IM /d

John Hall, Chairman
B. J. Wynne, III, Commissioner
Pam Reed, Commissioner

TEXAS WATER COMMISSION

PROTECTING TEXANS' HEALTH AND SAFETY BY PREVENTING AND REDUCING POLLUTION

January 7, 1992

Mr. Cecil A. Scott, Works Manager
Lubrizol Corporation
P.O. Box 158
Deer Park, Texas 77536-0158

Re: Wastewater Treatment System
Deer Park Plant
Permit No. 00639

9155423

Dear Mr. Scott:

On December 4, 1991, Field Investigator Mike Pfeil conducted an annual compliance inspection of the above-referenced facility. Mr. Clark Hopper accompanied him. A composite sample of the final effluent complied with permit parameters. Grab sample results are pending for metals.

However, a review of the noncompliance notifications provided for the past year revealed deficiencies in reporting procedures. According to those notifications, spills and/or accidental discharges occurred on December 26, 1990, March 7, 1991, and September 4 and 5, 1991. These were not reported to the Texas Water Commission as required by the Texas Water Code, Chapter 26.039(b), which states:

> Whenever an accidental discharge or spill occurs at or from any activity or facility which causes or may cause pollution, the individual operating, in charge of, or responsible for the activity or facility shall notify the Commission as soon as possible and not later than 24 hours after the occurrence.

Chapter 26.039(a) of the Texas Water Code defines the following:

> (1) "Accidental discharge" means an act or omission through which waste or other substances are inadvertently discharged into the water in the state.
>
> (2) "Spill" means an act or omission through which waste or other substances are deposited where, unless controlled or removed, they will drain, seep, run, or otherwise enter water in the state.

> (3) "Other substances" means substances which may be useful or valuable and therefore not ordinarily considered to be waste, but which will cause pollution if discharged into water in the state.

As defined by Title 31 Texas Administrative Code 307.3(a)(37), your receiving streams from permitted outfalls qualify as State waters. The following bodies of water are defined as surface waters of the State:

> Lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals...and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or nonnavigable, and including the beds and banks of watercourses and bodies of surface water, that are wholly or partially inside or bordering the state or subject to the jurisdiction of the state.

Please keep in mind that, unlike the United States Environmental Protection Agency (US EPA) regulations, the Texas Water Code makes no provisions for reportable quantities. Thus, all spills must be reported, either to the local office during business hours or via the 24-hour telephone number (512/463-7727) during non-business hours.

These procedures should be followed for all future incidents regarding spills and/or bypasses.

A copy of the inspection report is enclosed at your request. Should you or your staff have any questions, please contact Mike Pfeil or Jay Muschenheim of this office.

Sincerely,

Donna G. Phillips

Donna G. Phillips
Water Quality Manager

DGP/MBP/vjn

Enclosure

EPA

United States Environmental Protection Agency
Washington, D. C. 20460

NPDES Compliance Inspection Report

Form Approved.
OMB No. 2040-0057
Approval expires 4-30-88

Section A: National Data System Coding

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
1 W 2 5	3 T X 0 0 0 7 0 4 8 11	12 9 1 1 2 0 4 17	18 S	19 S	20 2

Remarks

21 66

Reserved	Facility Evaluation Rating	BI	QA	Reserved
67 69	70 3	71 N	72 N	73 74 75 80

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Lubrizol Corporation 41 Tidal Road Deer Park, Texas 77536	8:50 ☒ AM ☐ PM Exit Time/Date 2:40pm 12/4/91	1/16/90 Permit Expiration Date 1/15/95

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
Clark Hopper James Camp	Env. Affairs Mgr. Lab Tech	(713) 479-2851 "

Name, Address of Responsible Official	Title	Contacted
Cecil A. Scott P.O. Box 158 Deer Park, Texas 77536-0158	Works Manager Phone No. (713) 479-2851	☐ Yes ☒ No

Section C: Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	S	Flow Measurement	N	Pretreatment	S	Operations & Maintenance
S	Records/Reports	S	Laboratory	S	Compliance Schedules	S	Sludge Disposal
S	Facility Site Review	S	Effluent/Receiving Waters	S	Self-Monitoring Program	S	Other:

Section D: Summary of Findings/Comments *(Attach additional sheets if necessary)*

A 1 MGD equalization tank is being constructed just prior to the API seperators. This is hoped to control excursions during wet weather.
In addition, several storm water retention tanks are also being planned.

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Telephone	Date
Michael B. Pfeil Michael B Pfeil	TWC/District 7/(713) 457-5196	1-7-92

Signature of Reviewer	Agency/Office	Date
Donna Phillips	TWC/District 7	1-7-92

Regulatory Office Use Only

Action Taken	Date	Compliance Status
		☐ Noncompliance ☐ Compliance

EPA Form 3560-3 (Rev. 3-85) Previous editions are obsolete.

State Permit No. WQ0000639
NPDES Permit No. TX0007048

TEXAS WATER COMMISSION
INDUSTRIAL DISCHARGE WWTP—INSPECTION REPORT

Permittee Name	Facility Name
Lubrizol Corporation	Deer Park Plant
Permittee Address P.O. Box 158 Deer Park, Texas 77536-0158	Type Industry gas additives; lubricating oils Inspection Date 12/4/91 — District 7

Officials	Title	Check if contacted	Phone
Cecil A. Scott	Works Manager	( )	(713) 479-2851
Clark Hopper	Env. Affairs Manager	(X)	(713) 479-2851
Norman Mollard	Env. Engineer	( )	"
James Camp	Lab Tech	( )	"

A. **TYPE TREATMENT PLANT.** Attach schematic of disposal/treatment systems and/or maps showing outfalls and major components of system.

B. **INSPECTION SAMPLE RESULTS.**

Outfall & Parameter	Measured Value	Permitted Value	Type Sample	COC Tag No.	Primary Source of Wastewater
001					Treated process wastewater, treated stormwater and contaminated groundwater
Flow MGD	.9089	1.440	totalizer	IN02167	
BOD lb/day	45.5	194	24hr. comp.	"	
TSS lb/day	219.8	909	"	"	
TOC lb/day	348.7	1488	"	"	
Zinc mg/l	*	2.0	"	HM03506	
O&G lb/day	< 37.9	180	grab	IN02136	
T° F	63	120	in-situ	IN02167	
NH_3-N lb/day	0.15	192	24hr. comp	IN02167	
Phenol lb/day	0.12	0.17	"	IN02167	
1,2,4 Trichlorobenzene lb/day	<.015	0.93	"	IN02212	
Ethylbenzene lb/day	<.015	0.72	"	IN02212	
Copper lb/day	*	0.07	"	HM03506	
Cyanide lb/day	< 0.15	0.14	"	IN02167	
Lead lb/day	*	1.6	"	HM03506	
Nickel lb/day	*	1.36	"	HM03506	

* results to follow in an addendum

C. **RECEIVING WATER**. Effluent is discharged to:

( ) Dry ditch
( ) Dry creek channel
( ) Spring fed creek
(X) Normally flowing creek
( ) River
( ) Lake
( ) Other

Report observed condition of receiving waters. Describe such conditions as foaming, floating materials, sludge deposits, or color and turbidity which appear either naturally or as a result of the discharge. Also, indicate the observed presence or absence of fish and other aquatic life in the area of the discharge.

Effluent discharges to Patrick Bayou and to the East Fork of Patrick Bayou, then to the Houston Ship Channel in segment no. 1006 of the San Jacinto River Basin. The tide was out and no aquatic fauna were noted. Turtles were seen further downstream. No negative impact was noted.

Include Attachment 1, Stream Quality Results, if applicable.

D. **OTHER REGISTRATIONS OR PERMITS**. Indicate any solid waste registration and/or waste disposal well permits issued to the company by this agency.

Registration/Permit No.	Type Waste Disposed
30324	I, IH, II

E. **PLANT MODIFICATIONS**. Has the treatment plant been modified since the last annual inspection?
( ) Yes (X) No If yes, explain changes made and identify date that modifications were completed.

F. **BYPASSING**. To the best of your knowledge, has there been any bypassing of treatment facilities since the last annual inspection which caused either repeated or prolonged discharges of inadequately treated wastewater?
(X) Yes ( ) No If yes, explain and describe permittee's corrective action.

A bypass, by definition, occurred on 9/5/91 when process water from an acid unit overflowed to outfall 003 causing a pH of 3.18. Outfall 003 is permitted for uncontaminated stormwater. *Noncompliance notification was provided by a letter dated 9/12/91.

Did the permittee provide noncompliance notification for bypasses?
(X) Yes* ( ) No ( ) N/A—No bypassing.

G. OPERATION AND MAINTENANCE.

1. *Sludge Disposal.* Identify method of sludge disposal.

Sludge is dewatered and hauled to the BFI McCarty Road landfill.

Is handling of solids regulated under the State Solid Waste Disposal Act, Article 4477-7? (✓) Yes ( ) No
If yes, identify the classification of solids.

Class II Non-hazardous

2. *Flow Measurement.* Identify the type of primary flow measuring device.

001: 6" Parshall Flume

Is flow indicating/recording equipment provided? (X) Yes—Operable ( ) Yes—Not Operable ( ) No
If operable equipment is provided, complete Attachment 2, Accuracy Check.

Is the flow measurement equipment adequate to handle the expected ranges of flow rates? (X) Yes ( ) No
If no, explain.

3. *O&M.* Describe operation, maintenance and housekeeping problems found during the inspection. Include Attachment 3 for additional explanations if necessary.

See attachment 3 for a summary of the process wastewater treatment system.

H. **SELF-REPORTING**. Does the permittee use a commercial or in-house laboratory? Both
If an in-house lab is used, were any quality assurance deficiencies noted? ( ) Yes (X) No If yes, explain.

No deficiencies were noted for the in-house lab. See the TWC Lab Inspection Checklist.

Check the following statements and comment on no responses.

(X) Yes	( ) No	Type of samples collected and measurements made conform to requirements.
(X) Yes	( ) No	Samples are taken and measurements are made at required frequencies.
(X) Yes	( ) No	Adequate records are maintained to document effluent report data.
(X) Yes	( ) No	Lab data verifies reported values on effluent reports.
(X) Yes	( ) No	Effluent reports are submitted monthly.
(X) Yes	( ) No	Noncompliance notification is provided for excursions.

Is the permittee complying with permit parameters as indicated by self-reported data? ( ) Yes (X) No
If no, explain.

Please see attachment 1, a compilation of all noncompliance notifications provided for 1991 up to the inspection date.

I. **SPECIAL PERMIT PROVISIONS**. Is the permittee in compliance with special permit provisions?
(X) Yes ( ) No ( ) N/A—No special provisions. If no, explain.

J. **COMPLIANCE SCHEDULE.** Is the permittee under any State compliance schedule (permit, enforcement letter, commission order, court order)? ( ) Yes (X) No If yes, identify the enforcement document and describe actions taken by the permittee pursuant to the document.

An EPA Consent Agreement and Order was signed on August 29, 1991. Numerous effluent excursions were cited, dating back to 1/89. A penalty of $60,000 was assessed.

Has a Federal administrative order or court order been issued? (X) Yes (.) No

K. **STATUS OF PLANNED IMPROVEMENTS.** If the permittee is pursuing expansion or major upgrading, briefly explain the permittee's plans and indicate the status of the project.

Please see attachment 2, a notification for the revisions to the wastewater treatment system. A 1 MGD equalization tank is currently being installed prior to the API seperators. Also, several storm water retention tanks are planned to be installed in the near future.

L. **OTHER AREAS OF INTEREST OR CONCERN.**

24 hour notification for spills and bypasses has never been provided to this office. As defined by TWC 26.039(a), spills and bypasses occurring on 12/26/90, 3/27/91, 9/4/91 and 9/5/91 (see attachment 1) should all have been reported to Austin or this office within 24 hours.

M. **FIELD OFFICE ACTION**. Describe action proposed or taken to address deficiencies or noncompliances.

A letter will be mailed to the permittee.

N. **CENTRAL OFFICE ACTION REQUESTED**.

The D-7 office requests copies of all noncompliance notifications. The only copies we have are those furnished by the permittee during the ACI.

Investigator Michael B Pfeil

District Manager Donna Phillips

Signature Date 1-7-92

ACCURACY CHECK
FLOW INDICATING/RECORDING EQUIPMENT

A. Outfall 001

Type of flow measuring device 6" Parshall Flume ; Time 8:30 am ; Head 7.8 inches;

Recorded flow at time listed .6912 ; Calculated flow .6741 ;

Reference for calculated flow Isco Open Channel Flow Measurement Handbook

% error = recorded value - calculated value (100)
calculated value

% error = 2.5 %

Date of last calibration Daily as needed by a plant technician

B. Comments:

914000

TEXAS WATER COMMISSION TWC-0742

No. IN 02136 District 7 County 101 Basin 10 Lab. TWC

Discharger Name Lubrizol Corp Time Collected 8:15 am

Plant Name Deer Park Point of Collection Outfall 001

Method of Flow Measurement 6" Parshall Flume

Chlorine Contact Time N/A

Date Shipped 12/5/91

Collector's Signature Michael B Pfeif

PERMIT NUMBER (1 – 9)	PAGE NO. (10 – 12)	CARD TYPE (13)	DATE Mo. (14 15)	DATE Day (16 17)	DATE Yr. (18 19)	MAT. SAMP. (20)
WQ0000639	001	B	12	05	91	F

21 CODE	26 PARAMETER VALUE	35 CODE	40 PARAMETER VALUE	49 CODE	54 PARAMETER VALUE 62
Flow (gpd)	7.8"	Water Temperature (°F)		pH	
00056	674100	00011		00400	
D.O. (mg/l)		Turbidity (JTU)			
00300		00070			

TEXAS WATER COMMISSION TWC-0742

No. IN 02136 District 7

Lab. Used TWC Lab. No. 04985

Type Sample: Industrial ✓

Grab ✓ Composite ____ Hr.

Observations

Material Sampled: Raw, Partially Treated, (Final) Stream, S. Waste

Method of Preservation 5ml H_2SO_4

Auxiliary Tags —

Date Completed 12/6/91

Analyst's Signature [illegible]

21 CODE	26 PARAMETER VALUE	35 CODE	40 PARAMETER VALUE	49 CODE	54 PARAMETER VALUE 62
pH		Conductivity		TSS (mg/l)	
00403		00095		00530	
VSS (mg/l)		BOD (mg/l) 5 day		COD (mg/l)	
00535		00310		00335	
P. Alkalinity (mg/l)		T. Alkalinity (mg/l)		Hardness (mg/l)	
00415		00410		00900	
Oil & Grease mg/l					
<5					

TEXAS WATER COMMISSION TWC-0742 914000

No. IN 02167 District 7 County 101 Basin 10 Lab. TWC

Discharger Name Lubrizol Corporation Time Collected 8:15 am

Plant Name Deer Park Point of Collection Outfall 001

Method of Flow Measurement 6" Parshall Flume

Chlorine Contact Time NA

Date Shipped 12/5/91

Collector's Signature Michael B Pfeil

PERMIT NUMBER (1 – 9)	PAGE NO. (10 – 12)	CARD TYPE (13)	DATE Mo. (14 15)	DATE Day (16 17)	DATE Yr. (18 19)	MAT. SAMP. (20)
WQ0000639	001	B				F

21 CODE	26 PARAMETER VALUE	35 CODE	40 PARAMETER VALUE	49 CODE	54 PARAMETER VALUE 62
Flow (gpd)		Water Temperature (°F)		pH	
00056	9081000	00011		00400	
D.O. (mg/l)		Turbidity (JTU)			
00300		00070			

TEXAS WATER COMMISSION TWC-0742

No. IN 02167 District 7

Lab. Used TWC Lab. No. 04984

Type Sample: Industrial

Grab ____ Composite 24 Hr.

Observations ____

Material Sampled: Raw, Partially Treated, (Final) Stream, S. Waste

Method of Preservation ice, and as required

Auxiliary Tags AT 028094, AT028095, AT028097

Date Completed 12/19/91

Analyst's Signature Sgt Bert

21 CODE	26 PARAMETER VALUE	35 CODE	40 PARAMETER VALUE	49 CODE	54 PARAMETER VALUE 62
H		Conductivity		TSS (mg/l)	
0403	7.66	00095		00530	29
SS (mg/l) x		BOD (mg/l) 5 day		COD (mg/l) x	
0535	1	00310	6	00335	180
. Alkalinity (mg/l)		T. Alkalinity (mg/l)		Hardness (mg/l)	
0415		00410		00900	
~~COD mg/l~~ x		(NH_3-N mg/l)		(TOC mg/l)	
			0.02		46
l- x mg/l		(Phenol ~~mg/l~~) µg/l		(Cyanide) mg/l	
14900			16		<.02

TEXAS WATER COMMISSION TWC-0742

No. IN 02212 District 7 County 101 Basin 10 Lab. TOH

Discharger Name Lubrizol Corp Time Collected 8:15 am

Plant Name Deer Park Point of Collection Outfall 001

Method of Flow Measurement 6" Parshall Flume

Chlorine Contact Time NA

Date Shipped 12-5-91

Collector's Signature Michael B Pfeif

PERMIT NUMBER	PAGE NO.	CARD TYPE	DATE Mo.	DATE Day	DATE Yr.	MAT. SAMP.
1 – 9	10 – 12	13	14 15	16 17	18 19	20
WQ0000639	001	B	12	05	91	F

21 CODE	26 PARAMETER VALUE	35 CODE	40 PARAMETER VALUE	49 CODE	54 PARAMETER VALUE 62
Flow (gpd)		Water Temperature (°F)		pH	
00056	908900	00011	63	00400	
D.O. (mg/l)		Turbidity (JTU)			
00300		00070			

RECEIVED JAN 3 1992 DISTRICT 7

TEXAS WATER COMMISSION TWC-0742

No. IN 02212 District 7

Type Sample: Industrial

Grab ____ Composite 24 Hr.

Observations ____

Lab. Used TDM Lab. No. [redacted]

DEC. 05 1991

Material Sampled: Raw, Partially Treated, (Final) Stream, S. Waste

Method of Preservation Ice, and as required

Auxiliary Tags —

Date Completed DEC. 30 1991

Analyst's Signature [illegible]

2202.

21 CODE	26 PARAMETER VALUE	35 CODE	40 PARAMETER VALUE	49 CODE	54 PARAMETER VALUE 62
pH		Conductivity		TSS (mg/l)	
00403		00095		00530	
VSS (mg/l)		BOD (mg/l) 5 day		COD (mg/l)	
00535		00310		00335	
P. Alkalinity (mg/l)		T. Alkalinity (mg/l)		Hardness (mg/l)	
00415		00410		00900	
(1,2,4 Trichloro benzene)					
(Ethylbenzene)					

1 SAMPLE NUM
C SAMPLE NUM
TYPE: 002
DITION: 12

IROPHENOL
INITRO-2-CRESO
NCHLOROPHENOL

~~TRICHLOROETHAN~~
~~ORDETHYLVINYL~~
LOROETHYLENE
FORM
NE
BENZENE
,2-TETRACHLORO
CHLOROETHYLENE
DICHLOROBENZENE
XYLENES

~~ENDOSULFAN~~
~~ULFAN SULFATE~~
N
-ENDOSULFAN
CHLOR EPOXIDE

IANTHENE
E
IDLINE
BENZYL PHTHALA
a)ANTHRACENE
ZENE
DICHLOROBENZIDI
2-ETHYLHEXYL)P
OCTYL PHTHALAT
D(b)FLUORANTH
k)FLUORANTHEN
(a,h)PYRENE
DO(1,2,3-cd)PYR
Z(a,h)ANTHRACE
(ghi)PERYLENE

GC/MS ANALYSIS REPORT
EPA PRIORITY POLLUTANTS

ANALYST: M. Terry DATE: 12-20-91

TDH SAMPLE NUMBER: EW1-1866
TWC SAMPLE NUMBER: IN 02212

* DETECTION LIMITS ARE APPROXIMATE

SAMPLE TYPE: water

SAMPLE CONDITION: intact

ACID EXTRACTABLES IN (CHECK ONE) ( ) MICROGRAMS/LITER ( ) MILLIGRAMS/KILOGRAM :

NAME	AMT	NAME	AMT	NAME	AMT
PHENOL	---	4-CHLORO-3-CRESOL	---	4-NITROPHENOL	---
CHLOROPHENOL	---	2,4,6-TRICHLOROPHENOL	---	2,6-DINITRO-2-CRESOL	---
2-NITROPHENOL	---	2,4-DIMETHYLPHENOL	---	PENTACHLOROPHENOL	---
2,4-DICHLOROPHENOL	---	2,4-DINITROPHENOL	---		

BASE NEUTRAL EXTRACTABLES IN (CHECK ONE) ( ) MICROGRAMS/LITER ( ) MILLIGRAMS/KILOGRAM :

NAME	AMT	NAME	AMT	NAME	AMT
N-NITROSO-N-DIMETHYLAMINE	---	ACENAPHTHYLENE	---	FLUORANTHENE	---
bis-(2-CHLOROETHYL) ETHER	---	DIMETHYL PHTHALATE	---	PYRENE	---
1,3-DICHLOROBENZENE	---	2,6-DINITROTOLUENE	---	BENZIDINE	---
1,4-DICHLOROBENZENE	---	ACENAPHTHENE	---	BUTYLBENZYL PHTHALATE	---
1,2-DICHLOROBENZENE	---	2,4-DINITROTOLUENE	---	BENZ(a)ANTHRACENE	---
bis-(2-CHLOROISOPROPYL)ETHER	---	FLUORENE	---	CHRYSENE	---
HEXACHLOROETHANE	---	4-CHLOROPHENYL PHENYL ETHER	---	3,3'-DICHLOROBENZIDINE	---
N-NITROSO-DI-n-PROPYLAMINE	---	DIETHYL PHTHALATE	---	bis-(2-ETHYLHEXYL)PHTHALATE	---
NITROBENZENE	---	DIPHENYLAMINE	---	DI-n-OCTYL PHTHALATE	---
ISOPHORONE	---	N-NITROSODIPHENYLAMINE	---	BENZO(b)FLUORANTHENE	---
bis-(2-CHLOROETHOXY)METHANE	---	1,2-DIPHENYLHYDRAZINE	---	BENZO(k)FLUORANTHENE	---
1, 2, 4-TRICHLOROBENZENE	---	4-BROMOPHENYL PHENYL ETHER	---	BENZO(a)PYRENE	---
NAPHTHALENE	---	HEXACHLOROBENZENE	---	INDENO(1,2,3-cd)PYRENE	---
HEXACHLOROBUTADIENE	---	PHENANTHRENE	---	DIBENZ(a,h)ANTHRACENE	---
HEXACHLOROCYCLOPENTADIENE	---	ANTHRACENE	---	BENZO(ghi)PERYLENE	---
2-CHLORONAPHTHALENE	---	DI-n-BUTYL PHTHALATE	---		

PESTICIDES IN (CHECK ONE) ( ) MICROGRAMS/LITER ( ) MILLIGRAMS/KILOGRAM :

NAME	AMT	NAME	AMT	NAME	AMT
alpha-BHC	---	ALDRIN	---	beta-ENDOSULFAN	---
gamma-BHC	---	4-4'-DDE	---	ENDOSULFAN SULFATE	---
beta-BHC	---	DIELDRIN	---	ENDRIN	---
delta-BHC	---	4,4'-DDD	---	alpha-ENDOSULFAN	---
HEPTACHLOR	---	4,4'-DDT	---	HEPTACHLOR EPOXIDE	---
ENDRIN ALDEHYDE	---				

VOLATILE ORGANICS IN (CHECK ONE) (✓) MICROGRAMS/LITER ( ) MILLIGRAMS/KILOGRAM :

NAME	AMT	NAME	AMT	NAME	AMT
CHLOROMETHANE	<5	1,2-DICHLOROETHANE	<2	1,1,2-TRICHLOROETHANE	<2
BROMOMETHANE	↓	CARBON TETRACHLORIDE	↓	2-CHLOROETHYLVINYL ETHER	↓
VINYL CHLORIDE	↓	BROMODICHLOROMETHANE	↓	TRICHLOROETHYLENE	↓
CHLOROETHANE	↓	BENZENE	↓	BROMOFORM	↓
TRICHLOROFLUOROMETHANE	<2	DIBROMOCHLOROMETHANE	↓	TOLUENE	↓
CHLOROFORM	↓	1,1,1-TRICHLOROETHANE	↓	ETHYLBENZENE	↓
METHYLENE CHLORIDE	↓	1,2-DICHLOROPROPANE	↓	1,1,2,2-TETRACHLOROETHANE	↓
1,1-DICHLOROETHYLENE	↓	trans-1,3-DICHLOROPROPYLENE	↓	TETRACHLOROETHYLENE	↓
1,1-DICHLOROETHANE	↓	cis-1,3-DICHLOROPROPYLENE	↓	CHLOROBENZENE	↓
trans-1,2-DICHLOROETHYLENE	↓			TOTAL XYLENES	↓

Acetone 9

COMPARISON WITH EPA/NIH MASS SPECTRAL LIBRARY. QUANTITATION IS [illegible] STANDARD IS PROVIDED, AND THE VALUES SHOULD BE REGARDED AS APPROXIMATE.

TENTATIVE COMPOUND IDENTIFICATION	APPROXIMATE CONCENTRATIONS (✓) MICROGRAMS/LITER ( ) MILLIGRAMS/KILOGRAM AS D10-ANTHRACENE
SEMI-VOLATILES	
VOLATILES	AS D5-CHLOROBENZENE
2-methyl propanal	24
2,3 dimethyl-2-butanal	110
3-methyl-3-pentanal	29
2,4 dimethyl-2-pentanal	200
2-methyl-2-hexanal	77
3-methyl-3-hexanal	75
dimethyl-2-hexanal (2pks)	190
3-methyl-3-heptanal	34
unidentified (6pks)	300

* COMMON LAB CONTAMINANTS
** REPORTED AT LESS THAN QUANTITATION LIMITS

COMMENTS AND OTHER REQUESTED ANALYSIS:

SIGNATURE Gary A. Dent DATE 12-27-91

Rev. 5/87