AIR TOXICS LTD.

SAMPLE NAME: LCSD

ID#: 0306018-08AA

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**s060404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/03**	

Compound	%Recovery
Freon 12	101
Freon 114	108
Chloromethane	93
Vinyl Chloride	106
Bromomethane	103
Chloroethane	104
Freon 11	89
1,1-Dichloroethene	86
Freon 113	91
Methylene Chloride	94
1,1-Dichloroethane	86
cis-1,2-Dichloroethene	95
Chloroform	90
1,1,1-Trichloroethane	94
Carbon Tetrachloride	98
Benzene	98
1,2-Dichloroethane	95
Trichloroethene	100
1,2-Dichloropropane	94
cis-1,3-Dichloropropene	109
Toluene	96
trans-1,3-Dichloropropene	107
1,1,2-Trichloroethane	90
Tetrachloroethene	100
1,2-Dibromoethane (EDB)	84
Chlorobenzene	94
Ethyl Benzene	95
m,p-Xylene	90
o-Xylene	89
Styrene	117
1,1,2,2-Tetrachloroethane	91
1,3,5-Trimethylbenzene	85
1,2,4-Trimethylbenzene	80
1,3-Dichlorobenzene	91
1,4-Dichlorobenzene	86
alpha-Chlorotoluene	119
1,2-Dichlorobenzene	91
1,2,4-Trichlorobenzene	98
Hexachlorobutadiene	103
Propylene	106
1,3-Butadiene	103
Acetone	74

AIR TOXICS LTD.

SAMPLE NAME: LCSD

ID#: 0306018-08AA

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**s060404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/4/03**	

Compound	%Recovery
Carbon Disulfide	76
2-Propanol	80
trans-1,2-Dichloroethene	80
Vinyl Acetate	80
2-Butanone (Methyl Ethyl Ketone)	77
Hexane	76
Tetrahydrofuran	76
Cyclohexane	74
1,4-Dioxane	77
Bromodichloromethane	70
4-Methyl-2-pentanone	77
2-Hexanone	73
Dibromochloromethane	70
Bromoform	62
4-Ethyltoluene	87
Ethanol	83
Methyl tert-butyl ether	80
Heptane	76

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130

0306018

GEOFON INCORPORATED

22632 GOLDEN SPRINGS DR, SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

CONTACT / LAB COORDINATOR: LEO WILLIAMSON	LAB COORDINATOR'S PHONE: 909-396-7662	LAB COORDINATOR'S FAX: 909-396-1455	LABORATORY SERVICE ID: AIR TOXICS	LABORATORY CONTACT: JENNIFFER MILLER	MAIL REPORT (COMPANY NAME): GEOFON INC
PROJECT NAME: SPL #2	PROJECT LOCATION: SPL VE04	PROJECT NUMBER: 04-4428-109	LABORATORY PHONE: 916-985-1000	LABORATORY FAX: 916-985-1020	REQUEST NAME: LEO WILLIAMSON
PROJECT CONTACT: LEO WILLIAMSON	PROJECT PHONE NUMBER: 714-920-8438	PROJECT FAX: N/A	LABORATORY ADDRESS: 180 BLUE RAVINE ROAD #B		ADDRESS: #270 22632 GOLDEN SPRINGS DR
PROJECT ADDRESS: 9800 OAK GROVE DR	CITY, STATE AND ZIPCODE: ARCADIA CA 91108	CLIENT: US NAVY SWDIV	CITY, STATE AND ZIPCODE: FOLSUM CA 95630		CITY, STATE AND ZIPCODE: DIAMOND BAR CA 91765
PROJECT MANAGER: ASRAR FAHEEM	PROJECT MANAGER'S PHONE: 909-396-7662	PROJECT MANAGER'S FAX: 909-396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont	QC Level	T.A.T	Analyses: TO-14	Comments
01A	VE04-A-002-016	AIR	6/2/03	1045	NONE	1*	3	NORM	X	1* L TEDLAR BAG
02A	VE04-B-002-017			1050					X	SCREEN — A
03A	VE04-C-002-018			1055					X	SCREEN — B
04A	VE04-INF-002-019			1100					X	SCREEN — C
05A	VE04-EFF-002-020			1105					X	SCREEN — INFLUENT
6										SCREEN — EFFLUENT
7										
8										
9										
10										

CUSTODY SEAL INTACT?
Y N (NONE) TEMP ____

SAMPLES COLLECTED BY	COURIER AND AIR BILL NUMBER	COOLER TEMPERATURE UPON RECEIPT
RELINQUISHED BY:	RECEIVED BY	DATE / TIME / SAMPLE'S CONDITION UPON RECEIPT
	Joanna A. Thomas ATL	6/3/03 9:10

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

@ AIR TOXICS LTD.
AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0306176

Work Order Summary

CLIENT:	Mr. Leo Williamson Geofon 22632 Golden Springs Dr. Suite 270 Diamond Bar, CA 91765	**BILL TO:**	Mr. Leo Williamson Geofon 22632 Golden Springs Dr. Suite 270 Diamond Bar, CA 91765
PHONE:	909-396-7662	**P.O. #**	
FAX:	909-396-1455	**PROJECT #**	04-4428.10 JPL #2
DATE RECEIVED:	6/10/03	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	6/22/03		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	VE04-INN-003-001	Modified TO-14A	Tedlar Bag
01AA	VE04-INN-003-001 Duplicate	Modified TO-14A	Tedlar Bag
02A	VE04-EFF-003-002	Modified TO-14A	Tedlar Bag
03A	Lab Blank	Modified TO-14A	NA
04A	CCV	Modified TO-14A	NA
05A	LCS	Modified TO-14A	NA
05AA	LCSD	Modified TO-14A	NA

CERTIFIED BY: Linda J. Fruman DATE: 06/24/03

Laboratory Director

Certfication numbers: AR DEQ, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/03, Expiration date: 06/30/04
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified Method TO-14A
Geofon
Workorder# 0306176

Two 1 Liter Tedlar Bag samples were received on June 10, 2003. The laboratory performed analysis via modified EPA Method TO-14A using GC/MS in the full scan mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis. See the data sheets for the reporting limits for each compound.

Method modifications taken to run these samples include:

Requirement	*TO-14A*	*ATL Modifications*
Continuing Calibration criteria	70-130% recovery	70-130% recovery with two allowed out to 60-140%; flag and narrate outliers
Initial Calibration criteria	RSD<30%	RSD</=30%, two compounds allowed up to 40%.
Moisture control	Nafion Dryer	Multisorbent trap
Blank acceptance criteria	<0.20 ppbv	<Reporting Limit
Primary ions for Quantification	Freon 114: 85, Carbon Tetrachloride: 117, Trichloroethene: 130, Ethyl Benzene, m,p- and o-Xylene: 91	Freon 114: 135, Carbon Tetrachloride: 119, Trichloroethene: 95, Ethyl Benzene, m,p- and o-Xylene: 106

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction no performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

AIR TOXICS LTD.

SAMPLE NAME: VE04-INN-003-001

ID#: 0306176-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**s061211**	**Date of Collection:**	**6/9/03**
Dil. Factor:	**2.00**	**Date of Analysis:**	**6/12/03**

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Freon 12	1.0	5.0	27	130
Freon 114	1.0	7.1	Not Detected	Not Detected
Chloromethane	1.0	2.1	Not Detected	Not Detected
Vinyl Chloride	1.0	2.6	Not Detected	Not Detected
Bromomethane	1.0	3.9	Not Detected	Not Detected
Chloroethane	1.0	2.7	Not Detected	Not Detected
Freon 11	1.0	5.7	11	63
1,1-Dichloroethene	1.0	4.0	7.4	30
Freon 113	1.0	7.8	67	520
Methylene Chloride	1.0	3.5	1.0	3.7
1,1-Dichloroethane	1.0	4.1	Not Detected	Not Detected
cis-1,2-Dichloroethene	1.0	4.0	Not Detected	Not Detected
Chloroform	1.0	5.0	28	140
1,1,1-Trichloroethane	1.0	5.5	3.8	21
Carbon Tetrachloride	1.0	6.4	32	210
Benzene	1.0	3.2	1.0	3.4
1,2-Dichloroethane	1.0	4.1	Not Detected	Not Detected
Trichloroethene	1.0	5.5	210	1200
1,2-Dichloropropane	1.0	4.7	Not Detected	Not Detected
cis-1,3-Dichloropropene	1.0	4.6	Not Detected	Not Detected
Toluene	1.0	3.8	3.7	14
trans-1,3-Dichloropropene	1.0	4.6	Not Detected	Not Detected
1,1,2-Trichloroethane	1.0	5.5	Not Detected	Not Detected
Tetrachloroethene	1.0	6.9	14	100
1,2-Dibromoethane (EDB)	1.0	7.8	Not Detected	Not Detected
Chlorobenzene	1.0	4.7	Not Detected	Not Detected
Ethyl Benzene	1.0	4.4	Not Detected	Not Detected
m,p-Xylene	1.0	4.4	1.8	8.0
o-Xylene	1.0	4.4	Not Detected	Not Detected
Styrene	1.0	4.3	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	1.0	7.0	Not Detected	Not Detected
1,3,5-Trimethylbenzene	1.0	5.0	Not Detected	Not Detected
1,2,4-Trimethylbenzene	1.0	5.0	1.5	7.5
1,3-Dichlorobenzene	1.0	6.1	Not Detected	Not Detected
1,4-Dichlorobenzene	1.0	6.1	Not Detected	Not Detected
alpha-Chlorotoluene	1.0	5.3	Not Detected	Not Detected
1,2-Dichlorobenzene	1.0	6.1	Not Detected	Not Detected
1,2,4-Trichlorobenzene	4.0	30	Not Detected	Not Detected
Hexachlorobutadiene	4.0	43	Not Detected	Not Detected
Propylene	4.0	7.0	Not Detected	Not Detected
1,3-Butadiene	4.0	9.0	Not Detected	Not Detected
Acetone	4.0	9.6	82	200

AIR TOXICS LTD.

SAMPLE NAME: VE04-INN-003-001

ID#: 0306176-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**s061211**	**Date of Collection:**	**6/9/03**
Dil. Factor:	**2.00**	**Date of Analysis:**	**6/12/03**

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Carbon Disulfide	4.0	13	Not Detected	Not Detected
2-Propanol	4.0	10	20	51
trans-1,2-Dichloroethene	4.0	16	Not Detected	Not Detected
Vinyl Acetate	4.0	14	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.0	12	35	100
Hexane	4.0	14	Not Detected	Not Detected
Tetrahydrofuran	4.0	12	Not Detected	Not Detected
Cyclohexane	4.0	14	Not Detected	Not Detected
1,4-Dioxane	4.0	15	Not Detected	Not Detected
Bromodichloromethane	4.0	27	Not Detected	Not Detected
4-Methyl-2-pentanone	4.0	17	Not Detected	Not Detected
2-Hexanone	4.0	17	Not Detected	Not Detected
Dibromochloromethane	4.0	35	Not Detected	Not Detected
Bromoform	4.0	42	Not Detected	Not Detected
4-Ethyltoluene	4.0	20	Not Detected	Not Detected
Ethanol	4.0	7.7	4.6	8.9
Methyl tert-butyl ether	4.0	15	Not Detected	Not Detected
Heptane	4.0	17	Not Detected	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	102	70-130

AIR TOXICS LTD.

SAMPLE NAME: VE04-INN-003-001 Duplicate

ID#: 0306176-01AA

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**s061212**	**Date of Collection:**	**6/9/03**
Dil. Factor:	**2.00**	**Date of Analysis:**	**6/12/03**

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Freon 12	1.0	5.0	27	140
Freon 114	1.0	7.1	Not Detected	Not Detected
Chloromethane	1.0	2.1	Not Detected	Not Detected
Vinyl Chloride	1.0	2.6	Not Detected	Not Detected
Bromomethane	1.0	3.9	Not Detected	Not Detected
Chloroethane	1.0	2.7	Not Detected	Not Detected
Freon 11	1.0	5.7	11	64
1,1-Dichloroethene	1.0	4.0	7.6	30
Freon 113	1.0	7.8	68	530
Methylene Chloride	1.0	3.5	1.2	4.2
1,1-Dichloroethane	1.0	4.1	Not Detected	Not Detected
cis-1,2-Dichloroethene	1.0	4.0	Not Detected	Not Detected
Chloroform	1.0	5.0	28	140
1,1,1-Trichloroethane	1.0	5.5	4.0	22
Carbon Tetrachloride	1.0	6.4	34	210
Benzene	1.0	3.2	1.1	3.4
1,2-Dichloroethane	1.0	4.1	Not Detected	Not Detected
Trichloroethene	1.0	5.5	210	1200
1,2-Dichloropropane	1.0	4.7	Not Detected	Not Detected
cis-1,3-Dichloropropene	1.0	4.6	Not Detected	Not Detected
Toluene	1.0	3.8	3.7	14
trans-1,3-Dichloropropene	1.0	4.6	Not Detected	Not Detected
1,1,2-Trichloroethane	1.0	5.5	Not Detected	Not Detected
Tetrachloroethene	1.0	6.9	15	100
1,2-Dibromoethane (EDB)	1.0	7.8	Not Detected	Not Detected
Chlorobenzene	1.0	4.7	Not Detected	Not Detected
Ethyl Benzene	1.0	4.4	Not Detected	Not Detected
m,p-Xylene	1.0	4.4	1.6	7.1
o-Xylene	1.0	4.4	Not Detected	Not Detected
Styrene	1.0	4.3	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	1.0	7.0	Not Detected	Not Detected
1,3,5-Trimethylbenzene	1.0	5.0	Not Detected	Not Detected
1,2,4-Trimethylbenzene	1.0	5.0	1.3	6.4
1,3-Dichlorobenzene	1.0	6.1	Not Detected	Not Detected
1,4-Dichlorobenzene	1.0	6.1	Not Detected	Not Detected
alpha-Chlorotoluene	1.0	5.3	Not Detected	Not Detected
1,2-Dichlorobenzene	1.0	6.1	Not Detected	Not Detected
1,2,4-Trichlorobenzene	4.0	30	Not Detected	Not Detected
Hexachlorobutadiene	4.0	43	Not Detected	Not Detected
Propylene	4.0	7.0	Not Detected	Not Detected
1,3-Butadiene	4.0	9.0	Not Detected	Not Detected
Acetone	4.0	9.6	82	200

AIR TOXICS LTD.

SAMPLE NAME: VE04-INN-003-001 Duplicate

ID#: 0306176-01AA

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**s061212**	**Date of Collection: 6/9/03**	
Dil. Factor:	**2.00**	**Date of Analysis: 6/12/03**	

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Carbon Disulfide	4.0	13	Not Detected	Not Detected
2-Propanol	4.0	10	21	53
trans-1,2-Dichloroethene	4.0	16	Not Detected	Not Detected
Vinyl Acetate	4.0	14	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.0	12	36	110
Hexane	4.0	14	Not Detected	Not Detected
Tetrahydrofuran	4.0	12	Not Detected	Not Detected
Cyclohexane	4.0	14	Not Detected	Not Detected
1,4-Dioxane	4.0	15	Not Detected	Not Detected
Bromodichloromethane	4.0	27	Not Detected	Not Detected
4-Methyl-2-pentanone	4.0	17	Not Detected	Not Detected
2-Hexanone	4.0	17	Not Detected	Not Detected
Dibromochloromethane	4.0	35	Not Detected	Not Detected
Bromoform	4.0	42	Not Detected	Not Detected
4-Ethyltoluene	4.0	20	Not Detected	Not Detected
Ethanol	4.0	7.7	5.4	10
Methyl tert-butyl ether	4.0	15	Not Detected	Not Detected
Heptane	4.0	17	Not Detected	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

AIR TOXICS LTD.

SAMPLE NAME: VE04-EFF-003-002

ID#: 0306176-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**s061213**	**Date of Collection:**	**6/9/03**
Dil. Factor:	**1.00**	**Date of Analysis:**	**6/12/03**

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Freon 12	0.50	2.5	28	140
Freon 114	0.50	3.6	Not Detected	Not Detected
Chloromethane	0.50	1.0	Not Detected	Not Detected
Vinyl Chloride	0.50	1.3	Not Detected	Not Detected
Bromomethane	0.50	2.0	Not Detected	Not Detected
Chloroethane	0.50	1.3	4.5	12
Freon 11	0.50	2.8	18	100
1,1-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Freon 113	0.50	3.9	15	110
Methylene Chloride	0.50	1.8	1.5	5.2
1,1-Dichloroethane	0.50	2.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Chloroform	0.50	2.5	Not Detected	Not Detected
1,1,1-Trichloroethane	0.50	2.8	Not Detected	Not Detected
Carbon Tetrachloride	0.50	3.2	Not Detected	Not Detected
Benzene	0.50	1.6	0.62	2.0
1,2-Dichloroethane	0.50	2.0	Not Detected	Not Detected
Trichloroethene	0.50	2.7	Not Detected	Not Detected
1,2-Dichloropropane	0.50	2.3	Not Detected	Not Detected
cis-1,3-Dichloropropene	0.50	2.3	Not Detected	Not Detected
Toluene	0.50	1.9	3.2	12
trans-1,3-Dichloropropene	0.50	2.3	Not Detected	Not Detected
1,1,2-Trichloroethane	0.50	2.8	Not Detected	Not Detected
Tetrachloroethene	0.50	3.4	Not Detected	Not Detected
1,2-Dibromoethane (EDB)	0.50	3.9	Not Detected	Not Detected
Chlorobenzene	0.50	2.3	Not Detected	Not Detected
Ethyl Benzene	0.50	2.2	Not Detected	Not Detected
m,p-Xylene	0.50	2.2	1.2	5.4
o-Xylene	0.50	2.2	Not Detected	Not Detected
Styrene	0.50	2.2	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	0.50	3.5	Not Detected	Not Detected
1,3,5-Trimethylbenzene	0.50	2.5	Not Detected	Not Detected
1,2,4-Trimethylbenzene	0.50	2.5	1.4	6.7
1,3-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
alpha-Chlorotoluene	0.50	2.6	Not Detected	Not Detected
1,2-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
1,2,4-Trichlorobenzene	2.0	15	Not Detected	Not Detected
Hexachlorobutadiene	2.0	22	Not Detected	Not Detected
Propylene	2.0	3.5	Not Detected	Not Detected
1,3-Butadiene	2.0	4.5	Not Detected	Not Detected
Acetone	2.0	4.8	54	130

AIR TOXICS LTD.

SAMPLE NAME: VE04-EFF-003-002

ID#: 0306176-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**s061213**	**Date of Collection: 6/9/03**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/12/03**	

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Carbon Disulfide	2.0	6.3	Not Detected	Not Detected
2-Propanol	2.0	5.0	22	54
trans-1,2-Dichloroethene	2.0	8.0	Not Detected	Not Detected
Vinyl Acetate	2.0	7.2	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	6.0	22	67
Hexane	2.0	7.2	Not Detected	Not Detected
Tetrahydrofuran	2.0	6.0	2.0 J	5.9 J
Cyclohexane	2.0	7.0	Not Detected	Not Detected
1,4-Dioxane	2.0	7.3	Not Detected	Not Detected
Bromodichloromethane	2.0	14	Not Detected	Not Detected
4-Methyl-2-pentanone	2.0	8.3	Not Detected	Not Detected
2-Hexanone	2.0	8.3	Not Detected	Not Detected
Dibromochloromethane	2.0	17	Not Detected	Not Detected
Bromoform	2.0	21	Not Detected	Not Detected
4-Ethyltoluene	2.0	10	Not Detected	Not Detected
Ethanol	2.0	3.8	12	23
Methyl tert-butyl ether	2.0	7.3	Not Detected	Not Detected
Heptane	2.0	8.3	Not Detected	Not Detected

J = Estimated value.

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0306176-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	s061209	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 6/12/03	

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Freon 12	0.50	2.5	Not Detected	Not Detected
Freon 114	0.50	3.6	Not Detected	Not Detected
Chloromethane	0.50	1.0	Not Detected	Not Detected
Vinyl Chloride	0.50	1.3	Not Detected	Not Detected
Bromomethane	0.50	2.0	Not Detected	Not Detected
Chloroethane	0.50	1.3	Not Detected	Not Detected
Freon 11	0.50	2.8	Not Detected	Not Detected
1,1-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Freon 113	0.50	3.9	Not Detected	Not Detected
Methylene Chloride	0.50	1.8	Not Detected	Not Detected
1,1-Dichloroethane	0.50	2.0	Not Detected	Not Detected
cis-1,2-Dichloroethene	0.50	2.0	Not Detected	Not Detected
Chloroform	0.50	2.5	Not Detected	Not Detected
1,1,1-Trichloroethane	0.50	2.8	Not Detected	Not Detected
Carbon Tetrachloride	0.50	3.2	Not Detected	Not Detected
Benzene	0.50	1.6	Not Detected	Not Detected
1,2-Dichloroethane	0.50	2.0	Not Detected	Not Detected
Trichloroethene	0.50	2.7	Not Detected	Not Detected
1,2-Dichloropropane	0.50	2.3	Not Detected	Not Detected
cis-1,3-Dichloropropene	0.50	2.3	Not Detected	Not Detected
Toluene	0.50	1.9	Not Detected	Not Detected
trans-1,3-Dichloropropene	0.50	2.3	Not Detected	Not Detected
1,1,2-Trichloroethane	0.50	2.8	Not Detected	Not Detected
Tetrachloroethene	0.50	3.4	Not Detected	Not Detected
1,2-Dibromoethane (EDB)	0.50	3.9	Not Detected	Not Detected
Chlorobenzene	0.50	2.3	Not Detected	Not Detected
Ethyl Benzene	0.50	2.2	Not Detected	Not Detected
m,p-Xylene	0.50	2.2	Not Detected	Not Detected
o-Xylene	0.50	2.2	Not Detected	Not Detected
Styrene	0.50	2.2	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	0.50	3.5	Not Detected	Not Detected
1,3,5-Trimethylbenzene	0.50	2.5	Not Detected	Not Detected
1,2,4-Trimethylbenzene	0.50	2.5	Not Detected	Not Detected
1,3-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
1,4-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
alpha-Chlorotoluene	0.50	2.6	Not Detected	Not Detected
1,2-Dichlorobenzene	0.50	3.0	Not Detected	Not Detected
1,2,4-Trichlorobenzene	2.0	15	Not Detected	Not Detected
Hexachlorobutadiene	2.0	22	Not Detected	Not Detected
Propylene	2.0	3.5	Not Detected	Not Detected
1,3-Butadiene	2.0	4.5	Not Detected	Not Detected
Acetone	2.0	4.8	Not Detected	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: Lab Blank

ID#: 0306176-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**s061209**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/12/03**	

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Carbon Disulfide	2.0	6.3	Not Detected	Not Detected
2-Propanol	2.0	5.0	Not Detected	Not Detected
trans-1,2-Dichloroethene	2.0	8.0	Not Detected	Not Detected
Vinyl Acetate	2.0	7.2	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	6.0	Not Detected	Not Detected
Hexane	2.0	7.2	Not Detected	Not Detected
Tetrahydrofuran	2.0	6.0	Not Detected	Not Detected
Cyclohexane	2.0	7.0	Not Detected	Not Detected
1,4-Dioxane	2.0	7.3	Not Detected	Not Detected
Bromodichloromethane	2.0	14	Not Detected	Not Detected
4-Methyl-2-pentanone	2.0	8.3	Not Detected	Not Detected
2-Hexanone	2.0	8.3	Not Detected	Not Detected
Dibromochloromethane	2.0	17	Not Detected	Not Detected
Bromoform	2.0	21	Not Detected	Not Detected
4-Ethyltoluene	2.0	10	Not Detected	Not Detected
Ethanol	2.0	3.8	Not Detected	Not Detected
Methyl tert-butyl ether	2.0	7.3	Not Detected	Not Detected
Heptane	2.0	8.3	Not Detected	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

AIR TOXICS LTD.

SAMPLE NAME: CCV

ID#: 0306176-04A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**s061202**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/12/03**	

Compound	%Recovery
Freon 12	87
Freon 114	88
Chloromethane	79
Vinyl Chloride	84
Bromomethane	97
Chloroethane	81
Freon 11	86
1,1-Dichloroethene	85
Freon 113	80
Methylene Chloride	86
1,1-Dichloroethane	86
cis-1,2-Dichloroethene	86
Chloroform	85
1,1,1-Trichloroethane	85
Carbon Tetrachloride	86
Benzene	84
1,2-Dichloroethane	87
Trichloroethene	86
1,2-Dichloropropane	87
cis-1,3-Dichloropropene	87
Toluene	87
trans-1,3-Dichloropropene	86
1,1,2-Trichloroethane	83
Tetrachloroethene	81
1,2-Dibromoethane (EDB)	86
Chlorobenzene	86
Ethyl Benzene	88
m,p-Xylene	86
o-Xylene	87
Styrene	91
1,1,2,2-Tetrachloroethane	87
1,3,5-Trimethylbenzene	85
1,2,4-Trimethylbenzene	86
1,3-Dichlorobenzene	80
1,4-Dichlorobenzene	81
alpha-Chlorotoluene	82
1,2-Dichlorobenzene	80
1,2,4-Trichlorobenzene	80
Hexachlorobutadiene	84
Propylene	92
1,3-Butadiene	86
Acetone	94

AIR TOXICS LTD.

SAMPLE NAME: CCV

ID#: 0306176-04A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**s061202**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/12/03**	

Compound	%Recovery
Carbon Disulfide	85
2-Propanol	91
trans-1,2-Dichloroethene	85
Vinyl Acetate	96
2-Butanone (Methyl Ethyl Ketone)	94
Hexane	90
Tetrahydrofuran	93
Cyclohexane	89
1,4-Dioxane	89
Bromodichloromethane	92
4-Methyl-2-pentanone	102
2-Hexanone	101
Dibromochloromethane	91
Bromoform	89
4-Ethyltoluene	92
Ethanol	85
Methyl tert-butyl ether	81
Heptane	102

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	101	70-130

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0306176-05A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**s061203**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 6/12/03**

Compound	%Recovery
Freon 12	106
Freon 114	104
Chloromethane	93
Vinyl Chloride	103
Bromomethane	97
Chloroethane	99
Freon 11	92
1,1-Dichloroethene	87
Freon 113	86
Methylene Chloride	94
1,1-Dichloroethane	87
cis-1,2-Dichloroethene	95
Chloroform	91
1,1,1-Trichloroethane	93
Carbon Tetrachloride	97
Benzene	94
1,2-Dichloroethane	92
Trichloroethene	94
1,2-Dichloropropane	91
cis-1,3-Dichloropropene	104
Toluene	91
trans-1,3-Dichloropropene	103
1,1,2-Trichloroethane	86
Tetrachloroethene	89
1,2-Dibromoethane (EDB)	81
Chlorobenzene	89
Ethyl Benzene	91
m,p-Xylene	86
o-Xylene	85
Styrene	111
1,1,2,2-Tetrachloroethane	86
1,3,5-Trimethylbenzene	78
1,2,4-Trimethylbenzene	74
1,3-Dichlorobenzene	80
1,4-Dichlorobenzene	76
alpha-Chlorotoluene	110
1,2-Dichlorobenzene	79
1,2,4-Trichlorobenzene	80
Hexachlorobutadiene	85
Propylene	109
1,3-Butadiene	101
Acetone	77

AIR TOXICS LTD.

SAMPLE NAME: LCS

ID#: 0306176-05A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**s061203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/12/03**	

Compound	%Recovery
Carbon Disulfide	75
2-Propanol	81
trans-1,2-Dichloroethene	78
Vinyl Acetate	81
2-Butanone (Methyl Ethyl Ketone)	78
Hexane	76
Tetrahydrofuran	78
Cyclohexane	74
1,4-Dioxane	74
Bromodichloromethane	67
4-Methyl-2-pentanone	75
2-Hexanone	73
Dibromochloromethane	67
Bromoform	56 Q
4-Ethyltoluene	82
Ethanol	87
Methyl tert-butyl ether	73
Heptane	77

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

AIR TOXICS LTD.

SAMPLE NAME: LCSD

ID#: 0306176-05AA

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	s061204	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 6/12/03	

Compound	%Recovery
Freon 12	105
Freon 114	102
Chloromethane	91
Vinyl Chloride	103
Bromomethane	105
Chloroethane	99
Freon 11	90
1,1-Dichloroethene	86
Freon 113	85
Methylene Chloride	92
1,1-Dichloroethane	84
cis-1,2-Dichloroethene	93
Chloroform	88
1,1,1-Trichloroethane	91
Carbon Tetrachloride	95
Benzene	96
1,2-Dichloroethane	93
Trichloroethene	94
1,2-Dichloropropane	91
cis-1,3-Dichloropropene	106
Toluene	93
trans-1,3-Dichloropropene	103
1,1,2-Trichloroethane	86
Tetrachloroethene	89
1,2-Dibromoethane (EDB)	82
Chlorobenzene	90
Ethyl Benzene	92
m,p-Xylene	86
o-Xylene	85
Styrene	111
1,1,2,2-Tetrachloroethane	86
1,3,5-Trimethylbenzene	78
1,2,4-Trimethylbenzene	75
1,3-Dichlorobenzene	82
1,4-Dichlorobenzene	78
alpha-Chlorotoluene	112
1,2-Dichlorobenzene	80
1,2,4-Trichlorobenzene	82
Hexachlorobutadiene	86
Propylene	107
1,3-Butadiene	100
Acetone	74

AIR TOXICS LTD.

SAMPLE NAME: LCSD

ID#: 0306176-05AA

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**s061204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/12/03**	

Compound	%Recovery
Carbon Disulfide	73
2-Propanol	79
trans-1,2-Dichloroethene	78
Vinyl Acetate	80
2-Butanone (Methyl Ethyl Ketone)	77
Hexane	74
Tetrahydrofuran	77
Cyclohexane	73
1,4-Dioxane	74
Bromodichloromethane	67
4-Methyl-2-pentanone	77
2-Hexanone	73
Dibromochloromethane	67
Bromoform	56 Q
4-Ethyltoluene	83
Ethanol	85
Methyl tert-butyl ether	71
Heptane	78

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	102	70-130

0306176

GEOFON INCORPORATED

22632 GOLDEN SPRINGS DR., SUITE 270
DIAMOND BAR, CA 91765 • (909) 396-7662 • FAX (909) 396-1455

CHAIN-OF-CUSTODY RECORD

LABORATORY COPY

GEOFON LAB COORDINATOR: LED WILLIAMSON	LAB COORDINATOR'S PHONE: 909-396-7662	LAB COORDINATOR'S FAX: 909-396-1455	LABORATORY SERVICE ID: AIR TOXICS	LABORATORY CONTACT: JENIFFER MILLER	MAIL REPORT (COMPANY NAME): GEOFON INC
PROJECT NAME: JPL #2	PROJECT LOCATION: JPL VE04	PROJECT NUMBER: 04-4428.10	LABORATORY PHONE: 916-985-1000	LABORATORY FAX: 916-985-1020	RECIPIENT NAME: LED WILLIAMSON
PROJECT CONTACT: LED WILLIAMSON	PROJECT PHONE NUMBER: 714-920-8438	PROJECT FAX: N/A	LABORATORY ADDRESS: 180 BLUE RAVINE ROAD #B		ADDRESS: 22632 GOLDEN SPRINGS DR #270
PROJECT ADDRESS: 4800 OAK GROVE DR	CITY, STATE AND ZIPCODE: PASADENA CA 91108	CLIENT: US NAVY SWDIV	CITY, STATE AND ZIPCODE: FOLSUM CA 95630		CITY, STATE AND ZIPCODE: DIAMOND BAR CA 91765
PROJECT MANAGER: ASRAR FAHEEM	PROJECT MANAGER'S PHONE: 909-396-7662	PROJECT MANAGER'S FAX: 909-396-1455			

Item	Sample Identifier	Matrix	Date	Time	Preserved	# of Cont.	QC Level	T.A.T.	Analyses TO-14							Comments
01A	VE04-INN-003-001	AIR	6/9/03	1010	NONE	1*	3	NORM	X							1*L TED LAR BAG SCREEN - INFLUENT
02A	VE04-EFF-003-002	AIR	6/9/03	1015	NONE	1*	3	NORM	X							SCREEN - EFFLUENT
3																
4																
5																
6																
7																
8																
9																
10																

CUSTODY SEAL INTACT?
Y N NONE TEMP ____

SAMPLES COLLECTED BY: Tony M[illegible] | COURIER AND AIR BILL NUMBER: FED EX 8413-8382-5230 | COOLER TEMPERATURE UPON RECEIPT:

RELINQUISHED BY	RECEIVED BY	DATE	TIME	SAMPLE'S CONDITION UPON RECEIPT
Tony M[illegible]	Laurel Thomas ATC	6/10/03	9:15	Good

Distribution: White - Laboratory (To be returned with Analytical Report); Goldenrod - Project File; Yellow - Project Data Manager

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0306446

Work Order Summary

CLIENT:	Mr. Leo Williamson Geofon 22632 Golden Springs Dr. Suite 270 Diamond Bar, CA 91765	**BILL TO:**	Mr. Leo Williamson Geofon 22632 Golden Springs Dr. Suite 270 Diamond Bar, CA 91765
PHONE:	909-396-7662	**P.O. #**	
FAX:	909-396-1455	**PROJECT #**	04-4428-10 JPL #2
DATE RECEIVED:	6/24/03	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	7/8/03		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	VE04-INN-005-001	Modified TO-14A	Tedlar Bag
02A	VE04-EFF-005-002	Modified TO-14A	Tedlar Bag
03A	Lab Blank	Modified TO-14A	NA
04A	CCV	Modified TO-14A	NA
05A	LCS	Modified TO-14A	NA
05AA	LCSD	Modified TO-14A	NA

CERTIFIED BY: Linda J. Fruman DATE: 07/09/03

Laboratory Director

Certfication numbers: AR DEQ, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/03, Expiration date: 06/30/04
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified Method TO-14A
Geofon
Workorder# 0306446

Two 1 Liter Tedlar Bag samples were received on June 24, 2003. The laboratory performed analysis via modified EPA Method TO-14A using GC/MS in the full scan mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis. See the data sheets for the reporting limits for each compound.

Method modifications taken to run these samples include:

Requirement	*TO-14A*	*ATL Modifications*
Continuing Calibration criteria	70-130% recovery	70-130% recovery with two allowed out to 60-140%; flag and narrate outliers
Initial Calibration criteria	RSD<30%	RSD</=30%, two compounds allowed up to 40%.
Moisture control	Nafion Dryer	Multisorbent trap
Blank acceptance criteria	<0.20 ppbv	<Reporting Limit
Primary ions for Quantification	Freon 114: 85, Carbon Tetrachloride: 117, Trichloroethene: 130, Ethyl Benzene, m,p- and o-Xylene: 91	Freon 114: 135, Carbon Tetrachloride: 119, Trichloroethene: 95, Ethyl Benzene, m,p- and o-Xylene: 106

Receiving Notes

The chain of custody was not relinquished properly. The discrepancy was noted in the Login email.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

AIR TOXICS LTD.

SAMPLE NAME: VE04-INN-005-001

ID#: 0306446-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	s062516	Date of Collection:	6/23/03
Dil. Factor:	2.00	Date of Analysis:	6/25/03

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Freon 12	1.0	5.0	17	84
Freon 114	1.0	7.1	Not Detected	Not Detected
Chloromethane	1.0	2.1	Not Detected	Not Detected
Vinyl Chloride	1.0	2.6	Not Detected	Not Detected
Bromomethane	1.0	3.9	Not Detected	Not Detected
Chloroethane	1.0	2.7	Not Detected	Not Detected
Freon 11	1.0	5.7	16	91
1,1-Dichloroethene	1.0	4.0	6.9	28
Freon 113	1.0	7.8	52	410
Methylene Chloride	1.0	3.5	5.6	20
1,1-Dichloroethane	1.0	4.1	Not Detected	Not Detected
cis-1,2-Dichloroethene	1.0	4.0	Not Detected	Not Detected
Chloroform	1.0	5.0	29	140
1,1,1-Trichloroethane	1.0	5.5	3.0	17
Carbon Tetrachloride	1.0	6.4	37	240
Benzene	1.0	3.2	Not Detected	Not Detected
1,2-Dichloroethane	1.0	4.1	Not Detected	Not Detected
Trichloroethene	1.0	5.5	220	1200
1,2-Dichloropropane	1.0	4.7	Not Detected	Not Detected
cis-1,3-Dichloropropene	1.0	4.6	Not Detected	Not Detected
Toluene	1.0	3.8	1.4	5.3
trans-1,3-Dichloropropene	1.0	4.6	Not Detected	Not Detected
1,1,2-Trichloroethane	1.0	5.5	Not Detected	Not Detected
Tetrachloroethene	1.0	6.9	16	110
1,2-Dibromoethane (EDB)	1.0	7.8	Not Detected	Not Detected
Chlorobenzene	1.0	4.7	Not Detected	Not Detected
Ethyl Benzene	1.0	4.4	Not Detected	Not Detected
m,p-Xylene	1.0	4.4	Not Detected	Not Detected
o-Xylene	1.0	4.4	Not Detected	Not Detected
Styrene	1.0	4.3	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	1.0	7.0	Not Detected	Not Detected
1,3,5-Trimethylbenzene	1.0	5.0	Not Detected	Not Detected
1,2,4-Trimethylbenzene	1.0	5.0	Not Detected	Not Detected
1,3-Dichlorobenzene	1.0	6.1	Not Detected	Not Detected
1,4-Dichlorobenzene	1.0	6.1	Not Detected	Not Detected
alpha-Chlorotoluene	1.0	5.3	Not Detected	Not Detected
1,2-Dichlorobenzene	1.0	6.1	Not Detected	Not Detected
1,2,4-Trichlorobenzene	4.0	30	Not Detected	Not Detected
Hexachlorobutadiene	4.0	43	Not Detected	Not Detected
Propylene	4.0	7.0	Not Detected	Not Detected
1,3-Butadiene	4.0	9.0	Not Detected	Not Detected
Acetone	4.0	9.6	88	210