:	E55-3 Comp.	EPA % Acceptance Criteria
Lab Code:	3342C-3	
Parameter		
2-Fluorophenol	95.9	25-121
D_6-Phenol	88.5	24-113
2,4,6-Tribromophenol	94.5	19-122
D_5-Nitrobenzene	70.8	23-120
2-Fluorobiphenyl	97.6	30-115
D_{14}-Terphenyl	87.4	18-137

Approved by Abhi Spielman Date 10/10/90

APPENDIX A

LABORATORY QC RESULTS

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COLUMBIA ANALYTICAL SERVICES, INC.

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/20/90
WORK ORDER #: K903342C

QA/QC Report
Surrogate Recovery Summary
Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270

	Percent Recovery	
Sample Name:	E55-4 Comp.	EPA % Acceptance Criteria
Lab Code:	3342C-4	
Parameter		
2-Fluorophenol	70.0	25-121
D_6-Phenol	92.6	24-113
2,4,6-Tribromophenol	31.2	19-122
D_2-Nitrobenzene	84.5	23-120
2-Fluorobiphenyl	79.3	30-115
D_{14}-Terphenyl	72.8	18-137

Approved by Abhi Afzulmer Date 10/10/90

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COLUMBIA ANALYTICAL SERVICES, INC.

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/21/90
WORK ORDER #: K903342C

QA/QC Report
Surrogate Recovery Summary
Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270

	Percent Recovery			
Sample Name:	E55-5 Comp.	E55-5 Comp.	E55-5 Comp.	EPA % Acceptance
Lab Code:	3342C-5	3342C-5MS	3342C-5DMS	Criteria
Parameter				
2-Fluorophenol	89.4	83.6	83.8	25-121
D_6-Phenol	110	73.3	70.9	24-113
2,4,6-Tribromophenol	86.6	80.8	78.1	19-122
D_5-Nitrobenzene	97.1	91.3	95.6	23-120
2-Fluorobiphenyl	85.5	82.0	85.2	30-115
D_{14}-Terphenyl	78.6	84.4	88.3	18-137

Approved by Abi Apilman Date 10/10/90

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COLUMBIA ANALYTICAL SERVICES, INC.

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/21/90
DATE ANALYZED: 09/24/90
WORK ORDER #: K903342C

QA/QC Report
Matrix Spike Summary
Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Methods 3540/8270
mg/Kg (ppm)

Sample Name: E55-5 Comp.
Lab Code: 3342C-5

Compound	Spike Level	Sample Result	Spike Result MS	Spike Result DMS	Spike Percent Recovery MS	Spike Percent Recovery DMS	EPA % Acceptance Criteria
Phenol	20	ND	13.7	13.9	68.3	69.4	26-90
2-Chlorophenol	20	ND	12.9	12.9	64.5	64.5	25-102
1,4-Dichlorobenzene	4	ND	3.43	3.50	85.8	87.5	28-104
N-Nitroso-di-n-propyl amine	4	ND	4.82	4.99	121	125	41-126
1,2,4-Trichlorobenzene	4	ND	3.07	3.18	76.8	79.5	38-107
4-Chloro-3-methylphenol	20	ND	16.9	17.7	84.4	88.5	26-103
Acenaphthene	4	ND	3.21	3.29	80.3	82.3	31-137
4-Nitrophenol	20	ND	13.2	12.4	65.9	61.8	11-114
2,4-Dinitrotoluene	4	ND	3.29	3.54	82.3	88.5	28-89
Pentachlorophenol	20	ND	12.4	12.2	62.0	61.0	17-109
Dibutylphthalate	4	ND	3.73	4.00	93.3	100	29-135
Pyrene	4	ND	3.07	3.39	76.8	84.8	35-142

ND means None Detected

Approved by Abhi Spielman Date 10/10/90

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COLUMBIA ANALYTICAL SERVICES, INC.

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/21/90
WORK ORDER #: K903342C

QA/QC Report
Surrogate Recovery Summary
Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270

	Percent Recovery	
Sample Name:	Method Blank	EPA % Acceptance
Lab Code:	3342C-MB	Criteria
Parameter		
2-Fluorophenol	87.2	25-121
D_6-Phenol	105	24-113
2,4,6-Tribromophenol	67.3	19-122
D_5-Nitrobenzene	95.2	23-120
2-Fluorobiphenyl	84.5	30-115
D_{14}-Terphenyl	76.6	18-137

Approved by Abbie Spielman Date 10/10/90

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COLUMBIA ANALYTICAL SERVICES, INC.

CLIENT: EMCON Associates
SUBMITTED BY: Joanne Brown
PROJECT: Diversey/#E55-01.01
SAMPLE DESCRIPTION: Soil

DATE RECEIVED: 09/14/90
DATE EXTRACTED: 09/27/90
WORK ORDER #: K903342C

QA/QC Report
Surrogate Recovery Summary
Acid/Base Neutral Semi-Volatile Organic Analytes
EPA Method 3540/8270

	Percent Recovery		
Sample Name:	E55-7 S	Method Blank	EPA % Acceptance
Lab Code:	3342C-7	3342C-MB	Criteria
Parameter			
2-Fluorophenol	NA	76.7	25-121
D_6-Phenol	NA	91.0	24-113
2,4,6-Tribromophenol	NA	76.1	19-122
D_5-Nitrobenzene	NA	81.8	23-120
2-Fluorobiphenyl	NA	92.1	30-115
D_{14}-Terphenyl	NA	68.6	18-137

NA means Not Applicable due to sample matrix. Surrogates are below the MRL since this sample matrix required extra dilutions prior to instrumental analysis.

Approved by Abhi Ghulmen Date 10/10/90

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APPENDIX B

CHAIN OF CUSTODY INFORMATION

SAMPLING AND ANALYSIS CHAIN OF CUSTODY RECORD

EMCON

PROJECT NO E55-01.01 SAMPLE TYPE SOIL EMCON LABORATORY NO

Sample Information			Bottle Information				Lab Information		Chain of Custody Documentation							
Sample ID	Lab ID	Parameters	No	Type	Pres.	Filt	Lab	PO #	Sampler	Date	Rec'd By	Date	Comments	Rec'd By	Date	Comments
E55 -1-2		EPA 8270	1		UP	N			PH/DT	9/12/90	RA	9/14	OK			
E-55 -1-4																
E-55 -2-2																
E55 -2-4																
E55 -3-2																
E55 -3-4																
E55 -4-2																
E55 -4-4																
E55 -5-2																
E55 -5-4																
E-55 -6-2																
E55 -6-4																

Sampled By

Laboratory Representative

Relinquished By

Received By

Relinquished By

Received By Ruth Allison 9/14/90

Relinquished By

Received By

SAMPLING AND ANALYSIS CHAIN OF CUSTODY RECORD

EMCON

PROJECT NO ESS-01.01 SAMPLE TYPE SOIL EMCON LABORATORY NO

Sample Information			Bottle Information				Lab Information		Chain of Custody Documentation							
Sample ID	Lab ID	Parameters	No	Type	Pres.	Fill	Lab	PO #	Sampler	Date	Rec'd By	Date	Comments	Rec'd By	Date	Comments
ESS -7-S		EPA 8270	1		NP	N			DJ/PH	9-12-9	RA	9/14	OK			

Sampled By

Laboratory Representative

Relinquished By

Received By

Relinquished By

Received By Ruth Allison 9/14/90

Relinquished By

Received By

EMCON

SOIL SAMPLING AND ANALYSIS REQUEST

DATE SUBMITTED 9-13-90

PURCHASE ORDER NO. _____

PROJECT NAME DIVERSEY SOILS ANALYSIS PROJECT NO. ESS 01 01

PROJECT ADDRESS 8921 DICE RD
SANTA FE SPRINGS, CA 90670 REQUESTED BY D. JACKSON

SAMPLING DATE REQUESTED _____ PROJECT MANAGER D. JACKSON

LABORATORY CAS _____ TURNAROUND TIME (2)-4 WEEKS PREFER

SEND COPY OF: FIELD NOTES TO _____ CERTIFIED ANALYTICAL REPORTS TO _____

SOIL CONTAINMENT (DRUMS, STOCK PILE, ETC) BRASS RINGS / TEFLON CAPPED

NAME & PHONE NUMBER OF SITE CONTACT D. JACKSON 818 841 1160

TOTAL HOURS ALLOTTED _____

LOCATIONS CONTAINING CONTAMINANTS _____

SPECIAL INSTRUCTIONS OR CONSIDERATIONS COMPOSITE SAMPLES 1 & 2 FROM EACH BORE LOCATION (2' & 4' DEPTHS) – SAMPLE ESS-7- DOES NOT REQ COMPOSITING

SAMPLE IN SEQUENCE BELOW YES ☐ NO ☐ NA

BORING NO. OR SOURCE	SAMPLE DEPTH	ANALYSES REQUESTED (Mark indicate matrix number)
ESS-1-2	2'	EPA METHOD 8270 (SEMI-VOLATILE)
ESS-1-4	4'	
ESS-2-2	2'	
ESS-2-4	4'	
ESS-3-2	2'	
ESS-3-4	4'	
ESS-4-2	2'	
ESS-4-4	4'	
ESS-5-2	2'	
ESS-5-4	4'	
ESS-6-2	2'	
ESS-6-4	4'	8015M for HBMC added 10/5/90 AS
ESS-7-S	SURFACE	

NOTE: Please include a copy of the Site Safety Plan, a Thomas Brothers map showing directions to the site, and a boring location map with this request.

APPENDIX C

MSDS'S FOR SHELLFLEX 214 AND TELURA 619

MATERIAL SAFETY DATA SHEET

459150

Shell

MSDS NUMBER ▶ 8420-3

SECTION I	NAME	24 HOUR EMERGENCY ASSISTANCE
PRODUCT ▶	SHELLFLEX 114	SHELL 713-473-9461
CHEMICAL SYNONYMS ▶	Petroleum Oil	CHEMTREC 800-424-9300
CHEMICAL FAMILY ▶	Hydrocarbon Oil	HAZARD RATING
SHELL CODE ▶ 86100	CAS NUMBER ▶ 64742-01-6	LEAST 0 ▶ SLIGHT 1 ▶ MODERATE 2 ▶ HIGH 3 ▶ EXTREME 4

SECTION II	INGREDIENTS	
COMPOSITION	%	TOXICITY DATA
SHELLFLEX 114	100	Not Determined
Petroleum Hydrocarbons	100	Oral LD_{50}, rat > 5g/kg*
		Dermal LD_{50}, rabbit > 2g/kg*

*Values are estimates based upon tests using similar oils.

SECTION III	HEALTH INFORMATION

Petroleum oils of this type are generally considered to be of a low order of acute toxicity to humans and experimental animals.

Exposure to vapors or mist of this product may cause pulmonary irritation, dizziness and nausea. Prolonged or repeated contact may cause various skin disorders such as dermatitis, folliculitis or oil acne.

The petroleum hydrocarbons in this product are a complex mixture of paraffinic, naphthenic and aromatic hydrocarbons. As in other petroleum oils, the aromatics contain polycyclic compounds of various concentrations and structures. Some of these polycyclics may be those which have been shown to induce cancer in animals under laboratory conditions. Epidemiologic studies on other petroleum products containing polycyclic aromatics suggested the possibility of skin cancer induction in man after prolonged and repeated contact. Inhalation of mists arising from oils containing these materials may also present a cancer hazard.

This specific product has not been tested in long-term, chronic exposure tests. Therefore, the presence of polycyclic aromatic hydrocarbons requires that handling procedures and safety precautions in this MSDS be followed to minimize employees' exposure.

SECTION IV	OCCUPATIONAL EXPOSURE LIMITS

Oil Mist:

ACGIH-TLV/TWA = 5 mg/m³; ACGIH-TLV/STEL = 10 mg/m³

OSHA-PEL/TWA = 5 mg/m³ (see NIOSH/OSHA Occupational Health Guidelines for Chemical Hazards)

Shell MATERIAL SAFETY DATA SHEET MSDS NUMBER ▶ [illegible]
PAGE 2 OF 4

SECTION V — EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Flush with water for 15 minutes while holding eyelids open. Get medical attention.

SKIN CONTACT: Remove contaminated clothing and wipe excess off. Wash with soap and water or a waterless hand cleaner followed by soap and water. Do not reuse clothing until thoroughly cleaned. If irritation persists, get medical attention.

INHALATION: Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention.

INGESTION: Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical advice.*

*NOTE TO THE PHYSICIAN: In general, emesis induction is unnecessary in high viscosity, low volatility products, i.e. most oils and greases.

SECTION VI — PHYSICAL DATA

BOILING POINT (°F)	N.A.	MELTING POINT (°F)	N.A.	VAPOR PRESSURE (mmHg)	N.A.
SPECIFIC GRAVITY (H2O=1)	0.92	% VOLATILE BY VOLUME	N.A.	VAPOR DENSITY (AIR=1)	N.A.
SOLUBILITY IN WATER	Insoluble	EVAPORATION RATE (BUTYL ACETATE=1)	N.A.	N.A. = Not Available	

APPEARANCE AND ODOR

Light colored oil. Slight odor.

SECTION VII — FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD USED: [illegible] COC (minimum)

FLAMMABLE LIMITS % VOLUME IN AIR ▶ LOWER: N.A. UPPER: N.A.

EXTINGUISHING MEDIA

Use water fog, foam, dry chemical or CO_2. Do not use a direct stream of water. Product will float and can be reignited on surface of water.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS

Do not enter confined fire space without proper protective equipment including a NIOSH approved self-contained breathing apparatus. Cool fire-exposed containers with water.

UNUSUAL FIRE AND EXPLOSION HAZARDS

None unusual.

SECTION VIII — REACTIVITY

STABILITY ▶ ___ UNSTABLE X STABLE HAZARDOUS POLYMERIZATION ▶ ___ MAY OCCUR X WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID

Avoid heat, open flames, oxidizing materials and mist formation.

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon monoxide and unidentified organic compounds may be formed during combustion.

SECTION IX — EMPLOYEE PROTECTION

RESPIRATORY PROTECTION

If exposure may or does exceed occupational exposure limits (Sec.IV) use a NIOSH-approved respirator to prevent overexposure. In accord with 29 CFR 1910.134 use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors and particulates.

PROTECTIVE CLOTHING

Wear gloves and other protective clothing as required to minimize skin contact. Wear safety glasses or goggles to avoid eye contact.

ADDITIONAL PROTECTIVE MEASURES

--

SECTION X — ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES

May burn although not readily ignitable. Use cautious judgment when cleaning up large spills.

Large spills: Wear respirator and protective clothing as appropriate. Shut off source of leak if safe to do so. Dike and contain. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; dispose of properly. Flush area with water to remove trace residue.
Small spills: take up with an absorbent material and dispose of properly.

WASTE DISPOSAL

Place in an appropriate disposal facility in compliance with local regulations.

ENVIRONMENTAL HAZARDS

This product is an "oil" under the Clean Water Act. KEEP OUT OF SURFACE WATERS AND ANY WATER COURSES OR SEWERS ENTERING OR LEADING TO SURFACE WATERS. See Section VIII.

MATERIAL SAFETY DATA SHEET

Shell

MSDS NUMBER ▶ [illegible]

SECTION XI — SPECIAL PRECAUTIONS

Minimize skin contact. Wash with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse. Properly dispose of contaminated leather articles, including shoes, that cannot be decontaminated.

SECTION XII — TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION CLASSIFICATION ▶

___ FLAMMABLE LIQUID	___ COMBUSTIBLE LIQUID	___ OXIDIZING MATERIAL	___ NON-FLAMMABLE GAS
___ FLAMMABLE SOLID	___ POISON,CLASS A	___ CORROSIVE MATERIAL	X NOT HAZARDOUS BY D.O.T. REGULATIONS
___ FLAMMABLE GAS	___ POISON,CLASS B	___ IRRITATING MATERIAL	___ OTHER-Specify below

D.O.T. PROPER SHIPPING NAME

None

OTHER REQUIREMENTS

Bill of Lading Commodity Description: Truck - Petroleum Oil NOIEN
Rail - Petroleum Rubber Extender or Rubber Processing Oil

SECTION XIII — OTHER REGULATORY CONTROLS

EPA/FDA/OSHA/USDA/CPSC etc.

EPA - Clean Water Act (CWA)
This product is classified as an oil under Section 311 of the Clean Water Act. Spills entering (a) surface waters or (b) any watercourses or sewers entering/leading to surface waters that cause a sheen MUST be reported to the National Response Center, 800-424-8802.

The information contained herein is based on data considered accurate. However no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.
Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore vendee assumes the risk in his use of the material.

BE SAFE
READ OUR PRODUCT SAFETY INFORMATION ... AND PASS IT ON
PRODUCT LIABILITY LAW REQUIRES IT

John P. Lepori
Manager

SHELL OIL COMPANY
PRODUCT SAFETY AND COMPLIANCE
OIL AND CHEMICAL PRODUCTS
P.O. BOX 4320
HOUSTON,TEXAS 77210

DATE PREPARED
May 10, 1980

Mineral Oil Paraffinic [illegible]

EXXON [illegible]

DATE ISSUED [illegible]
SUPERSEDES DATE [illegible]

MATERIAL SAFETY DATA SHEET

EXXON COMPANY, U.S.A. P.O. BOX 2180 HOUSTON, TX 77252-2180

A. IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME
TELURA 619

PRODUCT CODE
333091 - 03091

CHEMICAL NAME
Petroleum Process Oil

CAS NUMBER
64742-54-7 or
64742-65-0

PRODUCT APPEARANCE AND ODOR
Clear liquid, light yellow color
Mild, bland petroleum odor

EMERGENCY TELEPHONE NUMBER
(713) 656-3424

B. COMPONENTS AND HAZARD INFORMATION

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Hydrotreated heavy paraffinic distillate, petroleum	64742-54-7	100%
or	or	
Solvent dewaxed heavy paraffinic distillate, petroleum	64742-65-0	

See Section E for Health and Hazard Information

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

EXPOSURE LIMIT FOR TOTAL PRODUCT	BASIS
5 mg/m3 for oil mist in air	OSHA Regulation 29 CFR 1910.1000

C. PRIMARY ROUTES OF ENTRY AND EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN
In case of skin contact, remove any contaminated clothing and wash skin thoroughly with soap and water

INHALATION
Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen, if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.

INGESTION
If ingested, DO NOT induce vomiting; call a physician immediately.

[illegible]

hydrotreatment and extraction. Alternatively, it may consist of components not otherwise affected by IARC criteria, such as vacuum distillates or synthetically derived materials, and as such is not characterized by current IARC classification criteria.

Prolonged or repeated skin contact with this product tends to remove skin oils possibly leading to irritation and dermatitis; however, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

Product contacting the eyes may cause eye irritation.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

This product is judged to have an acute oral LD50 (rat) greater than 5 g/kg of body weight, and an acute dermal LD50 (rabbit) greater than 3.16 g/kg of body weight.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE
None Recognized

F. PHYSICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE
IBP Approximately 271°C (520°F)
by ASTM D 2887

SPECIFIC GRAVITY (15.6 C/15.6 C)
0.86

MOLECULAR WEIGHT
Approximately 350

pH
Essentially neutral

POUR, CONGEALING OR MELTING POINT
-18°C (0°F)
Pour Point by ASTM D 97

VISCOSITY
104 SSU @ 100°F

VAPOR PRESSURE
Less than 0.01 mm Hg @ 20°C

VAPOR DENSITY (AIR = 1)
Greater than 5

PERCENT VOLATILE BY VOLUME
Negligible from open container
in 4 hours @ 38°C (100°F)

EVAPORATION RATE @ 1 ATM. AND 25 C (77 F)
(n-BUTYL ACETATE = 1)
Less than 0.01

SOLUBILITY IN WATER @ 1 ATM. AND 25 C (77 F)
Negligible; less than 0.1%

G. REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite.

H. ENVIRONMENTAL INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Recover free product. Add sand, earth, or other suitable absorbent to spill area. Minimize skin contact. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas. Assure conformity with applicable governmental regulations.

REPORTABLE QUANTITY (RQ), EPA REGULATION 40 CFR 302
Not applicable

and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use.

The Environmental Information included under Section H hereof as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by Exxon Company, U.S.A. in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with Exxon's interpretation of the available data.

FOR ADDITIONAL INFORMATION ON HEALTH EFFECTS CONTACT:
DIRECTOR OF INDUSTRIAL HYGIENE
EXXON COMPANY, U.S.A.
P. O. BOX 2180 ROOM 3157
HOUSTON, TX 77252-2180
(713) 656-2443

FOR OTHER PRODUCT INFORMATION CONTACT:

MANAGER, MARKETING TECHNICAL SERVICES
EXXON COMPANY, U.S.A.
P. O. BOX 2180 ROOM 2355
HOUSTON, TX 77252-2180
(713) 656-5949

APPENDIX D

LWM ACCEPTANCE CRITERIA AND BLANK PREDISPOSAL DATA SHEET

Liquid Waste Management, Inc.

Star Route Box 4 • McKittrick, California 93251
Office (805) 762-7366

To Whom It May Concern:

This letter is in response to your request for information concerning waste acceptance parameters at our facility.

At present we accept soils contaminated with a variety of petroleum products ranging from gasoline to crude oil. The main constituents and the analytical parameters are presented below.

Constituent	Required Test	Limits (PPM)
GASOLINE	TPH	1000
	BTXE	20 (ANY ONE)
	ORGANIC LEAD	13 TTLC
DIESEL	TPH	4000
WASTE OIL	TPH	10000
	CAM METALS	SEE ATTACHMENT
	SOLVENT SCREEN	SEE NOTE*
CRUDE OIL	TPH	100000

* Solvent screening must be accomplished if solvent usage is known or suspected as a contaminant.

Other contaminants may be considered on a case by case basis. Be advised that these are guidelines only and that they may change without notice.

Waste streams submitted for acceptance must further be tested for other known or suspected contaminants. Further, it must be tested for other Title 22 hazardous parameters or reason must be shown either by past experience or knowledge of the generating process that said parameters do not apply.

All trucks entering the site must be accompanied by a non-hazardous manifest with the approved number clearly legible at the top.

METALS PARAMETERS

METAL PARAMETER	ACCEPTABLE TTLC	ACCEPTABLE STLC
ANTIMONY	500	15
ARSENIC	25	5
ASBESTOS	NON-	NONE
BARIUM	1000	100
BERYLLIUM	5	0.75
CADMIUM	20	0.50
CHROMIUM	50	5.0
COBALT	80	15
COPPER	100	25
LEAD	80	3.5
MERCURY	1.0	0.01
MOLYBDENUM	100	50
NICKEL	250	15
SELENIUM	25	0.50
SILVER	.5	5
THALLIUM	150	7
VANADIUM	200	30
ZINC	500	50

(STLC AS MG/L, TTLC AS MG/KG)

THESE PARAMETERS ARE SELF IMPOSED BY THE MANAGEMENT OF LIQUID WASTE MANAGEMENT. SLIGHT MODIFICATIONS MAY BE MADE ON A CASE BY CASE BASIS. FAILURE TO MEET THESE PARAMETERS DOES NOT NECESSARILY DENY DISPOSAL AS CLASS II AT OTHER TSDF FACILITIES.

LIQUID WASTE MANAGEMENT INCORPORATED
PRE-DISPOSAL DATA SHEET NO. _____

GENERATOR NAME: _____ TECHNICAL CONTACT: _____

ADDRESS: _____ PHONE NUMBER: ( ) _____

_____

WASTE NAME AND GENERATING PROCESS: _____

POTENTIAL HAZARDS & EXPECTED VOLUME: _____

TRANSPORTER NAME: _____ TECHNICAL CONTACT: _____

ADDRESS: _____ PHONE NUMBER: ( ) _____

_____

CHEMICAL COMPOSITION:

_____ [ ]PPM [ ]%
_____ [ ]PPM [ ]%
_____ [ ]PPM [ ]%
_____ [ ]PPM [ ]%
_____ [ ]PPM [ ]%
_____ [ ]PPM [ ]%
_____ [ ]PPM [ ]%
_____ [ ]PPM [ ]%
_____ [ ]PPM [ ]%

CORROSIVITY: pH * _____

REACTIVITY: N[ ] Y[ ] AIR[ ] H2O[ ]

CYANIDE: _____

SULFIDE: _____

IGNITABILITY: FLASH PT. _____

METALS: STLC[ ] TTLC[ ]:

_____ _____ _____ _____ _____
_____ _____ _____ _____ _____
_____ _____ _____ _____ _____
_____ _____ _____ _____ _____

TOXICITY: TOXIC PROPERTIES OR COMPONENTS PRESENT IN ANY AMOUNT: _____

HALOGENATED COMPOUNDS: _____

CHLORINATED COMPOUNDS: _____

ODOR: _____ LAYERS: _____ COLOR: _____

GENERATOR HEREBY CERTIFIES THAT THE ABOVE INFORMATION IS TRUE TO THE BEST OF HIS KNOWLEDGE AND AGREES TO NOTIFY LIQUID INC. IF INFORMATION CHANGES AND THAT ANY SAMPLES TAKEN WERE IN ACCORDANCE WITH FEDERAL AND STATE PRACTICES

SIGNATURE: _____ DATE: _____