EPA Region 5 Records Ctr.
243453

Golder Associates Inc.
CONSULTING ENGINEERS

FINAL

TECHNICAL MEMORANDUM
INTERSTATE POLLUTION CONTROL SITE
ROCKFORD, ILLINOIS

Prepared by:

Golder Associates Inc.
1809 North Mill Street, Suite C
Naperville, Illinois 60563

Distribution:

3 copies	-	Paul Steadman, U.S. Environmental Protection Agency, Region V, Chicago, Illinois
3 copies	-	Scott Moyer, Illinois Environmental Protection Agency, Springfield, Illinois
1 copy	-	Marcy Toney, Esq., Baker & McKenzie, Chicago, Illinois
1 copy	-	Mark Furse, Esq., Katten, Muchin & Zavis, Chicago, Illinois
1 copy	-	Donald Shriver, Esq., Rockford, Illinois
1 copy	-	Robert Miller, P.E., Sundstrand Corporation, Rockford, Illinois
2 copies	-	Golder Associates Inc., Naperville, Illinois

May 1991 903-8065

Golder Associates Inc.
CONSULTING ENGINEERS

May 24, 1991 903-8065.6

Mr. Paul Steadman
U.S. Environmental Protection Agency
Mail Code 5-HS12
230 South Dearborn Street
Chicago, IL 60604

Mr. Scott Moyer
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, IL 62706

RE: TECHNICAL MEMORANDUM, INTERSTATE POLLUTION CONTROL SITE
ROCKFORD, ILLINOIS

Dear Messrs. Steadman and Moyer:

Pursuant to the agreement between the agencies and the IPC Steering Committee, please find attached three copies of the Technical Memorandum which presents a plan for estimating the volumes of different phases that may be present in tanks at the above referenced site and collecting of aqueous samples for chemical analyses.

If you have any questions please do not hesitate to call us at (708) 357-2066.

Very truly yours,

GOLDER ASSOCIATES INC.

Richard S. Williams, P.E.
Principal

RSW:glb
Attachment
(65061535.wp1/glb)

TABLE OF CONTENTS

PAGE

1.0 INTRODUCTION 1
1.1 Physical Setting 1
1.2 Site Description 2
1.3 Past Sampling And Analysis of Tank Contents . . 3
1.4 Discussion Of Past Test Results 4

2.0 SAMPLING PLAN 7
2.1 Sampling Locations 7
2.2 Air Quality Monitoring 7
2.3 Physical Measurements of the Tanks 8
2.4 Sampling Procedures 9
2.4.1 Water Sampling Procedure 9
2.4.2 Sampling Quality Control 10
2.5 Analytical Methods 11

In Order Following Page 12

TABLES

TABLE 1 - FLASHPOINT OF TANK LIQUIDS
TABLE 2 - PCB CONTENT OF TANK LIQUIDS
TABLE 3 - VOLATILE ORGANIC CONTENT OF WATER IN TANK T-8

FIGURES

FIGURE 1 - SITE LOCATION
FIGURE 2 - SITE PLAN

APPENDICES

APPENDIX A - ANALYTICAL RESULTS OF IEPA, 1989 SAMPLING
APPENDIX B - ANALYTICAL RESULTS OF U.S. EPA, AUGUST 1990 SAMPLING
APPENDIX C - ANALYTICAL RESULTS OF U.S. EPA, DECEMBER 1990 SAMPLING
APPENDIX D - ANALYTICAL RESULTS OF GOLDER ASSOCIATES, DECEMBER 1990 SAMPLING
APPENDIX E - HEALTH AND SAFETY PLAN
APPENDIX F - DECONTAMINATION PROCEDURES

1.0 INTRODUCTION

The Interstate Pollution Control (IPC) site is located on Seminary Street near Quaker Road in a mixed residential and industrial neighborhood in southeastern Rockford, Illinois. The location is shown in Figure 1.

IPC reportedly operated a waste storage facility that accepted solvents, paint sludges, cyanide wastes and waste oils on the site from 1974 until 1982. The site was placed on the National Priorities List on June 24, 1988.

Seven underground tanks (USTs) and one above ground tank are reported at the IPC site. The tanks are known to contain fill, oils, aqueous liquids and possibly sludges but the volumes of the various phases have not been measured. This Technical Memorandum presents a plan for estimating the volumes of the various phase in the tanks and collecting samples for chemical analysis of the aqueous phases present in the tanks. The results of the analyses will be the basis for classifying the aqueous phases.

1.1 Physical Setting

The site topography is relatively flat and the ground surface has an elevation of approximately 735 feet above mean sea level (MSL). Logs for borings completed on site and in the vicinity indicate that the property is underlain by approximately 150 feet of permeable sand and gravel deposits over dolomitic bedrock. Relatively thin layers of fine-grained till and lacustrine deposits are interbedded with the alluvial deposits. Fill is present locally beneath the site to depths of up to 40 feet.

The water table is at a depth of approximately 40 feet at the site. Groundwater in the area generally flows west towards the Rock River, which is located approximately 2000 feet west of the site at an approximate elevation of 690 feet (MSL). Below the site, however, groundwater flows in a south-southwest direction because of recharge from the pond. The current water surface of the pond is at an approximate elevation of about 710 feet (MSL).

1.2 Site Description

The IPC site was used to store liquid wastes temporarily in drums, tanks, trucks and a shallow surface impoundment. Seven underground storage tanks (USTs) and one above ground storage tank are reported on site. The USTs are reportedly cylindrical steel tanks with 10,000 and 20,000 gallon capacities, however, construction details have not been confirmed. The general locations of seven openings to USTs were confirmed during a recent visit to the site. The numbering system applied to identify the UST openings is shown on Figure 2.

The openings are vertical, square or round concrete-lined shafts which are covered with metal sheets. Three openings to USTs are located in the floor of the garage (T-1, T-2 and T-3) and four openings to USTs are located north of the garage and east of the shed (T-4, T-5, T-6 and T-7). Documentation of the routing of pipes, vents or other associated appurtenances for the USTs is not available.

The above ground storage tank (AGST), T-8, is approximately 25 feet in diameter and 28 feet high, with an estimated storage capacity of 100,000 gallons. The tank is constructed of riveted steel plates. Openings into the tank include a manhole on the top and a pipe-fitted valve approximately three feet from the bottom.

1.3 Past Sampling And Analysis of Tank Contents

Samples of tank contents have been collected three times during the last two years. On November 1, 1989, the IEPA and an IPC representative sampled the contents of six UST openings and the AGST. Waste oil was sampled from five of the USTs (T-1 through T-5) and "oil-soaked floor sweepings" from the sixth (T-7). A mixture of oil and water was reportedly sampled from the AGST. Sample splits were sent by the IEPA to Weston-Gulf Coast Laboratories in University Park, Illinois, for analysis of volatile organic compounds (VOCs) and metals on the Hazardous Substance List, total cyanide, polychlorinated biphenyls (PCBs), and flashpoint.

Nearly a year later, on August 14, 1990, Mr. Paul Steadman (U.S. EPA), two TAT contractor staff, Mr. Scott Moyer (IEPA) and Mr. Dale Jackson (IPC representative) met at the site to sample the tanks. Tanks beneath openings T-1 and T-2 were reported to contain an unknown volume of oil and sludge. The tank beneath opening T-3 was reported to contain an unknown volume of oil and water in an estimated ratio of 50:50. The outside tanks (beneath openings T-4, T-5 and T-6) contained an unknown volume of oil, water and sludge. The percentage of oil in the outside tanks was estimated to be less than 10%. The samples from the USTs were reported to be oils and the sample from the AGST, which was collected from the valve, was estimated to consist of 98% water. The remaining 2% was not identified. Samples were not collected from the tank beneath opening T-7.

Split samples collected by Mr. Moyer from the USTs and the AGST were given to the TAT for analysis. All seven sample splits received by the TAT were delivered to Grace Analytical Lab in Berkeley, Illinois, for analysis of VOCs, PCBs, pH, flashpoint, reactive sulfide and reactive cyanide.

Several months later on December 19, 1991, the U.S. EPA requested a TAT contractor to collect new samples from the seven tanks containing liquids to confirm results of prior sampling. The seven tanks were sampled by the TAT contractor and splits were provided to Golder Associates staff who were representing the PRP group.

The UST samples were observed to be dark, oily liquids floating on top of a clear, yellowish liquid. The AGST sample had a strong offensive odor and it was described by the TAT as a foamy, golden liquid with a granular substance which sank to the bottom. Appreciable solids were not evident in the Golder Associates' sample, however, the liquid was yellow in color. Samples splits obtained by the TAT were delivered to TEI Analytical in Niles, Illinois, on December 20, 1990, for analysis of Target Compound List VOCs, PCBs and flashpoint. Sample splits collected by Golder Associates were delivered to Radian Analytical Services laboratory on December 19, 1990, for VOC and PCB analysis, and determination of flashpoint.

1.4 Discussion Of Past Test Results

Four sets of analytical results are available for liquids in the tanks. The results for flashpoint and PCBs are summarized in Table 1 and 2, respectively. The analytical results of VOC testing of the water from Tank T-8 are summarized in Table 3. Available analytical reports for each set of sample results are attached as Appendices A through D.

The results reported for flashpoint show large variation between data sets. As a group, the 1989 set of results appear to be most at variance: the flashpoint temperatures for this set are uniformly lower than those reported for corresponding samples in the other three sets of analyses. Nevertheless, smaller variations in flashpoint temperature between

corresponding samples in the other three sets, including the two splits analyzed by U.S. EPA and Golder Associates in December, 1990, are still significant. Since these variations cannot be resolved satisfactorily with the available supporting documentation for the data sets, conclusions concerning the classification of the liquids on the basis of flashpoint cannot be drawn confidently.

The results of PCB analysis indicate that low or undetectable levels are present in the oils from the USTs and the water from the AGST. The apparently anomalous value reported for Tank T-6 by the U.S. EPA in December, 1990, is strongly qualified and is not considered representative.

Several volatile compounds have been detected in the water from the AGST for each sample set. Considerable variation between data sets is apparent: the suite of detected compounds varies from set to set and the concentrations of compounds that are reported in all sets typically show significant differences. Also, validation of the U.S. EPA December, 1990, data set indicate that the results are strongly qualified. As with the flashpoint results, the available data are not a suitable basis for classifying the liquids in the tanks.

Samples collected in 1989 were analyzed for total cyanide and the samples collected in August 1990 were analyzed for total and reactive cyanide and sulfide. Total cyanide levels reported for the 1989 samples were low, ranging from nondetect to 13.6 mg/kg. Results for all parameters measured for the August, 1990 samples were nondetect.

The pH was measured on the samples collected in August. Reported pHs ranged from 5.7 to 9.2

Volatile organics analyses were conducted on samples of the oils collected in August 1990 and December 1990. Results for both sets of samples showed the presence of about ten compounds. The compounds present in highest concentrations (maximum 7500 ppm but qualified as estimated values) were xylenes, ethylbenzene and toluene. Other compounds detected at lower concentrations include tetrachloroethylene, trichloroethene, benzene and 1,1,1-trichloroethane. All of the results for the December 1990 data set were qualified.

In summary, the available analytical data for flashpoint and volatile organics compounds appear to be inconsistent and unsuitable for classifying the liquids in the tanks. Data for some parameters, including PCBs, reactive and total sulfide and cyanide indicate that concentrations are uniformly low and not of concern. pH also is within the natural range for all the liquids measured.

2.0 SAMPLING PLAN

In order to prepare a plan to address the remediation of the tanks and their contents effectively, it will be necessary to determine the number and volumes of phases present in each tank.

To determine the types and amounts of different phases present in each of the tanks, it is planned that the size and geometry of each tank and the thickness of separate phases will be measured. A discrete sample of the aqueous phase from each of the seven tank openings will be collected and analyzed to assess whether the material is hazardous. Additional quality Assurance/Quality Control (QA/QC) aqueous samples will also be collected and analyzed to support validation of the data. Based on current estimates, the volume of oil in the tanks is relatively small. Consequently, we prepare to treat the oil as hazardous without confirmatory testing and dispose of it as such.

2.1 Sampling Locations

The location of the openings to the underground tanks are shown on Figure 2. All of the openings to tanks are square or round concrete-lined vertical shafts that provide suitable access for taking physical measurements and collecting samples. The contents of the AGST (Tank T-8) can be sampled through a hatch on the top and/or through a pipe valve on the side of the tank.

2.2. Air Quality Monitoring

Ambient air and the headspace in tanks will be monitored for explosive gases, percent oxygen, parts per million of hydrogen sulfide and VOCs at the start of any open-tank activities.

Calibrated explosive gas/H_2S/O_2 and photoionization detector (PID) meters will be used to monitor these parameters.

The ambient air will be monitored prior to opening any tanks. Upon initial opening or uncovering of each tank aperture, cyanide (HCN) will be measured at the opening using a portable air sampling pump with detection tubes. After opening the tanks, measurements will be taken periodically in the breathing zone, at the tank's opening and within the headspace of the tank, if present. If at any time action limits (as described in Appendix E) are exceeded, the tanks will be allowed to vent for a period of about 5 minutes and then retested. If the air quality is below the action limits, work will proceed. If instrument readings remain above action limits, the level of respiratory protection will be upgraded.

The Health and Safety Plan (HASP) presented in Appendix E outlines the health and safety procedures to be followed throughout the sampling program. It is anticipated that the USTs will be sampled in Level D. The AGST will initially be approached in Level B (supplied air). Depending on monitoring results, the level of protection may be downgraded. All of the air quality monitoring results will be documented and kept on file for future reference.

2.3 Physical Measurements of the Tanks

Prior to any analytical sampling of the tank contents, a general survey of each of the tanks will be conducted to determine to the extent possible:

- the shape and dimensions of the tanks;
- the depth to separate phases (i.e., water, oil, sludge) within the tanks; and
- the thickness of each phase.

Based on this information, the volumes of each phase and total volume of the contents of each tank will be estimated.

During the first part of the survey, the construction and integrity of the tanks and any associated piping and/or unusual characteristics will be assessed and surveyed. A general plan showing the inferred distribution of subsurface installations will be prepared. Each individual tank will then be sounded for overall depth, depth of liquid and thickness of individual phases using a chalked staff and a small-diameter hollow-tube sampler. Two methods (i.e., chalk staff and separate phase sampler) will be used in order to confirm measurements, and to minimize the potential for false or negative results. All equipment which enters the tanks will be properly decontaminated according to the procedures presented in Appendix F.

2.4 Sampling Procedures

Samples of aqueous phases, if present, collected from each of the tank openings and submitted for laboratory analysis to determine if the liquid is hazardous. The procedures to be used to sample the aqueous phases are described in detail in the following sections.

Decontamination procedures to be used for sampling equipment during sample collection are described in Appendix F.

2.4.1 Water Sampling Procedure

Since the oil is present on the aqueous phase (water) in the USTs and possibly the AGST, special procedures will be required to collect water samples without contaminating the sampler and sample with oil. A double tube sampling system is planned to be used for collecting the samples from the USTs. The

procedure will involve inserting a minimum 5-foot length of rigid, PVC flush-threaded pipe through the oil while maintaining positive air pressure within the tube with an oilless compressor and regulator. The pipe will be lowered until the end is well below the oil/water interface. After the bottom of the pipe is below the oil/water interface, the positive pressure will be relieved allowing the water to rise to the static level within the pipe. This pipe, therefore, will serve as protective casing. A smaller sampling tube will then be lowered completely through the outer protective pipe to the desired depth in the water.

The sampling tube will be teflon and will be lowered through the protective pipe to about the middle or slightly above the middle of the water layer. This tube will be connected to a peristaltic pump and five gallons of water will be purged prior to sampling. The purge water will be retained in a bucket and after sampling will be placed back into the tank through the access tube. The water sample will then be collected directly from the pump discharge into the sample bottles. Care will be taken to acquire a sample that is as free as possible of the overlying oil or bottom sludges.

It is expected that the samples from the AGST will be collected directly from the valve on the side of the tank. Sample pH, conductivity and temperature will be measured at the time of collection and recorded.

2.4.2 Sampling Quality Control

Since two or more phases are probably present in the tanks, the sequence and procedures of sampling may have to be varied slightly from tank to tank. Nevertheless, efforts will be taken to acquire discreet samples of the aqueous phase in as similar a manner as possible from each tank. Standard quality

assurance sampling protocol will be followed throughout sample collection including stringent step by step decontamination procedures of all sampling equipment, as outlined in Appendix F. Health and Safety protocols that will be followed are specifically described in Appendix E.

Instrument calibration records, air monitoring measurements, distance measurements, sampling procedures and field observations may be documented in the field notebooks that will be filed. Photographs may be taken to document the existing tank conditions, sampling procedures and general site activities. A unique sample number will be assigned to each sample and recorded in the field notebook. The sample number will include a site designation (IPC), the tank opening number (T-1) and the sample number (1) or QA/QC sample (BL) or (DUP) description. An example of a sample number would be IPC/T-1/1.

2.5 Analytical Methods

Samples will be analyzed by the following methods:

- Flashpoint (Ignitability SW846-1010)
- TCLP (SW 846-1311)
- Volatile organics (8240) plus additional F-listed volatiles

Quality Assurance/Quality Control (QA/QC) samples will be collected and analyzed to support validation of the results. A blind duplicate will be submitted to the laboratory and a matrix spike/matrix spike duplicate (MS/MSD) will be analyzed for volatile organics. Extra sample volume for the MS/MSD analyses will be collected from a location different from that selected for the duplicate. Also, a trip blank for volatiles

will be included in each shuttle containing samples for volatile organics analysis.

(65061535.wp1/glb)

TABLE 1
FLASHPOINT OF TANK LIQUIDS
(Degrees F)

TANK	1989 (IEPA)	AUG. 1990 (U.S. EPA)	DEC. 1990 (U.S. EPA)	DEC. 1990 (GOLDER)
1	105	>212	125	170
2	100	172	128	145
3	142	>212	>200	180
4	130	165	140	145
5	150	150	>200	185
6	NS	154	>200	160
7 (1)	110	NS	NS	NS
8	100	>212	>200	>212

NOTES:
(1) Sample of oil-soaked floor sweepings.
NS Not sampled.

(65001510.wk1/glb)

TABLE 2
PCB Content of Tank Liquids
(mg/kg)

TANK	1989 (IEPA)	AUG. 1990 (U.S. EPA)	DEC. 1990 (U.S. EPA)	DEC. 1990 (GOLDER)
1	ND	ND	ND	ND
2	1.7	ND	ND	6.4 @
3	ND	ND	ND	ND
4	3.1	ND	ND	ND
5	ND	ND	ND	ND
6	NS	ND	185NJ	4.6 @
7 (1)	1.2	NS	NS	NS
8	ND	ND	7NJ	ND

NOTES:

All detected PCBs were all identified as Alochlor 1254, except PCBs detected in U.S. EPA December, 1990 samples.

ND Not detected.
NJ Presumptively present at estimated quantities.
@ Estimated result less than 5 times detection limit.
(1) Sample of oil-soaked floor sweepings.
NS Not sampled.

(65001511.wk1/glb)

TABLE 3
TANK NO. 8
VOLATILE ORGANICS COMPOUNDS
(ug/L)

ANALYTES	1989 (IEPA)	AUG. 1990 (U.S. EPA)	DEC. 1990 (U.S. EPA)	GOLDER (DEC. 1990)
Acetone	E	ND	NA	99000
Acrolein	NA	NA	NA	ND
Acrylonitrile	NA	NA	NA	ND
Benzene	1800	1650	ND	ND
Bromodichloromethane	ND	ND	NA	ND
Bromoform	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
2-Butanone	10000	10300 J	NA	ND
Carbon disulfide	ND	ND	NA	ND
Carbon tetrachloride	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
2-Chloroethylvinylether	NA	ND	ND	ND
Chloroform	ND	ND	ND	ND
Chloromethane	ND	ND	NA	ND
Dibromochloromethane	ND	ND	ND	ND
Dibromomethane	NA	NA	ND	ND
1,4-Dichloro-2-butene (total)	NA	NA	NA	ND
Dichlorodifluoromethane	NA	NA	ND	ND
1,1-Dichloroethane	13000	1410 J	16000	22000
1,2-Dichloroethane	220	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND
trans-1,2-Dichloroethene	7300 (T)	3000 (T)	7000	130 J
1,2-Dichloropropane	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
Ethyl methacrylate	NA	NA	NA	ND
Ethylbenzene	490	5910	29000	870 @
2-Hexanone	ND	ND	NA	ND
Iodomethane	NA	NA	NA	ND

NOTES:

E Exceeded calibration range.
NA Not analyzed.
ND Not detected.
J Indicates an estimated value.
(T) Total
@ Estimated result less than 5 times detection limit.

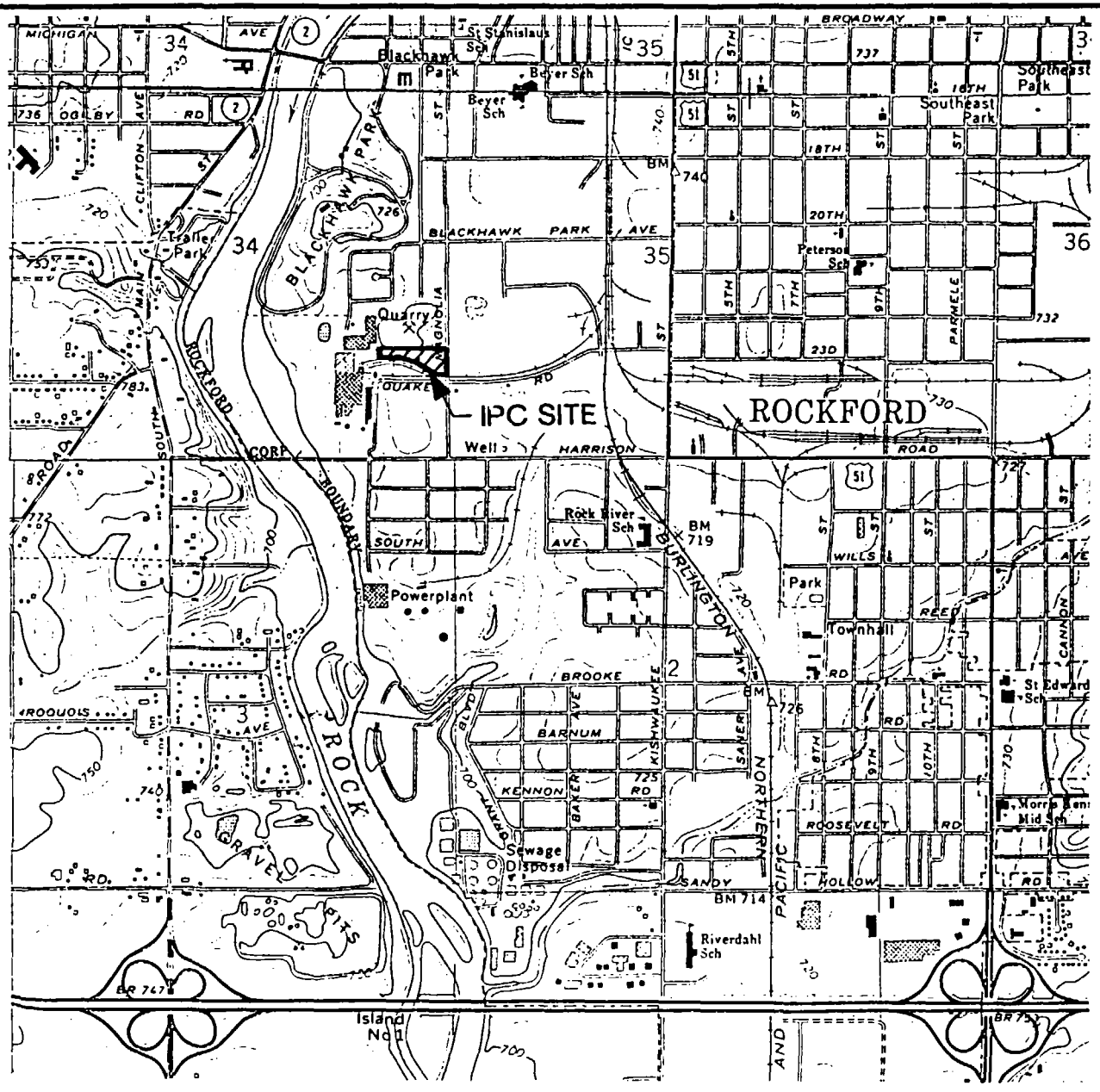
TABLE 3
TANK NO. 8
VOLATILE ORGANICS COMPOUNDS
(ug/L)

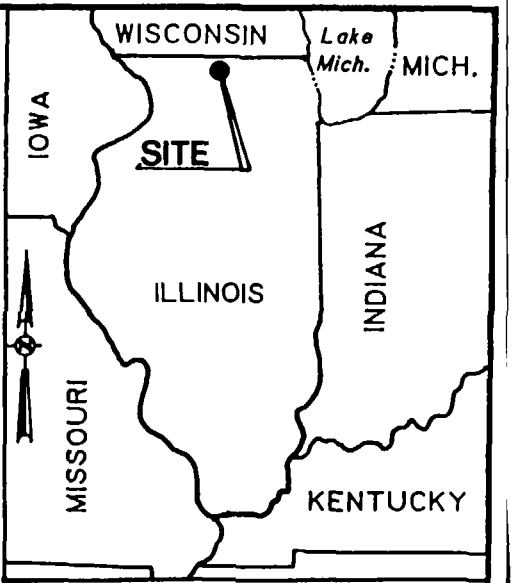
ANALYTES	1989 (IEPA)	AUG. 1990 (U.S. EPA)	DEC. 1990 (U.S. EPA)	GOLDER (DEC. 1990)
4-Methyl-2-pentanone	1200	16900	NA	4000 @
Methylene chloride	7200	ND	ND	12000
Styrene	ND	ND	NA	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
Tetrachloroethene	450	328J	ND	760 @
Toluene	2400	2160	10000	4200
Total Xylenes	2100	12500	77000	890 @
1,1,1-Trichloroethane	3400	618J	ND	1000 @
1,1,2-Trichloroethane	ND	ND	ND	ND
Trichloroethene	2600	2120	ND	2500
Trichlorofluoromethane	NA	NA	ND	ND
1,2,3-Trichloropropane	NA	NA	NA	ND
Vinyl acetate	ND	ND	NA	ND
Vinyl chloride	ND	ND	ND	ND

NOTES:

E Exceeded calibration range.
NA Not analyzed
ND Not detected.
J Indicates an estimated value.
(T) Total
@ Estimated result less than 5 times detection limit.

(65001512.wk1/glb)





VICINITY MAP

0 39 78 117 156

MILES

MAP SOURCE:
U.S.G.S. 7.5 MINUTE QUADRANGLES ROCKFORD NORTH AND ROCKFORD SOUTH, PHOTOREVISED 1976.

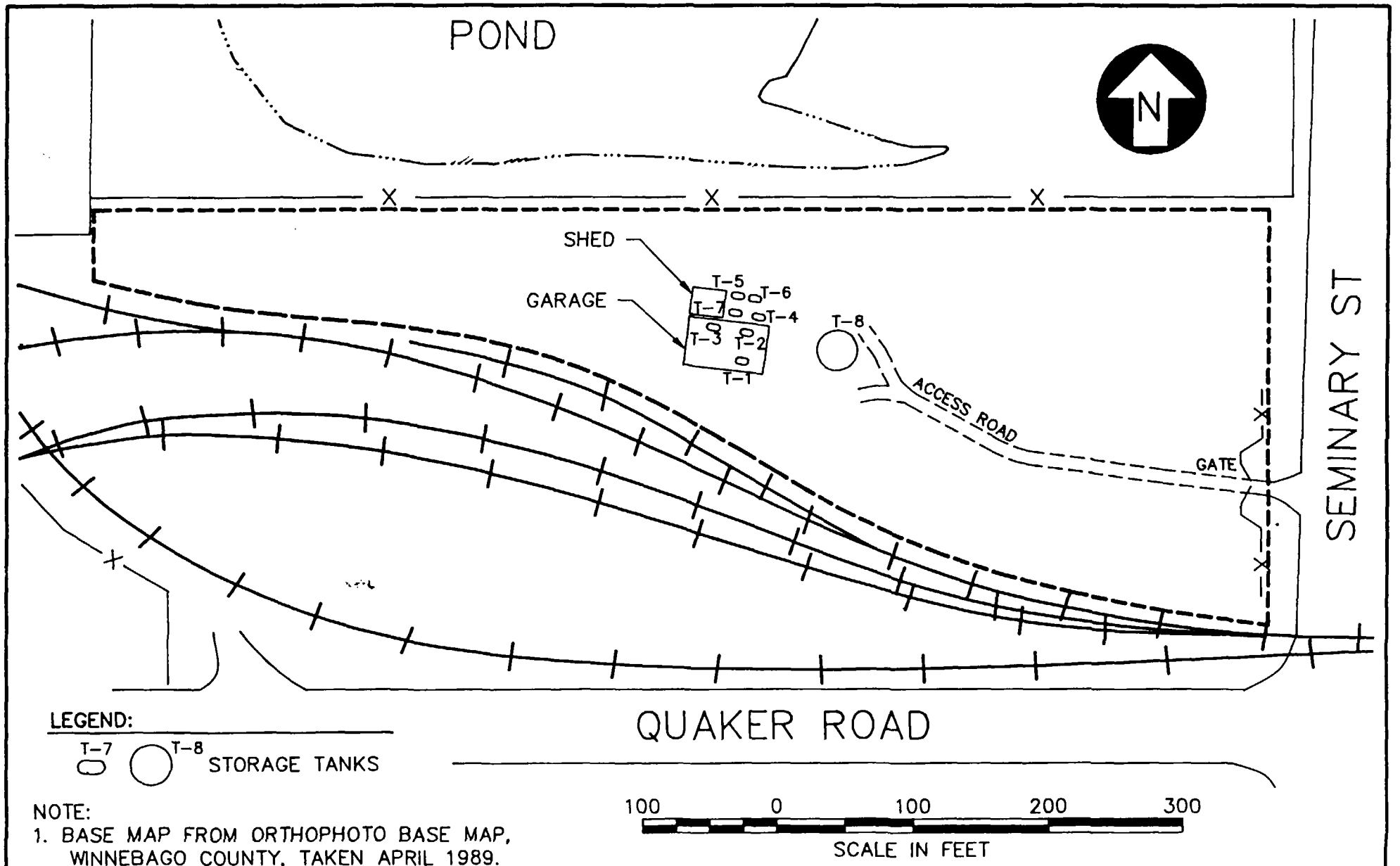
SITE PLAN

0 2000 4000

SCALE IN FEET

CLIENT/PROJECT								
IPC/RI-FS/IL			Golder Associates Chicago, Illinois			TITLE SITE LOCATION		
DRAWN TPK	CHECKED	REVIEWED	DATE 5-20-91	SCALE AS SHOWN	JOB NO. 903-8065.06	FILE NO. 903-8065.06	DWG. NO./REV. NO. 3	FIGURE 1

DC DRAFTING AIDES 521108



NOTE:
1. BASE MAP FROM ORTHOPHOTO BASE MAP, WINNEBAGO COUNTY, TAKEN APRIL 1989.

CLIENT/PROJECT								
IPC/RI-FS/IL			Golder Associates Chicago, Illinois			SITE PLAN		
DRAWN TPK	CHECKED	REVIEWED	DATE 5-23-91	SCALE AS SHOWN	JOB NO. 903-8065.06	FILE NO. 903-8065.06	DWG NO./REV. NO. 4	FIGURE 2

APPENDIX A

ANALYTICAL RESULTS OF IEPA 1989 SAMPLING

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

FN 504

Copied from IEPA files FOIA

DATE: November 9, 1989

TO: Division File

FROM: Kerry Keller

SUBJECT: 2010300018 - Winnebago County
Rockford/Interstate Pollution Control (Roto Rooter)
Superfund - Technical Report

On November 1, 1989, between 1:00 p.m. and 2:30 p.m. the author was onsite to split storage tank samples with Interstate Pollution Control (IPC) representatives. Dale Jackson of IPC and Scott Schuttle of Gabriel Laboratories were conducting the sampling.

The site has seven underground storage tanks and one aboveground storage tank. Three of the underground storage tanks are beneath a truck garage and the remaining four are located immediately north of the truck garage. The aboveground tank is located east of the truck garage, (See site sketch).

According to Dale Jackson, the aboveground tank is approximately 100,000 gallon capacity and all but two of the underground storage tanks are 20,000 gallon tanks. The two underground storage tanks located along the north wall of the garage are believed to be 10,000 gallon tanks.

All of the tanks except one of the 10,000 gallon tanks contain waste oils. The western 10,000 gallon tank is believed to be filled with floor sweepings (mostly oil soaked oil dry) from the garage floor.

The following is a summary of the tank sampling information:

Tank	Sample #	Sample Time	Tank Location	Comments
1	X-201	1:15 p.m.	Inside - Northeast	Underground - waste oil
2	X-202	1:25 p.m.	Inside - Southeast	Underground - waste oil with Sulfur odor
3	X-203	1:40 p.m.	Inside - Northwest	Underground - waste oil with Sulfur odor
5	X-204	1:50 p.m.	Outside - Northwest	Underground - waste oil
	(No Sample)	----	Outside - Northeast	Underground - waste oil
4	X-205	2:05 p.m.	Outside - Southeast	Underground - waste oil
6	X-206	2:10 p.m.	Outside - Southwest	Underground - floor sweepings
7	X-207	2:25 p.m.	Outside - East	Aboveground - oil/water mixture

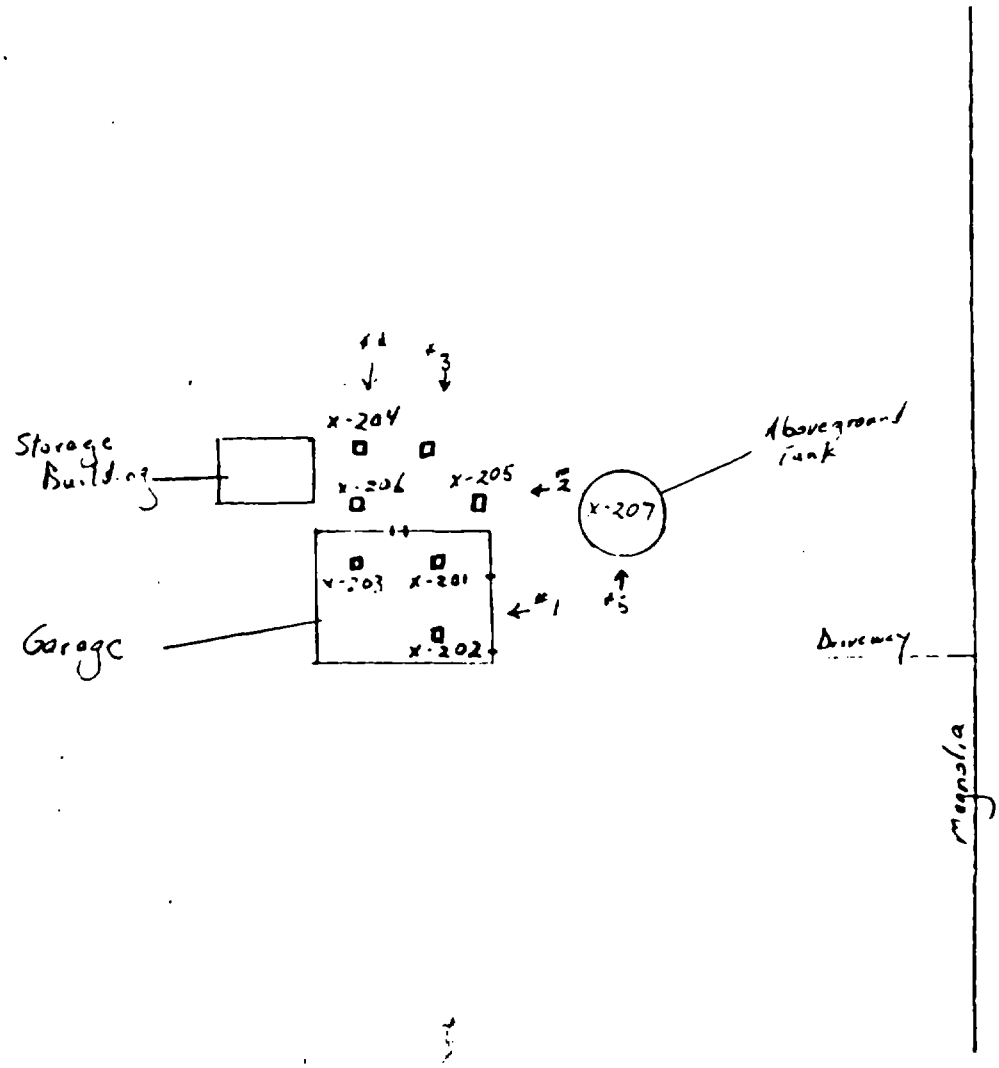
The samples were sent to Gulf Coast Laboratory in University Park, Illinois on November 1, 1989.

KK:tl
cc: Region 1 - File
Scott Moyer - Springfield

RECEIVED
NOV 1989
IEPA DLPC

IL 532-0570
EPA 90 (Rev. 6-75 20M)

2010300018 - Winnebago County
Rockford/Interstate Pollution Contr.
November 1, 1989



Not to Scale
#1 → = # and direction of Photo
□ X 201 = Underground storage tank location and sample "

N

WESTON
MANAGERS DESIGNERS/CONSULTANTS

GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

2010300018 Winnebago
Interstate Pollution Control
S.F.Tech

January 8, 1990

Mr. Ron Turpin
Division of Laboratories #4
Illinois Environmental Protection Agency
P.O. Box 19276
2200 Churchill Road
Springfield, IL 62794-9576

Dear Mr. Turpin:

Please find enclosed the corrections you requested for the samples submitted to Weston/Gulf Coast Laboratories for analyses. They were identified as follows:

Facility Name: Interstate Pollution Control
Site Inventory #: 2010300018
Site Billing Code: LP-52573
Project Manager: Scott Moyer
RFW Laboratory Batch #: 89116770

If you have any questions, please contact Sheryl Johnson or Lynn Gifford at our laboratories.

Sincerely,

WESTON/GULF COAST LABORATORIES

Charles R. Maw

Charles R. Maw
Project Manager

sj

Enclosures

RECEIVED
JAN 11 1990
IEPA/DLS

MANAGERS DESIGNERS/CONSULTANTS

LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Monday January 8th, 1990

RE: Int Pol Control X204
Project # 1104-09-01-0000
Lab ID: 89116770-004
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Total	0.52	mg/kg	0.47
Flash Point	150	DEG F	

WALSH
MANAGERS DESIGNERS/CONSULTANTS

2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 865-7077 (815) 723-75

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Monday January 8th, 1990

RE: Int Pol Control X204
Project # 1104-09-01-0000
Lab ID: 89116770-004
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	50000	U
Bromomethane	BDL	50000	U
Vinyl Chloride	BDL	50000	U
Chloroethane	BDL	50000	U
Methylene Chloride	35000	25000	B
Acetone	48000	50000	JB
Carbon Disulfide	BDL	25000	U
1,1-Dichloroethene	BDL	25000	U
1,1-Dichloroethane	270000	25000	
1,2-Dichloroethene (total)	250000	25000	
Chloroform	BDL	25000	U
1,2-Dichloroethane	BDL	25000	U
2-Butanone	BDL	50000	U
1,1,1-Trichloroethane	110000	25000	
Carbon Tetrachloride	BDL	25000	U
Vinyl Acetate	BDL	50000	U
Bromodichloromethane	BDL	25000	U

MANAGERS DESIGNERS/CONSULTANTS

2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-75

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Monday January 8th, 1990

RE: Int Pol Control X204
Project # 1104-09-01-0000
Lab ID: 89116770-004
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	25000	U
cis-1,3-Dichloropropene	BDL	25000	U
Trichloroethene	110000	25000	
Dibromochloromethane	BDL	25000	U
1,1,2-Trichloroethane	BDL	25000	U
Benzene	31000	25000	
Trans-1,3-Dichloropropene	BDL	25000	U
Bromoform	BDL	25000	U
4-Methyl-2-pentanone	BDL	50000	U
2-Hexanone	BDL	50000	U
Tetrachloroethene	40000	25000	
1,1,2,2-Tetrachloroethane	BDL	25000	U
Toluene	220000	25000	
Chlorobenzene	BDL	25000	U
Ethylbenzene	380000	25000	
Styrene	BDL	25000	U
Xylene (total)	840000	25000	

MANAGERS DESIGNERS/CONSULTANTS

LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (708) 534-5200 (219) 885-7077 (815) 723-

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Monday January 8th, 1990

RE: Int Pol Control X204
Project # 1104-09-01-0000
Lab ID: 89116770-004
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

Tentatively Identified Compounds

7 Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Volatile Compound	Retention Time	Estimated Concentration	
NONANE	23.11	80000	J
C3-BENZENE	25.88	200000	J
Unknown	26.44	60000	J
C3-BENZENE	26.66	60000	J
C3-BENZENE	27.28	100000	J
UNKNOWN HYDROCARBON	27.56	200000	J
C3-BENZENE	28.53	200000	J

WESTON
MANAGERS DESIGNERS/CONSULTANTS

1989 [illegible]

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

F/N 504

Interstate Pollution Control
S. F. [illegible]

December 29, 1989

Mr. Ron Turpin
Division of Laboratories #4
Illinois Environmental Protection Agency
P.O. Box 19276
2200 Churchill Road
Springfield, IL 62794-9576

Dear Mr. Turpin:

Please find enclosed the analytical reports for the samples submitted to Weston/Gulf Coast Laboratories for analyses. They were identified as follows:

Facility Name: Interstate Pollution Control
Site Inventory #: 2010300018
Site Billing Code: LP-52573
Project Manager: Scott Moyer
RFW Laboratory Batch #: 89116770

If you have any questions, please contact Sheryl Johnson or Lynn Gifford at our laboratories.

Sincerely,

WESTON/GULF COAST LABORATORIES

John Boudreau
John Boudreau
Laboratory Manager

Raymond Frederici
Raymond Frederici
QA/QC Director

Charles R. Maw
Charles R. Maw
Project Manager

Jeff A. Kaczinski
Jeff A. Kaczinski
GC/MS Unit Leader

Linda S. Mackley
Linda S. Mackley
Organics Unit Leader

Eric A. Lang
Eric A. Lang
Metals Unit Leader

Diane L. Harper
Diane L. Harper
Wet Chemistry Unit Leader

cc: Sue Doubet

sj

Enclosures

RECEIVED
JAN - 5 1990
IEPA DLPC

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

DATA QUALIFIERS

u - Indicates an inorganic compound was analyzed for but not detected.

U - Indicates an organic compound was analyzed for but not detected.

J - Indicates an estimated value for either a TIC or an analyte that meets the identification criteria but the result is less than the specified detection limit.

B - Indicates the compound was found in the blank and the sample.

E - Concentrations exceed calibration range of the instrument.

BS - Indicates matrix analyses were conducted on reagent grade water.

BSD - Blank Spike Duplicate

BDL - Below Detection Limit

MS - Matrix Spike

MSD - Matrix Spike Duplicate

D - Indicates that surrogate/matrix spike recoveries were not obtained because the extract had to be diluted for analysis.

DL - Indicates a secondary dilution

NA - Not Applicable

DF - Dilution factor

Revised 06/16/89

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Friday December 8th, 1989 T-2

RE: Int Pol Control X201
Project # 1104-09-01-0000
Lab ID: 8911G770-001
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Cyanide, Total	0.48	u	mg/kg	0.48
Flash Point	100		DEG F	

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday December 28th, 1989

RE: Int Pol Control X201
Project # 1104-09-01-0000
Lab ID: 89116770-001
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Silver, Total	1.9	u	mg/kg	1.9
Aluminum, Total	176		mg/kg	38.2
Arsenic, Total	1.3		mg/kg	0.39
Barium, Total	38.2	u	mg/kg	38.2
Beryllium, Total	0.96	u	mg/kg	0.96
Calcium, Total	956	u	mg/kg	956
Cadmium, Total	1.2		mg/kg	0.96
Cobalt, Total	9.6	u	mg/kg	9.6
Chromium, Total	3.3		mg/kg	1.9
Copper, Total	46.0		mg/kg	4.8
Iron, Total	830		mg/kg	19.1
Mercury, Total	0.090	u	mg/kg	0.090
Potassium, Total	956	u	mg/kg	956
Magnesium, Total	956	u	mg/kg	956
Manganese, Total	7.5		mg/kg	2.9
Sodium, Total	956	u	mg/kg	956
Nickel, Total	7.6	u	mg/kg	7.6

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday December 28th, 1989

RE: Int Pol Control X201
Project # 1104-09-01-0000
Lab ID: 8911G770-001
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Lead, Total	554		mg/kg	9.6
Antimony, Total	11.5	u	mg/kg	11.5
Selenium, Total	0.39		mg/kg	0.39
Thallium, Total	0.39	u	mg/kg	0.39
Vanadium, Total	9.6	u	mg/kg	9.6
Zinc, Total	249		mg/kg	3.8

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X201
Project # 1104-09-01-0000
Lab ID: 89116770-001
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	50000	U
Bromomethane	BDL	50000	U
Vinyl Chloride	BDL	50000	U
Chloroethane	BDL	50000	U
Methylene Chloride	31000	25000	B
Acetone	54000	50000	B
Carbon Disulfide	BDL	25000	U
1,1-Dichloroethene	BDL	25000	U
1,1-Dichloroethane	BDL	25000	U
1,2-Dichloroethene (total)	BDL	25000	U
Chloroform	BDL	25000	U
1,2-Dichloroethane	BDL	25000	U
2-Butanone	27000	50000	JB
1,1,1-Trichloroethane	85000	25000	
Carbon Tetrachloride	BDL	25000	U
Vinyl Acetate	BDL	50000	U
Bromodichloromethane	BDL	25000	U

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X201
Project # 1104-09-01-0000
Lab ID: 8911G770-001
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	25000	U
cis-1,3-Dichloropropene	BDL	25000	U
Trichloroethene	590000	25000	
Dibromochloromethane	BDL	25000	U
1,1,2-Trichloroethane	BDL	25000	U
Benzene	120000	25000	
Trans-1,3-Dichloropropene	BDL	25000	U
Bromoform	BDL	25000	U
4-Methyl-2-pentanone	BDL	50000	U
2-Hexanone	BDL	50000	U
Tetrachloroethene	64000	25000	
1,1,2,2-Tetrachloroethane	BDL	25000	U
Toluene	550000	25000	
Chlorobenzene	BDL	25000	U
Ethylbenzene	200000	25000	
Styrene	BDL	25000	U
Xylene (total)	650000	25000	

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
24[illegible]7 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X201
Project # 1104-09-01-0000
Lab ID: 8911G770-001
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

Tentatively Identified Compounds

9 Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Volatile Compound	Retention Time	Estimated Concentration	
PROPYLBENZENE	25.44	100000	J
C3-BENZENE	25.80	400000	J
C3-BENZENE	26.09	100000	J
C3-BENZENE	26.60	100000	J
C3-BENZENE	27.20	300000	J
UNKNOWN HYDROCARBON	27.49	100000	J
C3-BENZENE	28.47	200000	J
C4-BENZENE	29.70	100000	J
UNKNOWN HYDROCARBON	29.89	80000	J

WESTON
MANAGERS DESIGNERS/CONSULTANTS

[illegible] Bond St University Park [illegible]
Phones [illegible]

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Tuesday December 5th, 1989

RE: Int Pol Control X201
Project # 1104-09-01-0000
Lab ID: 8911G770-001
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

PCBs by GC

Compound	Result	Detection Limit	Flag
Aroclor-1016	BDL	790	U
Aroclor-1221	BDL	790	U
Aroclor-1232	BDL	790	U
Aroclor-1242	BDL	790	U
Aroclor-1248	BDL	790	U
Aroclor-1254	1700	1600	
Aroclor-1260	BDL	1600	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Friday December 8th, 1989

RE: Int Pol Control X202 T-1
Project # 1104-09-01-0000
Lab ID: 8911G770-002
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Total	1.7	mg/kg	0.50
Flash Point	105	DEG F	

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
241 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday December 28th, 1989

RE: Int Pol Control X202
Project # 1104-09-01-0000
Lab ID: 89116770-002
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Silver, Total	1.8	u	mg/kg	1.8
Aluminum, Total	364		mg/kg	36.9
Arsenic, Total	1.4		mg/kg	0.38
Barium, Total	36.9	u	mg/kg	36.9
Beryllium, Total	0.92	u	mg/kg	0.92
Calcium, Total	2030		mg/kg	922
Cadmium, Total	0.92	u	mg/kg	0.92
Cobalt, Total	9.2	u	mg/kg	9.2
Chromium, Total	5.9		mg/kg	1.8
Copper, Total	25.2		mg/kg	4.6
Iron, Total	761		mg/kg	18.4
Mercury, Total	0.084	u	mg/kg	0.084
Potassium, Total	922	u	mg/kg	922
Magnesium, Total	922	u	mg/kg	922
Manganese, Total	9.7		mg/kg	2.8
Sodium, Total	922	u	mg/kg	922
Nickel, Total	7.4	u	mg/kg	7.4

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday December 28th, 1989

RE: Int Pol Control X202
Project # 1104-09-01-0000
Lab ID: 89116770-002
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Lead, Total	40.5		mg/kg	3.8
Antimony, Total	11.1	u	mg/kg	11.1
Selenium, Total	0.38	u	mg/kg	0.38
Thallium, Total	0.38	u	mg/kg	0.38
Vanadium, Total	9.2	u	mg/kg	9.2
Zinc, Total	79.1		mg/kg	3.7

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X202
Project # 1104-09-01-0000
Lab ID: 8911G770-002
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	10000	U
Bromomethane	BDL	10000	U
Vinyl Chloride	BDL	10000	U
Chloroethane	BDL	10000	U
Methylene Chloride	11000	5000	B
Acetone	14000	10000	B
Carbon Disulfide	BDL	5000	U
1,1-Dichloroethene	BDL	5000	U
1,1-Dichloroethane	2500	5000	J
1,2-Dichloroethene (total)	BDL	5000	U
Chloroform	BDL	5000	U
1,2-Dichloroethane	BDL	5000	U
2-Butanone	BDL	10000	U
1,1,1-Trichloroethane	38000	5000	
Carbon Tetrachloride	BDL	5000	U
Vinyl Acetate	BDL	10000	U
Bromodichloromethane	BDL	5000	U

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-75[illegible]

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X202
Project # 1104-09-01-0000
Lab ID: 89116770-002
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	5000	U
cis-1,3-Dichloropropene	BDL	5000	U
Trichloroethene	39000	5000	
Dibromochloromethane	BDL	5000	U
1,1,2-Trichloroethane	BDL	5000	U
Benzene	34000	5000	
Trans-1,3-Dichloropropene	BDL	5000	U
Bromoform	BDL	5000	U
4-Methyl-2-pentanone	BDL	10000	U
2-Hexanone	BDL	10000	U
Tetrachloroethene	27000	5000	
1,1,2,2-Tetrachloroethane	BDL	5000	U
Toluene	130000	5000	
Chlorobenzene	BDL	5000	U
Ethylbenzene	68000	5000	
Styrene	1300	5000	J
Xylene (total)	180000	5000	

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X202
Project # 1104-09-01-0000
Lab ID: 89116770-002
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

Tentatively Identified Compounds

10 Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Volatile Compound	Retention Time	Estimated Concentration	
2,2,4-TRIMETHYLPENTANE	13.06	40000	J
PROPYLBENZENE	25.49	50000	J
C3-BENZENE	25.86	100000	J
C3-BENZENE	26.15	40000	J
C3-BENZENE	26.66	50000	J
C3-BENZENE	27.28	100000	J
UNKNOWN HYDROCARBON	27.54	40000	J
Unknown	28.49	100000	J
C4-BENZENE	29.72	70000	J
Unknown	29.92	40000	J

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON GULF COAST LABORATORY
2417 Bond St., University Park
Phones 312/534-5200 219/885

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Tuesday December 5th, 1989

RE: Int Pol Control X202
Project # 1104-09-01-0000
Lab ID: 8911G770-002
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

PCBs by GC

Compound	Result	Detection Limit	Flag
Aroclor-1016	BDL	790	U
Aroclor-1221	BDL	790	U
Aroclor-1232	BDL	790	U
Aroclor-1242	BDL	790	U
Aroclor-1248	BDL	790	U
Aroclor-1254	BDL	1600	U
Aroclor-1260	BDL	1600	U

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Friday December 8th, 1989

T-3

RE: Int Pol Control X203
Project # 1104-09-01-0008
Lab ID: 8911G770-003
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Cyanide, Total	0.48	u	mg/kg	0.48
Flash Point	142		DEG F	

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday December 28th, 1989

RE: Int Pol Control X203
Project # 1104-09-01-0000
Lab ID: 89116770-003
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Silver, Total	1.9	u	mg/kg	1.9
Aluminum, Total	223		mg/kg	38.4
Arsenic, Total	1.3		mg/kg	0.39
Barium, Total	38.4	u	mg/kg	38.4
Beryllium, Total	0.96	u	mg/kg	0.96
Calcium, Total	1350		mg/kg	959
Cadmium, Total	0.96	u	mg/kg	0.96
Cobalt, Total	9.6	u	mg/kg	9.6
Chromium, Total	5.1		mg/kg	1.9
Copper, Total	30.8		mg/kg	4.8
Iron, Total	768		mg/kg	19.2
Mercury, Total	0.068	u	mg/kg	0.068
Potassium, Total	959	u	mg/kg	959
Magnesium, Total	959	u	mg/kg	959
Manganese, Total	7.9		mg/kg	2.9
Sodium, Total	959	u	mg/kg	959
Nickel, Total	37.2		mg/kg	7.7

WESTON-GULF COAST LABORATORIES, INC
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday December 28th, 1989

RE: Int Pol Control X203
Project # 1104-09-01-0000
Lab ID: 89116770-003
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Lead, Total	154		mg/kg	9.6
Antimony, Total	11.5	u	mg/kg	11.5
Selenium, Total	0.39	u	mg/kg	0.39
Thallium, Total	0.39	u	mg/kg	0.39
Vanadium, Total	9.6	u	mg/kg	9.6
Zinc, Total	66.0		mg/kg	3.8

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X203
Project # 1104-09-01-0000
Lab ID: 8911G770-003
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	10000	U
Bromomethane	BDL	10000	U
Vinyl Chloride	BDL	10000	U
Chloroethane	BDL	10000	U
Methylene Chloride	4600	5000	JB
Acetone	BDL	10000	U
Carbon Disulfide	BDL	5000	U
1,1-Dichloroethene	BDL	5000	U
1,1-Dichloroethane	BDL	5000	U
1,2-Dichloroethene (total)	BDL	5000	U
Chloroform	BDL	5000	U
1,2-Dichloroethane	BDL	5000	U
2-Butanone	BDL	10000	U
1,1,1-Trichloroethane	13000	5000	
Carbon Tetrachloride	BDL	5000	U
Vinyl Acetate	BDL	10000	U
Bromodichloromethane	BDL	5000	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X203
Project # 1104-09-01-0000
Lab ID: 89116770-003
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	5000	U
cis-1,3-Dichloropropene	BDL	5000	U
Trichloroethene	3800	5000	J
Dibromochloromethane	BDL	5000	U
1,1,2-Trichloroethane	BDL	5000	U
Benzene	12000	5000	
Trans-1,3-Dichloropropene	BDL	5000	U
Bromoform	BDL	5000	U
4-Methyl-2-pentanone	BDL	10000	U
2-Hexanone	BDL	10000	U
Tetrachloroethene	14000	5000	
1,1,2,2-Tetrachloroethane	BDL	5000	U
Toluene	90000	5000	
Chlorobenzene	BDL	5000	U
Ethylbenzene	44000	5000	
Styrene	BDL	5000	U
Xylene (total)	140000	5000	

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X203
Project # 1104-09-01-0000
Lab ID: 8911G770-003
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

Tentatively Identified Compounds

10 Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Volatile Compound	Retention Time	Estimated Concentration	
PROPYLBENZENE	25.47	40000	J
C3-BENZENE	25.84	100000	J
C3-BENZENE	26.14	40000	J
C3-BENZENE	26.64	40000	J
C3-BENZENE	27.27	100000	J
ENKNOWN HYDROCARBON	27.54	40000	J
C4-BENZENE	28.03	50000	J
C3-BENZENE	28.52	100000	J
C4-BENZENE	29.77	70000	J
Unknown	29.97	50000	J

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON GULF COAST LABORATORIES
2417 Bond St University Park Illinois 60466
Phones (312) 534-5200 (219) 885-[illegible]

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Tuesday December 5th, 1989

RE: Int Pol Control X203
Project # 1104-09-01-0000
Lab ID: 8911G770-003
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

PCBs by GC

Compound	Result	Detection Limit	Flag
Aroclor-1016	BDL	790	U
Aroclor-1221	BDL	790	U
Aroclor-1232	BDL	790	U
Aroclor-1242	BDL	790	U
Aroclor-1248	BDL	790	U
Aroclor-1254	BDL	1600	U
Aroclor-1260	BDL	1600	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

T-5

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Friday December 8th, 1989

RE: Int Pol Control X2034
Project # 1104-09-01-0000
Lab ID: 8911G770-004
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Total	0.52	mg/kg	0.47
Flash Point	150	DEG F	

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday December 28th, 1989

RE: Int Pol Control X204
Project # 1104-09-01-0000
Lab ID: 89116770-004
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Silver, Total	1.9	u	mg/kg	1.9
Aluminum, Total	57.1		mg/kg	37.0
Arsenic, Total	0.62		mg/kg	0.39
Barium, Total	37.0	u	mg/kg	37.0
Beryllium, Total	0.93	u	mg/kg	0.93
Calcium, Total	1450		mg/kg	926
Cadmium, Total	0.93	u	mg/kg	0.93
Cobalt, Total	9.3	u	mg/kg	9.3
Chromium, Total	9.2		mg/kg	1.9
Copper, Total	29.7		mg/kg	4.6
Iron, Total	1350		mg/kg	18.5
Mercury, Total	3.4		mg/kg	0.19
Potassium, Total	926	u	mg/kg	926
Magnesium, Total	926	u	mg/kg	926
Manganese, Total	24.8		mg/kg	2.8
Sodium, Total	1160		mg/kg	926
Nickel, Total	8.5		mg/kg	7.4

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday December 28th, 1989

RE: Int Pol Control X204
Project # 1104-09-01-0000
Lab ID: 89116770-004
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Lead, Total	152		mg/kg	19.3
Antimony, Total	11.1	u	mg/kg	11.1
Selenium, Total	1.3		mg/kg	0.39
Thallium, Total	0.39	u	mg/kg	0.39
Vanadium, Total	9.3	u	mg/kg	9.3
Zinc, Total	158		mg/kg	3.7

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X203
Project # 1104-09-01-0000
Lab ID: 8911G770-004
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	50000	U
Bromomethane	BDL	50000	U
Vinyl Chloride	BDL	50000	U
Chloroethane	BDL	50000	U
Methylene Chloride	35000	25000	B
Acetone	48000	50000	JB
Carbon Disulfide	BDL	25000	U
1,1-Dichloroethene	BDL	25000	U
1,1-Dichloroethane	270000	25000	
1,2-Dichloroethene (total)	250000	25000	
Chloroform	BDL	25000	U
1,2-Dichloroethane	BDL	25000	U
2-Butanone	BDL	50000	U
1,1,1-Trichloroethane	110000	25000	
Carbon Tetrachloride	BDL	25000	U
Vinyl Acetate	BDL	50000	U
Bromodichloromethane	BDL	25000	U

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X208
Project # 1104-09-01-0000
Lab ID: 89116770-004
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	25000	U
cis-1,3-Dichloropropene	BDL	25000	U
Trichloroethene	110000	25000	
Dibromochloromethane	BDL	25000	U
1,1,2-Trichloroethane	BDL	25000	U
Benzene	31000	25000	
Trans-1,3-Dichloropropene	BDL	25000	U
Bromoform	BDL	25000	U
4-Methyl-2-pentanone	BDL	50000	U
2-Hexanone	BDL	50000	U
Tetrachloroethene	40000	25000	
1,1,2,2-Tetrachloroethane	BDL	25000	U
Toluene	220000	25000	
Chlorobenzene	BDL	25000	U
Ethylbenzene	380000	25000	
Styrene	BDL	25000	U
Xylene (total)	840000	25000	

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X203
Project # 1104-09-01-0000
Lab ID: 89116770-004
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

Tentatively Identified Compounds

7 Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Volatile Compound	Retention Time	Estimated Concentration	
NONANE	23.11	80000	J
C3-BENZENE	25.88	200000	J
Unknown	26.44	60000	J
C3-BENZENE	26.66	60000	J
C3-BENZENE	27.28	100000	J
UNKNOWN HYDROCARBON	27.56	200000	J
C3-BENZENE	28.53	200000	J

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON GULF COAST LABORATORIES
2417 Bond St. University Park
Phones 312 614-6200 213 885-

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Tuesday December 5th, 1989

RE: Int Pol Control X2~~3~~4
Project # 1104-09-01-0000
Lab ID: 8911G770-004
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

PCBs by GC

Compound	Result	Detection Limit	Flag
Aroclor-1016	BDL	790	U
Aroclor-1221	BDL	790	U
Aroclor-1232	BDL	790	U
Aroclor-1242	BDL	790	U
Aroclor-1248	BDL	790	U
Aroclor-1254	BDL	1600	U
Aroclor-1260	BDL	1600	U

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Friday December 8th, 1989

T-4

RE: Int Pol Control X205
Project # 1104-09-01-0000
Lab ID: 8911G770-005
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Total	0.61	mg/kg	0.50
Flash Point	130	DEG F	

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday December 28th, 1989

RE: Int Pol Control X205
Project # 1104-09-01-0000
Lab ID: 8911G770-005
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Silver, Total	2.0	u	mg/kg	2.0
Aluminum, Total	39.7	u	mg/kg	39.7
Arsenic, Total	0.36	u	mg/kg	0.36
Barium, Total	39.7	u	mg/kg	39.7
Beryllium, Total	0.99	u	mg/kg	0.99
Calcium, Total	993	u	mg/kg	993
Cadmium, Total	0.99	u	mg/kg	0.99
Cobalt, Total	9.9	u	mg/kg	9.9
Chromium, Total	4.9		mg/kg	2.0
Copper, Total	5.0	u	mg/kg	5.0
Iron, Total	81.3		mg/kg	19.9
Mercury, Total	0.072	u	mg/kg	0.072
Potassium, Total	993	u	mg/kg	993
Magnesium, Total	993	u	mg/kg	993
Manganese, Total	3.0	u	mg/kg	3.0
Sodium, Total	993	u	mg/kg	993
Nickel, Total	7.9	u	mg/kg	7.9

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday December 28th, 1989

RE: Int Pol Control X205
Project # 1104-09-01-0000
Lab ID: 89116770-005
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Lead, Total	5.1		mg/kg	0.36
Antimony, Total	11.9	u	mg/kg	11.9
Selenium, Total	0.67		mg/kg	0.36
Thallium, Total	0.36	u	mg/kg	0.36
Vanadium, Total	9.9	u	mg/kg	9.9
Zinc, Total	18.2		mg/kg	4.0

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X205
Project # 1104-09-01-0000
Lab ID: 8911G770-005
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	10000	U
Bromomethane	BDL	10000	U
Vinyl Chloride	BDL	10000	U
Chloroethane	BDL	10000	U
Methylene Chloride	3600	5000	JB
Acetone	9600	10000	JB
Carbon Disulfide	BDL	5000	U
1,1-Dichloroethene	BDL	5000	U
1,1-Dichloroethane	57000	5000	
1,2-Dichloroethene (total)	37000	5000	
Chloroform	BDL	5000	U
1,2-Dichloroethane	BDL	5000	U
2-Butanone	8100	10000	JB
1,1,1-Trichloroethane	4400	5000	J
Carbon Tetrachloride	BDL	5000	U
Vinyl Acetate	BDL	10000	U
Bromodichloromethane	BDL	5000	U

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X205
Project # 1104-09-01-0000
Lab ID: 89116770-005
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	5000	U
cis-1,3-Dichloropropene	BDL	5000	U
Trichloroethene	7400	5000	
Dibromochloromethane	BDL	5000	U
1,1,2-Trichloroethane	BDL	5000	U
Benzene	BDL	5000	U
Trans-1,3-Dichloropropene	BDL	5000	U
Bromoform	BDL	5000	U
4-Methyl-2-pentanone	BDL	10000	U
2-Hexanone	BDL	10000	U
Tetrachloroethene	BDL	5000	U
1,1,2,2-Tetrachloroethane	BDL	5000	U
Toluene	26000	5000	
Chlorobenzene	BDL	5000	U
Ethylbenzene	98000	5000	
Styrene	BDL	5000	U
Xylene (total)	210000	5000	

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X205
Project # 1104-09-01-0000
Lab ID: 8911G770-005
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

Tentatively Identified Compounds

4 Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Volatile Compound	Retention Time	Estimated Concentration	
C3-BENZENE	25.85	10000	J
Unknown	26.44	20000	J
UNKNOWN HYDROCARBON	27.55	20000	J
UNKNOWN HYDROCARBON	28.54	10000	J

WESTON
MANAGERS DESIGNERS/CONSULTANTS

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Tuesday December 5th, 1989

RE: Int Pol Control X205
Project # 1104-09-01-0000
Lab ID: 8911G770-005
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

PCBs by GC

Compound	Result	Detection Limit	Flag
Aroclor-1016	BDL	790	U
Aroclor-1221	BDL	790	U
Aroclor-1232	BDL	790	U
Aroclor-1242	BDL	790	U
Aroclor-1248	BDL	790	U
Aroclor-1254	3100	1600	
Aroclor-1260	BDL	1600	U

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Friday December 8th, 1989

RE: Int Pol Control X206 T-6 ?
Project # 1104-09-01-0000
Lab ID: 8911G770-006
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Total	13.6	mg/kg	2.4
Flash Point	110	DEG F	

WESTON-GULF COAST LABORATORIES, INC
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday December 28th, 1989

RE: Int Pol Control X206
Project # 1104-09-01-0000
Lab ID: 89116770-006
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Silver, Total	2.0	u	mg/kg	2.0
Aluminum, Total	4320		mg/kg	39.6
Arsenic, Total	1.8		mg/kg	0.38
Barium, Total	127		mg/kg	39.6
Beryllium, Total	0.99	u	mg/kg	0.99
Calcium, Total	68800		mg/kg	991
Cadmium, Total	3.2		mg/kg	0.99
Cobalt, Total	9.9	u	mg/kg	9.9
Chromium, Total	63.0		mg/kg	2.0
Copper, Total	135		mg/kg	5.0
Iron, Total	11300		mg/kg	19.8
Mercury, Total	0.17		mg/kg	0.099
Potassium, Total	991	u	mg/kg	991
Magnesium, Total	37000		mg/kg	991
Manganese, Total	611		mg/kg	3.0
Sodium, Total	991	u	mg/kg	991
Nickel, Total	35.1		mg/kg	7.9

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday December 28th, 1989

RE: Int Pol Control X206
Project # 1104-09-01-0000
Lab ID: 89116770-006
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Lead, Total	269		mg/kg	9.9
Antimony, Total	11.9	u	mg/kg	11.9
Selenium, Total	0.38	u	mg/kg	0.38
Thallium, Total	0.38	u	mg/kg	0.38
Vanadium, Total	9.9	u	mg/kg	9.9
Zinc, Total	650		mg/kg	4.0

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X206
Project # 1104-09-01-0000
Lab ID: 8911G770-006
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	1000	U
Bromomethane	BDL	1000	U
Vinyl Chloride	BDL	1000	U
Chloroethane	BDL	1000	U
Methylene Chloride	BDL	500	U
Acetone	1800	1000	
Carbon Disulfide	BDL	500	U
1,1-Dichloroethene	BDL	500	U
1,1-Dichloroethane	15000	500	
1,2-Dichloroethene (total)	E	500	
Chloroform	BDL	500	U
1,2-Dichloroethane	BDL	500	U
2-Butanone	4700	1000	B
1,1,1-Trichloroethane	E	500	
Carbon Tetrachloride	BDL	500	U
Vinyl Acetate	BDL	1000	U
Bromodichloromethane	BDL	500	U

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X206
Project # 1104-09-01-0000
Lab ID: 8911G770-006
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	500	U
cis-1,3-Dichloropropene	BDL	500	U
Trichloroethene	9400	500	
Dibromochloromethane	BDL	500	U
1,1,2-Trichloroethane	BDL	500	U
Benzene	630	500	
Trans-1,3-Dichloropropene	BDL	500	U
Bromoform	BDL	500	U
4-Methyl-2-pentanone	2000	1000	
2-Hexanone	2300	1000	
Tetrachloroethene	E	500	
1,1,2,2-Tetrachloroethane	BDL	500	U
Toluene	18000	500	
Chlorobenzene	BDL	500	U
Ethylbenzene	17000	500	
Styrene	630	500	
Xylene (total)	E	500	

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X206
Project # 1104-09-01-0000
Lab ID: 89116770-006
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

Tentatively Identified Compounds

9 Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Volatile Compound	Retention Time	Estimated Concentration	
C3-BENZENE	25.83	20000	J
C3-BENZENE	26.15	10000	J
C3-BENZENE	26.64	10000	J
C3-BENZENE	27.30	20000	J
UNKNOWN HYDROCARBON	27.50	10000	J
C3-BENZENE	28.52	20000	J
C4-BENZENE	29.73	10000	J
Unknown	29.93	10000	J
C4-BENZENE	30.85	10000	J

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X206
Project # 1104-09-01-0000
Lab ID: 8911G770-006 DL
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloroethene (total)	28000	1000	
1,1,1-Trichloroethane	27000	1000	
Tetrachloroethene	27000	1000	
Xylene (total)	62000	1000	

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES
2417 Bond St University Park Illinois 60466
Phones (312) 534-5200 (312) 385-7077

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Tuesday December 5th, 1989

RE: Int Pol Control X206
Project # 1104-09-01-0000
Lab ID: 8911G770-006
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

PCBs by GC

Compound	Result	Detection Limit	Flag
Aroclor-1016	BDL	760	U
Aroclor-1221	BDL	760	U
Aroclor-1232	BDL	760	U
Aroclor-1242	BDL	760	U
Aroclor-1248	BDL	760	U
Aroclor-1254	1200	1500	J
Aroclor-1260	BDL	1500	U

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Friday December 8th, 1989

RE: Int Pol Control X207
Project # 1104-09-01-0000
Lab ID: 8911G770-007
Sample Date: 11/01/89
Date Received: 11/02/89

T-7

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Cyanide, Total	0.43	u	mg/kg	0.43
Flash Point	100		DEG F	

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday December 28th, 1989

RE: Int Pol Control X207
Project # 1104-09-01-0000
Lab ID: 89116770-007
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Silver, Total	1.8	u	mg/kg	1.8
Aluminum, Total	36.7	u	mg/kg	36.7
Arsenic, Total	0.37	u	mg/kg	0.37
Barium, Total	36.7	u	mg/kg	36.7
Beryllium, Total	0.92	u	mg/kg	0.92
Calcium, Total	918	u	mg/kg	918
Cadmium, Total	0.92	u	mg/kg	0.92
Cobalt, Total	9.2	u	mg/kg	9.2
Chromium, Total	1.8	u	mg/kg	1.8
Copper, Total	4.6	u	mg/kg	4.6
Iron, Total	212		mg/kg	18.4
Mercury, Total	0.093	u	mg/kg	0.093
Potassium, Total	918	u	mg/kg	918
Magnesium, Total	918	u	mg/kg	918
Manganese, Total	10.7		mg/kg	2.8
Sodium, Total	2330		mg/kg	918
Nickel, Total	7.3	u	mg/kg	7.3

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday December 28th, 1989

RE: Int Pol Control X207
Project # 1104-09-01-0000
Lab ID: 8911G770-007
Sample Date: 11/01/89
Date Received: 11/02/89

Inorganic Client Data Report

Parameters	Result		Units	Reporting Limit
Lead, Total	0.81		mg/kg	0.37
Antimony, Total	11.0	u	mg/kg	11.0
Selenium, Total	0.37	u	mg/kg	0.37
Thallium, Total	0.37	u	mg/kg	0.37
Vanadium, Total	9.2	u	mg/kg	9.2
Zinc, Total	3.9		mg/kg	3.7

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X207
Project # 1104-09-01-0000
Lab ID: 89116770-007
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Chloromethane	BDL	1000	U
Bromomethane	BDL	1000	U
Vinyl Chloride	BDL	1000	U
Chloroethane	BDL	1000	U
Methylene Chloride	7200	500	B
Acetone	E	1000	
Carbon Disulfide	BDL	500	U
1,1-Dichloroethene	BDL	500	U
1,1-Dichloroethane	13000	500	
1,2-Dichloroethene (total)	7300	500	
Chloroform	BDL	500	U
1,2-Dichloroethane	220	500	J
2-Butanone	10000	1000	B
1,1,1-Trichloroethane	3400	500	
Carbon Tetrachloride	BDL	500	U
Vinyl Acetate	BDL	1000	U
Bromodichloromethane	BDL	500	U

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X207
Project # 1104-09-01-0000
Lab ID: 89116770-007
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
1,2-Dichloropropane	BDL	500	U
cis-1,3-Dichloropropene	BDL	500	U
Trichloroethene	2600	500	
Dibromochloromethane	BDL	500	U
1,1,2-Trichloroethane	BDL	500	U
Benzene	1800	500	
Trans-1,3-Dichloropropene	BDL	500	U
Bromoform	BDL	500	U
4-Methyl-2-pentanone	1200	1000	
2-Hexanone	BDL	1000	U
Tetrachloroethene	450	500	J
1,1,2,2-Tetrachloroethane	BDL	500	U
Toluene	2400	500	
Chlorobenzene	BDL	500	U
Ethylbenzene	490	500	J
Styrene	BDL	500	U
Xylene (total)	2100	500	

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X207
Project # 1104-09-01-0000
Lab ID: 89116770-007
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

Tentatively Identified Compounds

7 Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Volatile Compound	Retention Time	Estimated Concentration	
UNKNOWN HYDROCARBON	20.18	4000	J
UNKNOWN HYDROCARBON	22.86	5000	J
NAPHTHALENE	27.72	20000	J
UNKNOWN HYDROCARBON	28.21	2000	J
UNKNOWN HYDROCARBON	28.80	2000	J
UNKNOWN HYDROCARBON	29.27	4000	J
UNKNOWN HYDROCARBON	29.76	2000	J

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES, INC.
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Thursday November 9th, 1989

RE: Int Pol Control X207
Project # 1104-09-01-0000
Lab ID: 89116770-007 DL
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

VOLATILES BY GC/MS, HSL LIST

Volatile Compound	Result	Detection Limit	Flag
Acetone	43000	5000	

WESTON
MANAGERS DESIGNERS/CONSULTANTS

WESTON-GULF COAST LABORATORIES INC
2417 Bond St., University Park, Illinois 60466
Phones: (312) 534-5200 (219) 885-7077 (815) 723-7531

To: Illinois EPA
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

Attn: Mr. Ron Turpin

Date: Tuesday December 5th, 1989

RE: Int Pol Control X207
Project # 1104-09-01-0000
Lab ID: 8911G770-007
Sample Date: 11/01/89
Date Received: 11/02/89
Units: UG/KG

PCBs by GC

Compound	Result	Detection Limit	Flag
Aroclor-1016	BDL	800	U
Aroclor-1221	BDL	800	U
Aroclor-1232	BDL	800	U
Aroclor-1242	BDL	800	U
Aroclor-1248	BDL	800	U
Aroclor-1254	BDL	1600	U
Aroclor-1260	BDL	1600	U

Custody Transfer Record/Lab Work Request

WESTON

WESTON Analytics Use Only
8911G770

Client: Ill EPA
Work Order:
Date Rec'd. 11/2/89 Date Due 11/22/89
RFW Contact: Chuck Maw
Client Contact/Phone: Ron Turpin

Refrigerator#	P	W	→	C						
#/Type Container	2/G	1/G	→	1/G						
Volume	2oz	32oz	→	32oz						
Preservative	(ice)	(ice)	→	(ice)						
ANALYSES REQUESTED	VOA 6244	HSL metals		CN	PCB					

WA Use Only Lab ID	Client ID/Description	Matrix	Date Collected								
001	Interstate Pol. Control X201	DL	11/1/89	X	X	X	X				
002	X202										
003	X203										
004	X204										
005	X205										
006	X206										
007	X207										

Matrix:
S - Soil, SE - Sediment, SO - Solid, W - Water, O - Oil, A - Air, Wi - Wipe, DS - Drum Solids, DL - Drum Liquids, F - Fish, X - Other

Special Instructions: CLP

Item/Reason	Relinquished by	Received by	Date	Time	Item/Reason	Relinquished by	Received by	Date	Time
		Patti Anderson	11/2/89	12:45		[illegible]	[illegible]	11/10	8:00
	Patti Anderson	[illegible]	11/7/89	14:40		[illegible]	[illegible]	11/10	10:40
	Patti Anderson	Debby Kochert	11/8/89	10:40					
	Debby Kochert	Patti Anderson	11/8/89	12:05					
	Patti Anderson	Kathy Miller	11/20/89	16:45					
	Kathy Miller	[illegible]	11/22/89	1000					

RFW 21-21-001/A-7/88

WESTON Analytics Use Only

Samples Were:
1 Shipped or Hand-Delivered
NOTES: UPS
2 Ambient or Chilled
NOTES:
3 Received Broken/Leaking (Improperly Sealed) Y N
NOTES: lids cracked on some samples
4 Properly Preserved Y N
NOTES:
5 Received Within Holding Times Y N
NOTES:

COC Tape Was:
1 Present on Outer Package Y N
2 Unbroken on Outer Package Y N
3 Present on Sample Y N
4 Unbroken on Sample Y N
NOTES:

COC Record Was:
1 Present Upon Receipt of Samples Y N

Discrepancies Between Sample Labels and COC Record? Y N
NOTES: -002 - PCB Jar marked X201 but fit time and description of 001

1/2 pa

7-115

0005

EPA - CLP
CHAIN OF CUSTODY

Seal # 5579

Date Sealed: 11/1/89 By: [illegible]

Facility
Name : INTERSTATE POLLUTION CONTROL
Region : ROCKFORD
County : WINNEBAGO

Site Inventory # : 2010300018
Site Billing Code : LP-52573
Project Manager : SCOTT MOYER

LABORATORY
8911G770001

X-201 11-1-89 1:15 pm

Black Oil Liquid
NE Tank - Inside Bund
[illegible] IPC

CONTAINER				ANALYSIS	
No.	Code	Size	Pres		
2	12	2oz		VOA	
	5	32oz		TOTAL METALS, CYANIDE - lid cracked	N Pa 11/2/89
	5	32oz		PCB	N

Kerry Keller Signature: Kerry Keller
11-1-89 Time: 1:05 pm Seal #: 5589

(print): Kerry Keller Signature: Kerry Keller
11-1-89 Time: 4:15 pm Seal #: 5590
UPS Pickup 11-1-89

Courier - sample delivery

I certify that I received the sample shipping container from the courier [illegible] and that each bottle in the shipping container was intact. After recording the [illegible] the [illegible] custody of competent laboratory personnel at all times or locked in a [illegible]

Opened by (print): Patti Anderson Signature: Patti Anderson

Date: 11/2/89 Time: 12:15 Seal #: 5590 Intact?: Y

Lab Name: Weston/GCL Comments: 000053

APPENDIX B

ANALYTICAL RESULTS OF U.S. EPA AUGUST 1990 SAMPLING

GRACE ANALYTICAL LAB, INC.

5300-B McDermott Drive
Berkeley, Illinois 60163
(312) 449-9449

August 30, 1990

Ms. Melody Sullivan
Roy F. Weston, Inc.
111 N. Canal St.
Suite 855
Chicago, IL 60606

RECEIVED
AUG 31 1990
TAT REG V
SM

Dear Ms. Sullivan:

I am enclosing the data package for the project number 90WT14 for sevem oil samples which were submitted to our laboratory on August 16, 1990. Please see the chain of custody record for the sample identifications.

Sincerely,

Steven Kim

Steven Kim, Ph.D.
Lab Director

SK/gk

enclosures

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Stree
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ NO.: 90WT14
PROJECT NAME:
SAMPLERS (Signature): Kevin Ryle

STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	RCRA PARAMETERS	PCBS	VOCS				REMARKS EIA TAG #
S12	8/14/90	0955		X	TANK 1	(1) 32oz	X	X	X				5-090006
S13	↓	1000		X	TANK 2	↓	X	X	X				5-090007
S14		1015		X	TANK 3		X	X	X				5-090425
S15		1025		X	TANK 4		X	X	X				5-091026
S16		1030		X	TANK 5		X	X	X				5-091027
S17		1040		X	TANK 6		X	X	X				5-091028
S18	↓	1045		X	TANK 7	↓	X	X	X				5-091029

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Kevin M. Ryle	8/16/90 1712	Bruce Kim			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks GRACE LABS 5300 B McDERMOTT DR. BERKLEY, IL. 60163 (708) 449-9447	

Distribution: White — Accompanies Shipment; Coordinator Field Files; Yellow — Laboratory File

GRACE ANALYTICAL LAB. INC.
5300-B MCDERMOTT DRIVE, BERKELEY. ILLINOIS 60163

VOLATILES ORGANIC ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: S-12, Tank 1 FILE REF. NO: >V1223

	CAS #	COMPOUND	AMOUNT (MG/KG)	
1.	74-87-3	CHLOROMETHANE	10	U
2.	74-83-9	BROMOMETHANE	10	U
3.	75-01-4	VINYL CHLORIDE	2.0	U
4.	75-00-3	CHLOROETHANE	1.5	U
5.	75-09-2	METHYLENE CHLORIDE	1.0	U
6.	67-64-1	ACETONE	50	U
7.	75-15-0	CARBON DISULFIDE	3.0	U
8.	75-35-4	1,1-DICHLOROETHENE	1.5	U
9.	75-34-3	1,1-DICHLOROETHANE	1.5	U
10.	540-59-0	1,2-DICHLOROETHENE (total)	1.5	U
11.	67-66-3	CHLOROFORM	1.5	U
12.	78-93-3	2-BUTANONE	50	U
13.	107-06-2	1,2-DICHLOROETHANE	1.5	U
14.	71-55-6	1,1,1-TRICHLOROETHANE		38.9
15.	56-23-5	CARBON TETRACHLORIDE	1.5	U
16.	108-05-4	VINYL ACETATE	15	U
17.	75-27-4	BROMODICHLOROMETHANE	1.5	U
18.	78-87-5	1,2-DICHLOROPROPANE	1.5	U
19.	10061-01-5	cis-1,3-DICHLOROPROPENE	1.0	U
20.	79-01-6	TRICHLOROETHENE		108
21.	71-43-2	BENZENE		61.0
22.	124-48-1	DIBROMOCHLOROMETHANE	1.5	U
23.	79-00-5	1,1,2-TRICHLOROETHANE	1.5	U
24.	10061-02-6	trans-1,3-DICHLOROPROPENE	2.0	U
25.	110-75-8	2-CHLOROETHYLVINYL ETHER	1.5	U
26.	75-25-2	BROMOFORM	1.5	U
27.	108-10-1	4-METHYL-2-PENTANONE	3.0	U
28.	591-78-6	2-HEXANONE	50	U
29.	127-18-4	TETRACHLOROETHENE		140
30.	79-34-5	1,1,2,2-TETRACHLOROETHANE	1.5	U
31.	108-88-3	TOLUENE		111
32.	108-90-7	CHLOROBENZENE	1.5	U
33.	100-41-4	ETHYLBENZENE		166
34.	100-42-5	STYRENE	1.0	U
35.	108-38-3	XYLENE (total)		1070

CODES: U - COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE VALUE REPORTED IS THE METHOD DETECTION LIMIT FOR REAGENT WATER.
J - ESTIMATED VALUE.
SLC - SUSPECTED LABORATORY CONTAMINANT.
SFC - SUSPECTED FIELD CONTAMINANT.

GRACE ANALYTICAL LAB. INC.
5300-B MCDERMOTT DRIVE, BERKELEY, ILLINOIS 60163

VOLATILES ORGANIC ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: S-13, Tank 2 FILE REF. NO: >V1224

	CAS #	COMPOUND	AMOUNT (MG/KG)	
1.	74-87-3	CHLOROMETHANE	10	U
2.	74-83-9	BROMOMETHANE	10	U
3.	75-01-4	VINYL CHLORIDE	2.0	U
4.	75-00-3	CHLOROETHANE	1.5	U
5.	75-09-2	METHYLENE CHLORIDE	1.0	U
6.	67-64-1	ACETONE	50	U
7.	75-15-0	CARBON DISULFIDE	3.0	U
8.	75-35-4	1,1-DICHLOROETHENE	1.5	U
9.	75-34-3	1,1-DICHLOROETHANE	1.5	U
10.	540-59-0	1,2-DICHLOROETHENE (total)	1.5	U
11.	67-66-3	CHLOROFORM	1.5	U
12.	78-93-3	2-BUTANONE	50	U
13.	107-06-2	1,2-DICHLOROETHANE	1.5	U
14.	71-55-6	1,1,1-TRICHLOROETHANE		97.7
15.	56-23-5	CARBON TETRACHLORIDE	1.5	U
16.	108-05-4	VINYL ACETATE	15	U
17.	75-27-4	BROMODICHLOROMETHANE	1.5	U
18.	78-87-5	1,2-DICHLOROPROPANE	1.5	U
19.	10061-01-5	cis-1,3-DICHLOROPROPENE	1.0	U
20.	79-01-6	TRICHLOROETHENE		497
21.	71-43-2	BENZENE		259
22.	124-48-1	DIBROMOCHLOROMETHANE	1.5	U
23.	79-00-5	1,1,2-TRICHLOROETHANE	1.5	U
24.	10061-02-6	trans-1,3-DICHLOROPROPENE	2.0	U
25.	110-75-8	2-CHLOROETHYLVINYL ETHER	1.5	U
26.	75-25-2	BROMOFORM	1.5	U
27.	108-10-1	4-METHYL-2-PENTANONE	3.0	U
28.	591-78-6	2-HEXANONE	50	U
29.	127-18-4	TETRACHLOROETHENE		188
30.	79-34-5	1,1,2,2-TETRACHLOROETHANE	1.5	U
31.	108-88-3	TOLUENE		305
32.	108-90-7	CHLOROBENZENE	1.5	U
33.	100-41-4	ETHYLBENZENE		1300
34.	100-42-5	STYRENE	1.0	U
35.	108-38-3	XYLENE (total)		2030

CODES: U - COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE VALUE REPORTED IS THE METHOD DETECTION LIMIT FOR REAGENT WATER.
J - ESTIMATED VALUE.
SLC - SUSPECTED LABORATORY CONTAMINANT.
SFC - SUSPECTED FIELD CONTAMINANT.

GRACE ANALYTICAL LAB, INC.
5300-B MCDERMOTT DRIVE, BERKELEY, ILLINOIS 60163

VOLATILES ORGANIC ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: S-14, Tank 3 FILE REF. NO: >V1225

	CAS #	COMPOUND	AMOUNT (MG/KG)	
1.	74-87-3	CHLOROMETHANE	10	U
2.	74-83-9	BROMOMETHANE	10	U
3.	75-01-4	VINYL CHLORIDE	2.0	U
4.	75-00-3	CHLOROETHANE	1.5	U
5.	75-09-2	METHYLENE CHLORIDE	1.0	U
6.	67-64-1	ACETONE	50	U
7.	75-15-0	CARBON DISULFIDE	3.0	U
8.	75-35-4	1,1-DICHLOROETHENE	1.5	U
9.	75-34-3	1,1-DICHLOROETHANE	1.5	U
10.	540-59-0	1,2-DICHLOROETHENE (total)	1.5	U
11.	67-66-3	CHLOROFORM	1.5	U
12.	78-93-3	2-BUTANONE	50	U
13.	107-06-2	1,2-DICHLOROETHANE	1.5	U
14.	71-55-6	1,1,1-TRICHLOROETHANE		56.2
15.	56-23-5	CARBON TETRACHLORIDE	1.5	U
16.	108-05-4	VINYL ACETATE	15	U
17.	75-27-4	BROMODICHLOROMETHANE	1.5	U
18.	78-87-5	1,2-DICHLOROPROPANE	1.5	U
19.	10061-01-5	cis-1,3-DICHLOROPROPENE	1.0	U
20.	79-01-6	TRICHLOROETHENE		98.1
21.	71-43-2	BENZENE		75.7
22.	124-48-1	DIBROMOCHLOROMETHANE	1.5	U
23.	79-00-5	1,1,2-TRICHLOROETHANE	1.5	U
24.	10061-02-6	trans-1,3-DICHLOROPROPENE	2.0	U
25.	110-75-8	2-CHLOROETHYLVINYL ETHER	1.5	U
26.	75-25-2	BROMOFORM	1.5	U
27.	108-10-1	4-METHYL-2-PENTANONE	3.0	U
28.	591-78-6	2-HEXANONE	50	U
29.	127-18-4	TETRACHLOROETHENE		95.5
30.	79-34-5	1,1,2,2-TETRACHLOROETHANE	1.5	U
31.	108-88-3	TOLUENE		180
32.	108-90-7	CHLOROBENZENE	1.5	U
33.	100-41-4	ETHYLBENZENE		615
34.	100-42-5	STYRENE	1.0	U
35.	108-38-3	XYLENE (total)		1290

CODES: U - COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE VALUE REPORTED IS THE METHOD DETECTION LIMIT FOR REAGENT WATER.
J - ESTIMATED VALUE.
SLC - SUSPECTED LABORATORY CONTAMINANT.
SFC - SUSPECTED FIELD CONTAMINANT.

GRACE ANALYTICAL LAB. INC.
5300-B MCDERMOTT DRIVE, BERKELEY, ILLINOIS 60163

VOLATILES ORGANIC ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: S-15, Tank 4 FILE REF. NO: >V1226

	CAS #	COMPOUND	AMOUNT (MG/KG)	
1.	74-87-3	CHLOROMETHANE	10	U
2.	74-83-9	BROMOMETHANE	10	U
3.	75-01-4	VINYL CHLORIDE	2.0	U
4.	75-00-3	CHLOROETHANE	1.5	U
5.	75-09-2	METHYLENE CHLORIDE	1.0	U
6.	67-64-1	ACETONE	50	U
7.	75-15-0	CARBON DISULFIDE	3.0	U
8.	75-35-4	1,1-DICHLOROETHENE	1.5	U
9.	75-34-3	1,1-DICHLOROETHANE		44.0
10.	540-59-0	1,2-DICHLOROETHENE (total)		86.9
11.	67-66-3	CHLOROFORM	1.5	U
12.	78-93-3	2-BUTANONE	50	U
13.	107-06-2	1,2-DICHLOROETHANE	1.5	U
14.	71-55-6	1,1,1-TRICHLOROETHANE	1.5	U
15.	56-23-5	CARBON TETRACHLORIDE	1.5	U
16.	108-05-4	VINYL ACETATE	15	U
17.	75-27-4	BROMODICHLOROMETHANE	1.5	U
18.	78-87-5	1,2-DICHLOROPROPANE	1.5	U
19.	10061-01 5	cis-1,3-DICHLOROPROPENE	1.0	U
20.	79-01-6	TRICHLOROETHENE		136
21.	71-43-2	BENZENE		12.9
22.	124-48-1	DIBROMOCHLOROMETHANE	1.5	U
23.	79-00-5	1,1,2-TRICHLOROETHANE	1.5	U
24.	10061-02-6	trans-1,3-DICHLOROPROPENE	2.0	U
25.	110-75-8	2-CHLOROETHYLVINYL ETHER	1.5	U
26.	75-25-2	BROMOFORM	1.5	U
27.	108-10-1	4-METHYL-2-PENTANONE	3.0	U
28.	591-78-6	2-HEXANONE	50	U
29.	127-18-4	TETRACHLOROETHENE		58.0
30.	79-34-5	1,1,2,2-TETRACHLOROETHANE	1.5	U
31.	108-88-3	TOLUENE		133
32.	108-90-7	CHLOROBENZENE	1.5	U
33.	100-41-4	ETHYLBENZENE		1590
34.	100-42-5	STYRENE	1.0	U
35.	108-38-3	XYLENE (total)		3280

CODES: U - COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE VALUE REPORTED IS THE METHOD DETECTION LIMIT FOR REAGENT WATER.
J - ESTIMATED VALUE.
SLC - SUSPECTED LABORATORY CONTAMINANT.
SFC - SUSPECTED FIELD CONTAMINANT.

GRACE ANALYTICAL LAB, INC.
5300-B MCDERMOTT DRIVE, BERKELEY, ILLINOIS 60163

VOLATILES ORGANIC ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: S-16, Tank 5 FILE REF. NO: >V1227

	CAS #	COMPOUND	AMOUNT (MG/KG)	
1.	74-87-3	CHLOROMETHANE	10	U
2.	74-83-9	BROMOMETHANE	10	U
3.	75-01-4	VINYL CHLORIDE	2.0	U
4.	75-00-3	CHLOROETHANE	1.5	U
5.	75-09-2	METHYLENE CHLORIDE	1.0	U
6.	67-64-1	ACETONE	50	U
7.	75-15-0	CARBON DISULFIDE	3.0	U
8.	75-35-4	1,1-DICHLOROETHENE	1.5	U
9.	75-34-3	1,1-DICHLOROETHANE		31.2
10.	540-59-0	1,2-DICHLOROETHENE (total)		139
11.	67-66-3	CHLOROFORM	1.5	U
12.	78-93-3	2-BUTANONE	50	U
13.	107-06-2	1,2-DICHLOROETHANE	1.5	U
14.	71-55-6	1,1,1-TRICHLOROETHANE		27.4
15.	56-23-5	CARBON TETRACHLORIDE	1.5	U
16.	108-05-4	VINYL ACETATE	15	U
17.	75-27-4	BROMODICHLOROMETHANE	1.5	U
18.	78-87-5	1,2-DICHLOROPROPANE	1.5	U
19.	10061-01-5	cis-1,3-DICHLOROPROPENE	1.0	U
20.	79-01-6	TRICHLOROETHENE		109
21.	71-43-2	BENZENE		11.8
22.	124-48-1	DIBROMOCHLOROMETHANE	1.5	U
23.	79-00-5	1,1,2-TRICHLOROETHANE	1.5	U
24.	10061-02-6	trans-1,3-DICHLOROPROPENE	2.0	U
25.	110-75-8	2-CHLOROETHYLVINYL ETHER	1.5	U
26.	75-25-2	BROMOFORM	1.5	U
27.	108-10-1	4-METHYL-2-PENTANONE	3.0	U
28.	591-78-6	2-HEXANONE	50	U
29.	127-18-4	TETRACHLOROETHENE		179
30.	79-34-5	1,1,2,2-TETRACHLOROETHANE	1.5	U
31.	108-88-3	TOLUENE		210
32.	108-90-7	CHLOROBENZENE	1.5	U
33.	100-41-4	ETHYLBENZENE		2330
34.	100-42-5	STYRENE	1.0	U
35.	108-38-3	XYLENE (total)		4800

CODES: U - COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE VALUE REPORTED IS THE METHOD DETECTION LIMIT FOR REAGENT WATER.
J - ESTIMATED VALUE.
SLC - SUSPECTED LABORATORY CONTAMINANT.
SFC - SUSPECTED FIELD CONTAMINANT.

GRACE ANALYTICAL LAB. INC.
5300-B MCDERMOTT DRIVE, BERKELEY, ILLINOIS 60163

VOLATILES ORGANIC ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: S-17, Tank 6 FILE REF. NO: >V1228

	CAS #	COMPOUND	AMOUNT (MG/KG)	
1.	74-87-3	CHLOROMETHANE	10	U
2.	74-83-9	BROMOMETHANE	10	U
3.	75-01-4	VINYL CHLORIDE	2.0	U
4.	75-00-3	CHLOROETHANE	1.5	U
5.	75-09-2	METHYLENE CHLORIDE	1.0	U
6.	67-64-1	ACETONE	50	U
7.	75-15-0	CARBON DISULFIDE	3.0	U
8.	75-35-4	1,1-DICHLOROETHENE	1.5	U
9.	75-34-3	1,1-DICHLOROETHANE		17.4
10.	540-59-0	1,2-DICHLOROETHENE (total)		88.2
11.	67-66-3	CHLOROFORM	1.5	U
12.	78-93-3	2-BUTANONE	50	U
13.	107-06-2	1,2-DICHLOROETHANE	1.5	U
14.	71-55-6	1,1,1-TRICHLOROETHANE		51.1
15.	56-23-5	CARBON TETRACHLORIDE	1.5	U
16.	108-05-4	VINYL ACETATE	15	U
17.	75-27-4	BROMODICHLOROMETHANE	1.5	U
18.	78-87-5	1,2-DICHLOROPROPANE	1.5	U
19.	10061-01-5	cis-1,3-DICHLOROPROPENE	1.0	U
20.	79-01-6	TRICHLOROETHENE		130
21.	71-43-2	BENZENE		40.2
22.	124-48-1	DIBROMOCHLOROMETHANE	1.5	U
23.	79-00-5	1,1,2-TRICHLOROETHANE	1.5	U
24.	10061-02-6	trans-1,3-DICHLOROPROPENE	2.0	U
25.	110-75-8	2-CHLOROETHYLVINYL ETHER	1.5	U
26.	75-25-2	BROMOFORM	1.5	U
27.	108-10-1	4-METHYL-2-PENTANONE	3.0	U
28.	591-78-6	2-HEXANONE	50	U
29.	127-18-4	TETRACHLOROETHENE		108
30.	79-34-5	1,1,2,2-TETRACHLOROETHANE	1.5	U
31.	108-88-3	TOLUENE		137
32.	108-90-7	CHLOROBENZENE	1.5	U
33.	100-41-4	ETHYLBENZENE		1760
34.	100-42-5	STYRENE	1.0	U
35.	108-38-3	XYLENE (total)		2990

CODES: U - COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE VALUE REPORTED IS THE METHOD DETECTION LIMIT FOR REAGENT WATER.
J - ESTIMATED VALUE.
SLC - SUSPECTED LABORATORY CONTAMINANT.
SFC - SUSPECTED FIELD CONTAMINANT.

GRACE ANALYTICAL LAB. INC.
5300-B MCDERMOTT DRIVE, BERKELEY, ILLINOIS 60163

VOLATILES ORGANIC ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: S-18, Tank 7 FILE REF. NO: >01229

	CAS #	COMPOUND	AMOUNT (MG/KG)	
1.	74-87-3	CHLOROMETHANE	10	U
2.	74-83-9	BROMOMETHANE	10	U
3.	75-01-4	VINYL CHLORIDE	2.0	U
4.	75-00-3	CHLOROETHANE	1.5	U
5.	75-09-2	METHYLENE CHLORIDE	1.0	U
6.	67-64-1	ACETONE	50	U
7.	75-15-0	CARBON DISULFIDE	3.0	U
8.	75-35-4	1,1-DICHLOROETHENE	1.5	U
9.	75-34-3	1,1-DICHLOROETHANE		1.41 J
10.	540-59-0	1,2-DICHLOROETHENE (total)		3.00
11.	67-66-3	CHLOROFORM	1.5	U
12.	78-93-3	2-BUTANONE		10.3 J
13.	107-06-2	1,2-DICHLOROETHANE	1.5	U
14.	71-55-6	1,1,1-TRICHLOROETHANE		0.618 J
15.	56-23-5	CARBON TETRACHLORIDE	1.5	U
16.	108-05-4	VINYL ACETATE	15	U
17.	75-27-4	BROMODICHLOROMETHANE	1.5	U
18.	78-87-5	1,2-DICHLOROPROPANE	1.5	U
19.	10061-01-5	cis-1,3-DICHLOROPROPENE	1.0	U
20.	79-01-6	TRICHLOROETHENE		2.12
21.	71-43-2	BENZENE		1.65
22.	124-48-1	DIBROMOCHLOROMETHANE	1.5	U
23.	79-00-5	1,1,2-TRICHLOROETHANE	1.5	U
24.	10061-02-6	trans-1,3-DICHLOROPROPENE	2.0	U
25.	110-75-8	2-CHLOROETHYLVINYL ETHER	1.5	U
26.	75-25-2	BROMOFORM	1.5	U
27.	108-10-1	4-METHYL-2-PENTANONE		16.9
28.	591-78-6	2-HEXANONE	50	U
29.	127-18-4	TETRACHLOROETHENE		0.328 J
30.	79-34-5	1,1,2,2-TETRACHLOROETHANE	1.5	U
31.	108-88-3	TOLUENE		2.16
32.	108-90-7	CHLOROBENZENE	1.5	U
33.	100-41-4	ETHYLBENZENE		5.91
34.	100-42-5	STYRENE	1.0	U
35.	108-38-3	XYLENE (total)		12.5

CODES: U - COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE VALUE REPORTED IS THE METHOD DETECTION LIMIT FOR REAGENT WATER.
J - ESTIMATED VALUE.
SLC - SUSPECTED LABORATORY CONTAMINANT.
SFC - SUSPECTED FIELD CONTAMINANT.

GRACE ANALYTICAL LAB. INC.
5300-B MCDERMOTT DRIVE, BERKELEY, ILLINOIS 60163

VOLATILES ORGANIC ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: Lab Blank FILE REF. NO: >V1202

	CAS #	COMPOUND	AMOUNT (UG/KG)	
1.	74-87-3	CHLOROMETHANE	10	U
2.	74-83-9	BROMOMETHANE	10	U
3.	75-01-4	VINYL CHLORIDE	2.0	U
4.	75-00-3	CHLOROETHANE	1.5	U
5.	75-09-2	METHYLENE CHLORIDE	1.0	U
6.	67-64-1	ACETONE	50	U
7.	75-15-0	CARBON DISULFIDE	3.0	U
8.	75-35-4	1,1-DICHLOROETHENE	1.5	U
9.	75-34-3	1,1-DICHLOROETHANE	1.5	U
10.	540-59-0	1,2-DICHLOROETHENE (total)	1.5	U
11.	67-66-3	CHLOROFORM	1.5	U
12.	78-93-3	2-BUTANONE	50	U
13.	107-06-2	1,2-DICHLOROETHANE	1.5	U
14.	71-55-6	1,1,1-TRICHLOROETHANE	1.5	U
15.	56-23-5	CARBON TETRACHLORIDE	1.5	U
16.	108-05-4	VINYL ACETATE	15	U
17.	75-27-4	BROMODICHLOROMETHANE	1.5	U
18.	78-87-5	1,2-DICHLOROPROPANE	1.5	U
19.	10061-01-5	cis-1,3-DICHLOROPROPENE	1.0	U
20.	79-01-6	TRICHLOROETHENE	1.5	U
21.	71-43-2	BENZENE	1.5	U
22.	124-48-1	DIBROMOCHLOROMETHANE	1.5	U
23.	79-00-5	1,1,2-TRICHLOROETHANE	1.5	U
24.	10061-02-6	trans-1,3-DICHLOROPROPENE	2.0	U
25.	110-75-8	2-CHLOROETHYLVINYL ETHER	1.5	U
26.	75-25-2	BROMOFORM	1.5	U
27.	108-10-1	4-METHYL-2-PENTANONE	3.0	U
28.	591-78-6	2-HEXANONE	50	U
29.	127-18-4	TETRACHLOROETHENE	1.5	U
30.	79-34-5	1,1,2,2-TETRACHLOROETHANE	1.5	U
31.	108-88-3	TOLUENE	1.5	U
32.	108-90-7	CHLOROBENZENE	1.5	U
33.	100-41-4	ETHYLBENZENE	1.5	U
34.	100-42-5	STYRENE	1.0	U
35.	108-38-3	XYLENE (total)	2.5	U

CODES: U - COMPOUND WAS ANALYZED FOR BUT NOT DETECTED. THE VALUE REPORTED IS THE METHOD DETECTION LIMIT FOR REAGENT WATER.
J - ESTIMATED VALUE.
SLC - SUSPECTED LABORATORY CONTAMINANT.
SFC - SUSPECTED FIELD CONTAMINANT.

GRACE ANALYTICAL LABORATORY
5300-B MCDERMOTT DRIVE
BERKELEY, ILLINOIS 60163 708/449-9449

VOLATILE ORGANICS ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14 STUDY NO: GAL-900816

SAMPLE I.D. NO: S-12, Tank 1 FILE REF. NO: >V1223

TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED AMOUNT (MG/KG)
Heptane	274
Cyclohexane, methyl-	267
Heptane, 4-methyl-	453
Pentane, 3-ethyl-	359
Heptane, 2-methyl-	294
Hexane, 2,4-dimethyl-	298
Octane	427
Octane, 2-methyl-	275
Benzene, (1-methylethyl)-	295
Octane, 2,7-dimethyl-	343

GRACE ANALYTICAL LABORATORY
5300-B MCDERMOTT DRIVE
BERKELEY. ILLINOIS 60163

708/449-9449

VOLATILE ORGANICS ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14

STUDY NO: GAL-900816

SAMPLE I.D. NO: S-13, Tank 2

FILE REF. NO: >V1224

TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED AMOUNT (MG/KG)
Heptane	628
Cyclohexane, methyl-	510
Heptane, 4-methyl-	661
Pentane, 3-ethyl-	571
Heptane, 2-methyl-	481
Hexane, 2,4-dimethyl-	679
Octane, 2-methyl-	426
Pentane, 2,2,4-trimethyl-	471
Nonane	923
Cyclohexane, 1-ethyl-2-methyl-, cis-	408

GRACE ANALYTICAL LABORATORY
5300-B MCDERMOTT DRIVE
BERKELEY, ILLINOIS 60163 708/449-9449

VOLATILE ORGANICS ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14 STUDY NO: GAL-900816

SAMPLE I.D. NO: S-14, Tank 3 FILE REF. NO: >V1225

TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED AMOUNT (MG/KG)
Hexane, 2-methyl-	376
Hexane, 3-methyl-	342
Heptane, 4-methyl-	400
Heptane, 2-methyl-	371
Heptane, 3-methyl-	395
Octane	454
Nonane	539
Cyclohexane, 1-ethyl-2-methyl-, cis-	308
Benzene, (1-methylethyl)-	319
Octane, 4-ethyl-	388

GRACE ANALYTICAL LABORATORY
5300-B MCDERMOTT DRIVE
BERKELEY, ILLINOIS 60163

708/449-9449

VOLATILE ORGANICS ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14

STUDY NO: GAL-900816

SAMPLE I.D. NO: S-15, Tank 4

FILE REF. NO: >V1226

TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED AMOUNT (MG/KG)
Heptane, 2-methyl-	202
Cyclohexane, 1,3-dimethyl-, cis-	181
Octane	454
Heptane, 2,5-dimethyl-	166
Nonane, 4,5-dimethyl-	237
Heptane, 3,5-dimethyl-	213
Heptane, 2,6-dimethyl-	425
Cyclohexane, 1-ethyl-2-methyl-, cis-	160
Octane, 4-ethyl-	180
Octane, 2,5-dimethyl-	199
Decane, 2,5,6-trimethyl-	176
Octane, 2,7-dimethyl-	315

CRACE ANALYTICAL LABORATORY
5300-B MCDERMOTT DRIVE
BERKELEY, ILLINOIS 60163 708/449-9449

VOLATILE ORGANICS ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14 STUDY NO: GAL-900816

SAMPLE I.D. NO: S-16, Tank 5 FILE REF. NO: >V1227

TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED AMOUNT (MG/KG)
Cyclohexane, methyl-	264
Heptane, 2-methyl-	270
Cyclohexane, 1,3-dimethyl-, cis-	313
Hexane, 3-ethyl-	517
Octane, 2-methyl-	280
Heptane, 3,5-dimethyl-	291
Heptane, 2,4-dimethyl-	589
Cyclohexane, 1-ethyl-2-methyl-, cis-	329
Octane, 3-ethyl-	343
Octane, 4-ethyl-	249
Octane, 3,5-dimethyl-	221
Octane, 2,7-dimethyl-	390

GRACE ANALYTICAL LABORATORY
5300-B MCDERMOTT DRIVE
BERKELEY, ILLINOIS 60163 708/449-9449

VOLATILE ORGANICS ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14 STUDY NO: GAL-900816

SAMPLE I.D. NO: S-17, Tank 6 FILE REF. NO: >V1229

TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED AMOUNT (MG/KG)
Hexane, 3-methyl-	340
Heptane	541
Cyclohexane, methyl-	573
Heptane, 2-methyl-	438
Heptane, 3-methyl-	288
Cyclohexane, 1,3-dimethyl-, cis-	409
Hexane, 2,4-dimethyl-	586
Heptane, 2,6-dimethyl-	562
Cyclohexane, 1-ethyl-2-methyl-, cis-	347
Octane, 4-ethyl-	249
Octane, 2,7-dimethyl-	375

GRACE ANALYTICAL LABORATORY
5300-B MCDERMOTT DRIVE
BERKELEY, ILLINOIS 60163 708/449-9449

VOLATILE ORGANICS ANALYSIS DATA SHEET

STUDY NAME: Weston-90WT14 STUDY NO: GAL-900816

SAMPLE I.D. NO: S-18, Tank 7 FILE REF. NO: >V1229

TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED AMOUNT (MG/KG)
2-Butanol	7.13
1-Propanol, 2-methyl-	46.7
1-Butanol	4.68
Decane	8.60
Benzene, 1,2,3-trimethyl-	3.32
Decane, 4-methyl-	2.67
Undecane	6.43

GRACE ANALYTICAL LAB, INC.
5300-B McDermott Drive, Berkeley, Illinois 60163
(708) 449-9449, FAX (708) 449-3663

POLYCHLORINATED BIPHENYL ANALYSIS DATA SHEET

STUDY NAME: WESTON-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: S-12 FILE REF. NO: P1659

AROCLOR #		CAS #		(UG/KG) CONCENTRATION
1016	--	12674-11-2	----------	6.6 U
1221	--	11104-28-2	----------	6.6 U
1232	--	11141-16-5	----------	6.6 U
1242	--	53469-21-9	----------	6.6 U
1248	--	12672-29-6	----------	6.6 U
1254	--	11097-69-1	----------	6.6 U
1260	--	11096-82-5	----------	6.6 U

CODES: U --- COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
THE VALUE REPORTED IS THE METHOD DETECTION LIMIT

SLC - SUSPECTED LABORATORY CONTAMINANT

SFC - SUSPECTED FIELD CONTAMINANT

GRACE ANALYTICAL LAB, INC.
5300-B McDermott Drive, Berkeley, Illinois 60163
(708) 449-9449, FAX (708) 449-3663

POLYCHLORINATED BIPHENYL ANALYSIS DATA SHEET

STUDY NAME: WESTON-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: S-13 FILE REF. NO: P1660

AROCLOR #		CAS #		(UG/KG) CONCENTRATION
1016	--	12674-11-2	----------	6.6 U
1221	--	11104-28-2	----------	6.6 U
1232	--	11141-16-5	----------	6.6 U
1242	--	53469-21-9	----------	6.6 U
1248	--	12672-29-6	----------	6.6 U
1254	--	11097-69-1	----------	6.6 U
1260	--	11096-82-5	----------	6.6 U

CODES: U --- COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
THE VALUE REPORTED IS THE METHOD DETECTION LIMIT

SLC - SUSPECTED LABORATORY CONTAMINANT

SFC - SUSPECTED FIELD CONTAMINANT

GRACE ANALYTICAL LAB, INC.
5300-B McDermott Drive, Berkeley, Illinois 60163
(708) 449-9449, FAX (708) 449-3663

POLYCHLORINATED BIPHENYL ANALYSIS DATA SHEET

STUDY NAME: WESTON-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: S-14 FILE REF. NO: P1661

AROCLOR #		CAS #		(UG/KG) CONCENTRATION
1016	--	12674-11-2	----------	6.6 U
1221	--	11104-28-2	----------	6.6 U
1232	--	11141-16-5	----------	6.6 U
1242	--	53469-21-9	----------	6.6 U
1248	--	12672-29-6	----------	6.6 U
1254	--	11097-69-1	----------	6.6 U
1260	--	11096-82-5	----------	6.6 U

CODES: U --- COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
THE VALUE REPORTED IS THE METHOD DETECTION LIMIT

SLC - SUSPECTED LABORATORY CONTAMINANT

SFC - SUSPECTED FIELD CONTAMINANT

GRACE ANALYTICAL LAB, INC.
5300-B McDermott Drive, Berkeley, Illinois 60163
(708) 449-9449, FAX (708) 449-3663

POLYCHLORINATED BIPHENYL ANALYSIS DATA SHEET

STUDY NAME: WESTON-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: S-15 FILE REF. NO: P1662

AROCLOR #		CAS #		(UG/KG) CONCENTRATION
1016	--	12674-11-2	----------	6.6 U
1221	--	11104-28-2	----------	6.6 U
1232	--	11141-16-5	----------	6.6 U
1242	--	53469-21-9	----------	6.6 U
1248	--	12672-29-6	----------	6.6 U
1254	--	11097-69-1	----------	6.6 U
1260	--	11096-82-5	----------	6.6 U

CODES: U --- COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
THE VALUE REPORTED IS THE METHOD DETECTION LIMIT

SLC - SUSPECTED LABORATORY CONTAMINANT

SFC - SUSPECTED FIELD CONTAMINANT

GRACE ANALYTICAL LAB, INC.
5300-B McDermott Drive, Berkeley, Illinois 60163
(708) 449-9449, FAX (708) 449-3663

POLYCHLORINATED BIPHENYL ANALYSIS DATA SHEET

STUDY NAME: WESTON-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: S-16 FILE REF. NO: P1663

AROCLOR #		CAS #		(UG/KG) CONCENTRATION
1016	--	12674-11-2	----------	6.6 U
1221	--	11104-28-2	----------	6.6 U
1232	--	11141-16-5	----------	6.6 U
1242	--	53469-21-9	----------	6.6 U
1248	--	12672-29-6	----------	6.6 U
1254	--	11097-69-1	----------	6.6 U
1260	--	11096-82-5	----------	6.6 U

CODES: U --- COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
THE VALUE REPORTED IS THE METHOD DETECTION LIMIT

SLC - SUSPECTED LABORATORY CONTAMINANT

SFC - SUSPECTED FIELD CONTAMINANT

GRACE ANALYTICAL LAB, INC.
5300-B McDermott Drive, Berkeley, Illinois 60163
(708) 449-9449, FAX (708) 449-3663

POLYCHLORINATED BIPHENYL ANALYSIS DATA SHEET

STUDY NAME: WESTON-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: S-17 FILE REF. NO: P1664

AROCLOR #		CAS #		(UG/KG) CONCENTRATION
1016	--	12674-11-2	----------	6.6 U
1221	--	11104-28-2	----------	6.6 U
1232	--	11141-16-5	----------	6.6 U
1242	--	53469-21-9	----------	6.6 U
1248	--	12672-29-6	----------	6.6 U
1254	--	11097-69-1	----------	6.6 U
1260	--	11096-82-5	----------	6.6 U

CODES: U --- COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
THE VALUE REPORTED IS THE METHOD DETECTION LIMIT

SLC - SUSPECTED LABORATORY CONTAMINANT

SFC - SUSPECTED FIELD CONTAMINANT

GRACE ANALYTICAL LAB, INC.
5300-B McDermott Drive, Berkeley, Illinois 60163
(708) 449-9449, FAX (708) 449-3663

POLYCHLORINATED BIPHENYL ANALYSIS DATA SHEET

STUDY NAME: WESTON-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: S-18 FILE REF. NO: P1671

AROCLOR #		CAS #	(UG/KG) CONCENTRATION
1016	--	12674-11-2	6.6 U
1221	--	11104-28-2	6.6 U
1232	--	11141-16-5	6.6 U
1242	--	53469-21-9	6.6 U
1248	--	12672-29-6	6.6 U
1254	--	11097-69-1	6.6 U
1260	--	11096-82-5	6.6 U

CODES: U --- COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
THE VALUE REPORTED IS THE METHOD DETECTION LIMIT

SLC - SUSPECTED LABORATORY CONTAMINANT

SFC - SUSPECTED FIELD CONTAMINANT

GRACE ANALYTICAL LAB, INC.
5300-B McDermott Drive, Berkeley, Illinois 60163
(708) 449-9449, FAX (708) 449-3663

POLYCHLORINATED BIPHENYL ANALYSIS DATA SHEET

STUDY NAME: WESTON-90WT14 STUDY NO: GAL-900816

LAB SAMPLE I.D. NO: Lab Blank FILE REF. NO: P1665

AROCLOR #	CAS #	(UG/KG) CONCENTRATION
1016	12674-11-2	6.6 U
1221	11104-28-2	6.6 U
1232	11141-16-5	6.6 U
1242	53469-21-9	6.6 U
1248	12672-29-6	6.6 U
1254	11097-69-1	6.6 U
1260	11096-82-5	6.6 U

CODES: U --- COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
THE VALUE REPORTED IS THE METHOD DETECTION LIMIT

SLC - SUSPECTED LABORATORY CONTAMINANT

SFC - SUSPECTED FIELD CONTAMINANT

312-353-4172

GRACE ANALYTICAL LAB, INC.
9300-B MCDERMOTT DRIVE, BERKELEY, IL 60163
(708) 449-9449, FAX (708) 449-3663

INORGANIC ANALYSIS DATA SHEET

STUDY NAME: Weston- 90WT14 STUDY NO: GAL-900816

SAMPLE I.D.	TANK #	pH	FLASH POINT	SULFIDE TOTAL	SULFIDE REACTIVE	CYANIDE TOTAL	CYANIDE REACTIVE
S-12	1	9.2	>212 F	<50	<50	<50	<50
S-13	2	6.4	172 F	<50	<50	<50	<50
S-14	3	5.8	>212 F	<50	<50	<50	<50
S-15	4	6.3	165 F	<50	<50	<50	<50
S-16	5	6.5	180 F	<50	<50	<50	<50
S-17	6	6.3	154 F	<50	<50	<50	<50
S-18	7	5.7	>212 F	<50	<50	<50	<50

RESULTS ARE IN MG/KG

APPENDIX C

ANALYTICAL RESULTS OF U.S. EPA DECEMBER 1990 SAMPLING

ecology and environment, inc.

111 WEST JACKSON BLVD CHICAGO ILLINOIS 60604 TEL 312/663 9415

International Specialists in the Environment

MEMORANDUM

DATE: February 14, 1991

TO: Wendy Davis, TATM-Project Manager, E & E, Chicago, IL

FROM: Brenda R. Jones, QA Manager, E & E, Chicago, IL

SUBJ: Data Quality Assurance Review, Interstate Pollution Control Site

REF: TDD: T05-9012-009/T05-9012-807
PAN: EIL0054SAA/EIL0054AAA

The data quality assurance review of seven drum samples collected from the Interstate Pollution Control Site in Rockford, Illinois, has been completed. All analyses were performed by TEI Analytical, Inc., Niles, Illinois.

The samples were numbered T-1 through T-7. The seven samples were each analyzed for Target Compound List (TCL) volatile organics (VOA), polychlorinated biphenyls (PCB), and flashpoint.

Data Qualifications - Organic Data

I Holding Time: Acceptable

All volatile samples were analyzed within seven days from the date of collection. All PCB samples were extracted within 14 days and analyzed within 40 days from the date of extraction. The flashpoint samples were all analyzed within 30 days.

II GC/MS Tuning: Qualified

GC/MS tuning ion abundance for bromofluorobenzene was checked against the required ion abundance criteria and the expanded ion abundance criteria, and both instruments had ion abundance ratios that were outside these criteria. The laboratory indicated that the reported ion abundance for GC/MS #5992 is this instrument's normal operating range. Therefore, since the calibration standards and QC samples were analyzed under these conditions, results for sample number T-2 (the only sample analyzed with this instrument) should be acceptable. However, the ion abundance reported for instrument #5970 was out of specification, and all data associated with it are considered estimated.

recycled paper

III Calibration:

A. Initial Calibration: Qualified

VOAs: Response factors and relative response factors were all greater than 0.05 and were acceptable. The percent relative standard deviation of the relative response factors exceeded the 30% control limit for both instruments; all associated data are considered estimated.

Additional problems were noted with instrument #5970. The laboratory used an initial calibration that was performed on 12/26/90, while the tune, continuing calibration, and sample analyses were performed on 12/24/90. When asked about this, the lab replied that they choose the calibration closest to the date of analysis and that the previous calibration had not been performed for several weeks. The lab felt that since they did not perform the manipulation of the sample data with the GC/MS until after the calibration on 12/26/90, that this was the appropriate calibration to use for quantitating the samples. Resultantly, all VOA results from this instrument are considered presumptively present at estimated quantities.

PCBs: Laboratory did not provide this information. Hence all PCB data are considered estimated.

B. Continuing Calibration: Qualified

VOAs: All continuing calibration relative response factors were greater than the required 0.05. Some of the calibration check compounds percent difference results were greater than the required 25%. Hence the data are considered estimated.

PCBs: Laboratory did not provide this information within the required time frame. All PCB data are considered estimated.

IV Method Blank

VOA: No compounds are indicated on the Method Blank Summary Form IV. Therefore, the method blanks are acceptable.

PCB: No Method Blank Summary Form was provided by the lab. All data are considered estimated.

V Surrogate Recovery

The surrogate recoveries (both BFB and 1,2 dichloroethane-D4) were acceptable for samples T-1 and T-6. One or both surrogates were out of control limits for the remaining samples. Therefore data for samples T-2 through T-5 and T-7 are considered estimated.

VI Matrix Spike/Matrix Spike Duplicates

VOAs: All volatile matrix spike recoveries were within their control limits and the relative percent difference between the spike and the spike duplicate results was acceptable.

PCBs: This information was not provided by the laboratory. Therefore, the data are considered estimated.

VII Field Duplicates: Not Applicable

No field duplicate samples were collected.

VIII Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses" (February, 1988).

Due to the high concentrations of compounds detected in these samples, the data are acceptable for use. However, the data user must keep in mind the strong qualifications placed on this data.

Data Qualifications: - Flashpoint

Overall Assessment of Data for Use

Since no specific guidance exists regarding the assessment of flashpoint data, no qualifiers are needed for these data.

Data Qualifiers and Definitions

J - The associated numerical value is an estimated quantity because quality control criteria were not met.

NJ - Presumptive evidence of the presence of the material at an estimated quantity.

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

TEI ANALYTICAL, INC.

7177 NORTH AUSTIN • NILES ILLINOIS • 60648 • 708/647-1345

January 8, 1991

LABORATORY REPORT

6286

Ecology & Environment, Inc
111 W. Jackson Blvd.
Chicago, IL 60604

Attn: Richard Kennedy/Jane Malken

SAMPLE RECEIVED: 12-20-90 1650

TEI NO. 80461
SAMPLE IDENTIFICATION: T1 Tag #178726

TEST	RESULT		DATE PERFORMED
Flash Point, Closed Cup	125	F	01-04-91
PCB	<0.5	ppm	12-31-90
Volatiles (8240)	see attached		12-24-90

TEI NO. 80462
SAMPLE IDENTIFICATION: T2 Tag #178727

TEST	RESULT		DATE PERFORMED
Flash Point, Closed Cup	128	F	01-04-91
PCB	<0.5	ppm	12-31-90
Volatiles (8240)	see attached		12-27-90

TEI NO. 80463
SAMPLE IDENTIFICATION: T3 Tag #178728

TEST	RESULT		DATE PERFORMED
Flash Point, Closed Cup	>200	F	01-04-91
PCB	<0.5	ppm	12-31-90
Volatiles (8240)	see attached		12-24-90

TEI NO. 80464
SAMPLE IDENTIFICATION: T4 Tag #178729

TEST	RESULT		DATE PERFORMED
Flash Point, Closed Cup	140	F	01-04-91
PCB	<0.5	ppm	01-02-91
Volatiles (8240)	see attached		12-24-90

Proj. No. TD5-9012-009 EIL00545AA

This report may not be reproduced except in its entirety.

Gayle E. Marks, Ph.D.

TEI ANALYTICAL, INC.

7177 NORTH AUSTIN • NILES ILLINOIS • 60648 • 708/647-1345

January 8, 1991

LABORATORY REPORT

= 6286

Ecology & Environment, Inc
111 W. Jackson Blvd.
Chicago, IL 60604

Attn: Richard Kennedy / Jane Malken

SAMPLE RECEIVED: 12-20-90 1550

TEI NO. 80465
SAMPLE IDENTIFICATION: T5 Tag #178730

TEST	RESULT		DATE PERFORMED
Flash Point, Closed Cup	>200	F	01-04-91
PCB	<0.5	ppm	01-03-91
Volatiles (8240)	see attached		12-24-90

TEI NO. 80466
SAMPLE IDENTIFICATION: T6 Tag #178731

TEST	RESULT		DATE PERFORMED
Flash Point, Closed Cup	>200	F	01-04-91
PCB	185	ppm	01-03-91
Volatiles (8240)	see attached		12-24-90

TEI NO. 80467
SAMPLE IDENTIFICATION: T7 Tag #178732

TEST	RESULT		DATE PERFORMED
Flash Point, Closed Cup	>200	F	01-04-91
PCB	-	ppm	01-03-91
Volatiles (8240)	see attached		12-24-90

Proj. No. T05-9012-009 EILD0545AA

This report may not be reproduced except in its entirety.

Gayle E. Marks, Ph.D.

TEI ANALYTICAL, INC.
7177 NORTH AUSTIN · NILES ILLINOIS · 60648 · 708/647-1345

January 8, 1991

LABORATORY REPORT # 6286

Volatiles -

All results expressed as ppm unless otherwise indicated.
LT = Less Than
This report may not be reproduced except in its entirety.

	TEI-80461 T1 Tag #178726	TEI-80462 T2 Tag #178727	TEI-80463 T3 Tag #178728
Benzene	7.5	54	LT 1
Toluene	143	410	2340
Ethyl Benzene	23	107	322
Carbontetrachloride	LT 1	LT 1	LT 1
Chlorobenzene	LT 1	23	LT 1
1,2 Dichloroethane	LT 1	LT 1	LT 1
1,1,1 Trichloroethane	28	28	LT 1
1,1 Dichloroethane	LT 1	LT 1	LT 1
1,1 Dichloroethylene	LT 1	LT 1	LT 1
1,1,2 Trichloroethane	LT 1	LT 1	LT 1
1,2,2 Tetrachloroethane	LT 1	LT 1	LT 1
loroethane	LT 1	LT 1	LT 1
2 Chloroethyl vinyl ether	LT 1	LT 1	LT 1
Chloroform	LT 1	LT 1	LT 1
1,2 Dichloropropane	LT 1	LT 1	LT 1
c 1,3 Dichloropropene	LT 1	LT 1	LT 1
t 1,3 Dichloropropene	LT 1	LT 1	LT 1
Methylene Chloride	LT 1	LT 1	LT 1
Methyl Chloride	LT 1	LT 1	LT 1
Methyl Bromide	LT 1	LT 1	LT 1
Bromoform	LT 1	LT 1	LT 1
Dichlorobromomethane	LT 1	LT 1	LT 1
Trichlorofluoromethane	LT 1	LT 1	LT 1
Chlorodibromomethane	LT 1	LT 1	LT 1
Dichlorodifluoromethane	LT 1	LT 1	LT 1
Tetrachloroethylene	127	150	LT 1
Trichloroethylene	LT 1	440	LT 1
Vinyl Chloride	LT 1	LT 1	LT 1
1,2 t Dichloroethylene	LT 1	9	LT 1
bis(chloromethyl)ether	LT 1	LT 1	LT 1
Xylenes	1450	678	6200
Hexane	LT 1	LT 1	LT 1

Gayle E. Marks, Ph.D.

TEI ANALYTICAL, INC.
7177 NORTH AUSTIN • NILES ILLINOIS • 60648 • 708 647-1345

January 8, 1991

LABORATORY REPORT = 6286

Volatiles

All results expressed as ppm unless otherwise indicated.
LT = Less Than
This report may not be reproduced except in its entirety.

	TEI-80464 T4 Tag #178729	TEI-80465 T5 Tag #178730	TEI-80466 T6 Tag #178731	TEI-80467 T7 Tag #178732
Benzene	LT 1	LT 0.1	LT 1	LT 0.1
Toluene	340	LT 0.1	74	10
Ethyl Benzene	3700	37	223	19
Carbontetrachloride	LT 1	LT 0.1	LT 1	LT 0.1
Chlorobenzene	LT 1	LT 0.1	7	LT 0.1
1,2 Dichloroethane	LT 1	LT 0.1	LT 1	LT 0.1
1,1,1 Trichloroethane	38	LT 0.1	LT 1	LT 0.1
1,1 Dichloroethane	51	12	43	16
1,1 Dichloroethylene	LT 1	LT 0.1	LT 1	LT 0.1
1,1,2 Trichloroethane	LT 1	LT 0.1	LT 1	LT 0.1
1,1,2,2 Tetrachloroethane	LT 1	LT 0.1	LT 1	LT 0.1
Chloroethane	LT 1	LT 0.1	LT 1	LT 0.1
2 Chloroethyl vinyl ether	LT 1	LT 0.1	LT 1	LT 0.1
Chloroform	LT 1	LT 0.1	LT 1	LT 0.1
1,2 Dichloropropane	LT 1	LT 0.1	LT 1	LT 0.1
c 1,3 Dichloropropene	LT 1	LT 0.1	LT 1	LT 0.1
t 1,3 Dichloropropene	LT 1	LT 0.1	LT 1	LT 0.1
Methylene Chloride	LT 1	LT 0.1	LT 1	LT 0.1
Methyl Chloride	LT 1	LT 0.1	LT 1	LT 0.1
Methyl Bromide	LT 1	LT 0.1	LT 1	LT 0.1
Bromoform	LT 1	LT 0.1	LT 1	LT 0.1
Dichlorobromomethane	LT 1	LT 0.1	LT 1	LT 0.1
Trichlorofluoromethane	LT 1	LT 0.1	LT 1	LT 0.1
Chlorodibromomethane	LT 1	LT 0.1	LT 1	LT 0.1
Dichlorodifluoromethane	LT 1	LT 0.1	LT 1	LT 0.1
Tetrachloroethylene	37	LT 0.1	LT 1	LT 0.1
Trichloroethylene	38	LT 0.1	LT 1	LT 0.1
Vinyl Chloride	LT 1	LT 0.1	LT 1	LT 0.1
1,2 t Dichloroethylene	44	17	46	-
bis(chloromethyl)ether	LT 1	LT 0.1	LT 1	LT 0.1
Xylenes	7500	98	662	77
Hexane	LT 1	LT 0.1	LT 1	LT 0.1

Gayle E. Marks, Ph.D.

Organics Analysis Data Sheet
(Page 1)

Sample Number

Laboratory Name _____ Case No _____

Lab Sample ID No _____ QC Report No _____

Sample Matrix _____

Date Release Authorized By _____ Date Sample Received _____

Volatile Compounds

FEB 05 1991

Date Extracted/Prepared _____

Date Analyzed _____

Conc/Dil Factor: _____ pH _____

Percent Moisture: (Not Decanted) N/A

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	
74-83-9	Bromomethane	
75-01-4	Vinyl Chloride	
75-00-3	Chloroethane	
75-09-2	Methylene Chloride	
67-64-1	Acetone	
75-15-0	Carbon Disulfide	
75-35-4	1,1-Dichloroethene	
75-34-3	1,1-Dichloroethane	
156-60-5	Trans-1,2-Dichloroethene	
67-66-3	Chloroform	
107-06-2	1,2-Dichloroethane	
78-93-3	2-Butanone	
71-55-6	1,1,1-Trichloroethane	
56-23-5	Carbon Tetrachloride	
108-05-4	Vinyl Acetate	
75-27-4	Bromodichloromethane	

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1,2-Dichloropropane	
10061-02-6	Trans-1,3-Dichloropropene	
79-01-6	Trichloroethene	
124-48-1	Dibromochloromethane	
79-00-5	1,1,2-Trichloroethane	
71-43-2	Benzene	
10061-01-5	cis-1,3-Dichloropropene	
110-75-8	2-Chloroethylvinylether	
75-25-2	Bromoform	
108-10-1	4-Methyl-2-Pentanone	
591-78-6	2-Hexanone	
127-18-4	Tetrachloroethene	
79-34-5	1,1,2,2-Tetrachloroethane	
108-88-3	Toluene	
108-90-7	Chlorobenzene	
100-41-4	Ethylbenzene	
100-42-5	Styrene	
	Total Xylenes	

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g. 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Form I

Revision 0
Date September 1986

Organics Analysis Data Sheet
(Page 1)

Sample Number

Laboratory Name _____ Case No _____

Lab Sample ID No _____ GC Report No _____

Sample Matrix _____

Data Release Authorized By _____ Date Sample Received _____

Volatile Compounds

Date Extracted/Prepared _____

Date Analyzed _____

Conc/Dil Factor _____ pH _____

Percent Moisture (Not Decanted) _____

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	
74-83-9	Bromomethane	
75-01-4	Vinyl Chloride	
75-00-3	Chloroethane	
75-09-2	Methylene Chloride	
67-64-1	Acetone	—
75-15-0	Carbon Disulfide	—
75-35-4	1 1-Dichloroethene	
75-34-3	1 1-Dichloroethane	
156-60-5	Trans-1 2-Dichloroethene	
67-66-3	Chloroform	
107-06-2	1 2-Dichloroethane	
78-93-3	2-Butanone	—
71-55-6	1 1 1-Trichloroethane	
56-23-5	Carbon Tetrachloride	
108-05-4	Vinyl Acetate	—
75-27-4	Bromodichloromethane	—

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1 2-Dichloropropane	
10061-02-6	Trans-1 3-Dichloropropene	
79-01-6	Trichloroethene	
124-48-1	Dibromochloromethane	
79-00-5	1 1 2-Trichloroethane	
71-43-2	Benzene	
10061-01-5	cis-1 3-Dichloropropene	
110-75-8	2-Chloroethylvinylether	
75-25-2	Bromoform	
108-10-1	4-Methyl-2-Pentanone	—
591-78-6	2-Hexanone	—
127-18-4	Tetrachloroethene	
79-34-5	1 1 2 2-Tetrachloroethane	
108-88-3	Toluene	
108-90-7	Chlorobenzene	
100-41-4	Ethylbenzene	
100-42-5	Styrene	—
	Total Xylenes	

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥ 10 ng/ml in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Form I

Revision 0
Date September 1986

Organics Analysis Data Sheet
(Page 1)

Sample Number

Laboratory Name _____ Case No _____

Lab Sample ID No _____ QC Report No _____

Sample Matrix _____

Date Release Authorized By _____ Date Sample Received _____

Volatile Compounds

Date Extracted/Prepared _____

Date Analyzed _____

Conc/Dil Factor: _____ pH _____

Percent Moisture (Not Decanted) _____

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	
74-83-9	Bromomethane	
75-01-4	Vinyl Chloride	
75-00-3	Chloroethane	
75-09-2	Methylene Chloride	
67-64-1	Acetone	—
75-15-0	Carbon Disulfide	—
75-35-4	1,1-Dichloroethene	
75-34-3	1,1-Dichloroethane	
156-60-5	Trans-1,2-Dichloroethene	
67-66-3	Chloroform	
107-06-2	1,2-Dichloroethane	
78-93-3	2-Butanone	—
71-55-6	1,1,1-Trichloroethane	
56-23-5	Carbon Tetrachloride	
108-05-4	Vinyl Acetate	—
75-27-4	Bromodichloromethane	

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1,2-Dichloropropane	
10061-02-6	Trans-1,3-Dichloropropene	
79-01-6	Trichloroethene	
124-48-1	Dibromochloromethane	
79-00-5	1,1,2-Trichloroethane	
71-43-2	Benzene	
10061-01-5	cis-1,3-Dichloropropene	
110-75-8	2-Chloroethylvinylether	
75-25-2	Bromoform	
108-10-1	4-Methyl-2-Pentanone	—
591-78-6	2-Hexanone	—
127-18-4	Tetrachloroethene	
79-34-5	1,1,2,2-Tetrachloroethane	
108-88-3	Toluene	
108-90-7	Chlorobenzene	
100-41-4	Ethylbenzene	
100-42-5	Styrene	—
	Total Xylenes	

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be stated.

Value If the result is a value greater than or equal to the detection limit report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration, dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g. 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Form I

Revision 0
Date September 1986

Organics Analysis Data Sheet
(Page 1)

Sample Number

Laboratory Name

Case No

Lab Sample ID No

QC Report No

Sample Matrix

Data Release Authorized By

Date Sample Received

Volatile Compounds

Date Extracted/Prepared

Date Analyzed

Conc/Dil Factor pH

Percent Moisture: (Not Decanted)

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	
74-83-9	Bromomethane	
75-01-4	Vinyl Chloride	
75-00-3	Chloroethane	
75-09-2	Methylene Chloride	
67-64-1	Acetone	
75-15-0	Carbon Disulfide	
75-35-4	1 1-Dichloroethene	
75-34-3	1 1-Dichloroethane	
156-60-5	Trans-1 2-Dichloroethene	
67-66-3	Chloroform	
107-06-2	1 2-Dichloroethane	
78-93-3	2-Butanone	
71-55-6	1 1 1-Trichloroethane	
56-23-5	Carbon Tetrachloride	
108-05-4	Vinyl Acetate	
75-27-4	Bromodichloromethane	

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1 2-Dichloropropane	
10061-02-6	Trans-1 3-Dichloropropene	
79-01-6	Trichloroethene	
124-48-1	Dibromochloromethane	
79-00-5	1 1 2-Trichloroethane	
71-43-2	Benzene	
10061-01-5	cis-1 3-Dichloropropene	
110-75-8	2-Chloroethylvinylether	
75-25-2	Bromoform	
108-10-1	4-Methyl-2-Pentanone	
591-78-6	2-Hexanone	
127-18-4	Tetrachloroethene	
79-34-5	1 1 2 2-Tetrachloroethane	
108-88-3	Toluene	
108-90-7	Chlorobenzene	
100-41-4	Ethylbenzene	
100-42-5	Styrene	
	Total Xylenes	

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g. 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Form I

Revision 0
Date September 1986

Organics Analysis Data Sheet
(Page 1)

Sample Number

Laboratory Name _____ Case No _____

Lab Sample ID No _____ QC Report No _____

Sample Matrix _____

Data Release Authorized By _____ Date Sample Received _____

Volatile Compounds

Date Extracted/Prepared _____

Date Analyzed _____

Conc/Dil Factor _____ pH _____

Percent Moisture (Not Decanted) _____

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	
74-83-9	Bromomethane	
75-01-4	Vinyl Chloride	
75-00-3	Chloroethane	
75-09-2	Methylene Chloride	
67-64-1	Acetone	
75-15-0	Carbon Disulfide	
75-35-4	1,1-Dichloroethene	
75-34-3	1,1-Dichloroethane	
156-60-5	Trans-1,2-Dichloroethene	
67-66-3	Chloroform	
107-06-2	1,2-Dichloroethane	
78-93-3	2-Butanone	
71-55-6	1,1,1-Trichloroethane	
56-23-5	Carbon Tetrachloride	
108-05-4	Vinyl Acetate	
75-27-4	Bromodichloromethane	

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1,2-Dichloropropane	
10061-02-6	Trans-1,3-Dichloropropene	
79-01-6	Trichloroethene	
124-48-1	Dibromochloromethane	
79-00-5	1,1,2-Trichloroethane	
71-43-2	Benzene	
10061-01-5	cis-1,3-Dichloropropene	
110-75-8	2-Chloroethylvinylether	
75-25-2	Bromoform	
108-10-1	4-Methyl-2-Pentanone	
591-78-6	2-Hexanone	
127-18-4	Tetrachloroethene	
79-34-5	1,1,2,2-Tetrachloroethane	
108-88-3	Toluene	
108-90-7	Chlorobenzene	
100-41-4	Ethylbenzene	
100-42-5	Styrene	
	Total Xylenes	

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged, however, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U - Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g. 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Form I

Revision 0
Date September 1986

Sample Number

Organics Analysis Data Sheet
(Page 1)

Laboratory Name _____ Case No _____

Lab Sample ID No _____ QC Report No _____

Sample Matrix _____

Data Release Authorized By _____ Date Sample Received _____

Volatile Compounds

Date Extracted/Prepared _____

Date Analyzed _____

Conc/Dil Factor _____ pH _____

Percent Moisture: (Not Decanted) _____

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	
74-83-9	Bromomethane	
75-01-4	Vinyl Chloride	
75-00-3	Chloroethane	
75-09-2	Methylene Chloride	
67-64-1	Acetone	
75-15-0	Carbon Disulfide	
75-35-4	1,1-Dichloroethene	
75-34-3	1,1-Dichloroethane	
156-60-5	Trans-1,2-Dichloroethene	
67-66-3	Chloroform	
107-06-2	1,2-Dichloroethane	
78-93-3	2-Butanone	
71-55-6	1,1,1-Trichloroethane	
56-23-5	Carbon Tetrachloride	
108-05-4	Vinyl Acetate	
75-27-4	Bromodichloromethane	

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1,2-Dichloropropane	
10061-02-6	Trans-1,3-Dichloropropene	
79-01-6	Trichloroethene	
124-48-1	Dibromochloromethane	
79-00-5	1,1,2-Trichloroethane	
71-43-2	Benzene	
10061-01-5	cis-1,3-Dichloropropene	
110-75-8	2-Chloroethylvinylether	
75-25-2	Bromoform	
108-10-1	4-Methyl-2-Pentanone	
591-78-6	2-Hexanone	
127-18-4	Tetrachloroethene	
79-34-5	1,1,2,2-Tetrachloroethane	
108-88-3	Toluene	
108-90-7	Chlorobenzene	
100-41-4	Ethylbenzene	
100-42-5	Styrene	
	Total Xylenes	

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be stated.

Value If the result is a value greater than or equal to the detection limit report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g. 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Form I

Revision 0
Date September 1986

Organics Analysis Data Sheet
(Page 1)

Sample Number

Laboratory Name _____ Case No _____

Lab Sample ID No _____ QC Report No _____

Sample Matrix _____

Data Release Authorized By _____ Date Sample Received _____

Volatile Compounds

Date Extracted/Prepared _____

Date Analyzed _____

Conc/Dil Factor _____ pH _____

Percent Moisture: (Not Decanted) _____

CAS Number		ug/L or ug/Kg (Circle One)
74-87-3	Chloromethane	
74-83-9	Bromomethane	
75-01-4	Vinyl Chloride	
75-00-3	Chloroethane	
75-09-2	Methylene Chloride	
67-64-1	Acetone	
75-15-0	Carbon Disulfide	
75-35-4	1,1-Dichloroethene	
75-34-3	1,1-Dichloroethane	
156-60-5	Trans-1,2-Dichloroethene	
67-66-3	Chloroform	
107-06-2	1,2-Dichloroethane	
78-93-3	2-Butanone	
71-55-6	1,1,1-Trichloroethane	
56-23-5	Carbon Tetrachloride	
108-05-4	Vinyl Acetate	
75-27-4	Bromodichloromethane	

CAS Number		ug/L or ug/Kg (Circle One)
78-87-5	1,2-Dichloropropane	
10061-02-6	Trans-1,3-Dichloropropene	
79-01-6	Trichloroethene	
124-48-1	Dibromochloromethane	
79-00-5	1,1,2-Trichloroethane	
71-43-2	Benzene	
10061-01-5	cis-1,3-Dichloropropene	
110-75-8	2-Chloroethylvinylether	
75-25-2	Bromoform	
108-10-1	4-Methyl-2-Pentanone	
591-78-6	2-Hexanone	
127-18-4	Tetrachloroethene	
79-34-5	1,1,2,2-Tetrachloroethane	
108-88-3	Toluene	
108-90-7	Chlorobenzene	
100-41-4	Ethylbenzene	
100-42-5	Styrene	
	Total Xylenes	

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g. 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/l is calculated, report as 3J.

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS.

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Form I

Revision 0
Date September 1986

Laboratory Name _____

Case No _____

Sample Number

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

Date Extracted/Prepared _____

Date Analyzed _____

Conc/Dil Factor _____

Percent Moisture (decanted) _____

CAS Number		ug/L or ug/Kg (Circle One)
319-84-6	Alpha-BHC	
319-85-7	Beta-BHC	
319-86-8	Delta-BHC	
58-89-9	Gamma-BHC (Lindane)	
76-44-8	Heptachlor	
309-00-2	Aldrin	
1024-57-3	Heptachlor Epoxide	
959-98-8	Endosulfan I	
60-57-1	Dieldrin	
72-55-9	4,4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4,4'-DDD	
1031-07-8	Endosulfan Sulfate	
50-29-3	4,4'-DDT	
72-43-5	Methoxychlor	
53494-70-5	Endrin Ketone	
57-74-9	Chlordane	
8001-35-2	Toxaphene	
12674-11-2	Aroclor-1016	
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	
11096-82-5	Aroclor-1260	

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s _____ V_t _____ V_i _____

Form 1

Revision 0
Date September 1986

Laboratory Name _____

Case No _____

Sample Number

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

GPC Cleanup ☐Yes ☒No

Date Extracted/Prepared _____

Separatory Funnel Extraction ☒Yes

Date Analyzed _____

Continuous Liquid - Liquid Extraction ☐Yes

Conc/Dil Factor: _____

Percent Moisture (decanted) _____

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	
319-85-7	Beta-BHC	
319-86-8	Delta-BHC	
58-89-9	Gamma-BHC (Lindane)	
76-44-8	Heptachlor	
309-00-2	Aldrin	
1024-57-3	Heptachlor Epoxide	
959-98-8	Endosulfan I	
60-57-1	Dieldrin	
72-55-9	4,4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4,4'-DDD	
1031-07-8	Endosulfan Sulfate	
50-29-3	4,4'-DDT	
72-43-5	Methoxychlor	
53494-70-5	Endrin Ketone	
57-74-9	Chlordane	
8001-35-2	Toxaphene	
12674-11-2	Aroclor-1016	
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	
11096-82-5	Aroclor-1260	

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s _____ V_t _____ V_i _____

Form 1

Revision 0
Date September 1986

Laboratory Name _____

Case No _____

Sample Number

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Date Extracted/Prepared _____

Date Analyzed _____

Conc/Dil Factor _____

Percent Moisture (decanted) _____

GPC Cleanup ☐Yes ☐No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/L or ug/Kg (Circle One)
319-84-6	Alpha-BHC	
319-85-7	Beta-BHC	
319-86-8	Delta-BHC	
58-89-9	Gamma-BHC (Lindane)	
76-44-8	Heptachlor	
309-00-2	Aldrin	
1024-57-3	Heptachlor Epoxide	
959-98-8	Endosulfan I	
60-57-1	Dieldrin	
72-55-9	4,4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4,4'-DDD	
1031-07-8	Endosulfan Sulfate	
50-29-3	4,4'-DDT	
72-43-5	Methoxychlor	
53494-70-5	Endrin Ketone	
57-74-9	Chlordane	
8001-35-2	Toxaphene	
12674-11-2	Aroclor-1016	
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	
11096-82-5	Aroclor-1260	

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s _____ V_t _____ V_i _____

Form 1

Revision 0
Date September 1986

Laboratory Name _____

Case No _____

Sample Number

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Date Extracted/Prepared _____

Date Analyzed _____

Conc/Dil Factor: _____

Percent Moisture (decanted) _____

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/L or ug/Kg (Circle One)
319-84-6	Alpha-BHC	
319-85-7	Beta-BHC	
319-86-8	Delta-BHC	
58-89-9	Gamma-BHC (Lindane)	
76-44-8	Heptachlor	
309-00-2	Aldrin	
1024-57-3	Heptachlor Epoxide	
959-98-8	Endosulfan I	
60-57-1	Dieldrin	
72-55-9	4,4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4,4'-DDD	
1031-07-8	Endosulfan Sulfate	
50-29-3	4,4'-DDT	
72-43-5	Methoxychlor	
53494-70-5	Endrin Ketone	
57-74-9	Chlordane	
8001-35-2	Toxaphene	
12674-11-2	Aroclor-1016	
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	
11096-82-5	Aroclor-1260	

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s _____ V_t _____ V_i _____

Form 1

Revision 0
Date September 1986

Laboratory Name _____

Case No _____

Sample Number

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

Date Extracted/Prepared _____

Date Analyzed _____

Conc/Dil Factor _____

Percent Moisture (decanted) _____

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	
319-85-7	Beta-BHC	
319-86-8	Delta-BHC	
58-89-9	Gamma-BHC (Lindane)	
76-44-8	Heptachlor	
309-00-2	Aldrin	
1024-57-3	Heptachlor Epoxide	
959-98-8	Endosulfan I	
60-57-1	Dieldrin	
72-55-9	4,4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4,4'-DDD	
1031-07-8	Endosulfan Sulfate	
50-29-3	4,4'-DDT	
72-43-5	Methoxychlor	
53494-70-5	Endrin Ketone	
57-74-9	Chlordane	
8001-35-2	Toxaphene	
12674-11-2	Aroclor-1016	
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	
11096-82-5	Aroclor-1260	

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s _____ V_t _____ V_i _____

Form 1

Revision 0
Date September 1986

Laboratory Name _____

Case No _____

Sample Number

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

Date Extracted/Prepared _____

Date Analyzed _____

Conc/Dil Factor: _____

Percent Moisture (decanted) _____

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	
319-85-7	Beta-BHC	
319-86-8	Delta-BHC	
58-89-9	Gamma-BHC (Lindane)	
76-44-8	Heptachlor	
309-00-2	Aldrin	
1024-57-3	Heptachlor Epoxide	
959-98-8	Endosulfan I	
60-57-1	Dieldrin	
72-55-9	4,4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4,4'-DDD	
1031-07-8	Endosulfan Sulfate	
50-29-3	4,4'-DDT	
72-43-5	Methoxychlor	
53494-70-5	Endrin Ketone	
57-74-9	Chlordane	
8001-35-2	Toxaphene	
12674-11-2	Aroclor-1016	
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	
11096-82-5	Aroclor-1260	

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s _____ V_t _____ V_i _____

Form 1

Revision 0
Date September 1986

Laboratory Name _____

Case No _____

Sample Number

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Date Extracted/Prepared _____

Date Analyzed _____

Conc/Dil Factor: _____

Percent Moisture (decanted) _____

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	
319-85-7	Beta-BHC	
319-86-8	Delta-BHC	
58-89-9	Gamma-BHC (Lindane)	
76-44-8	Heptachlor	
309-00-2	Aldrin	
1024-57-3	Heptachlor Epoxide	
959-98-8	Endosulfan I	
60-57-1	Dieldrin	
72-55-9	4,4'-DDE	
72-20-8	Endrin	
33213-65-9	Endosulfan II	
72-54-8	4,4'-DDD	
1031-07-8	Endosulfan Sulfate	
50-29-3	4,4'-DDT	
72-43-5	Methoxychlor	
53494-70-5	Endrin Ketone	
57-74-9	Chlordane	
8001-35-2	Toxaphene	
12674-11-2	Aroclor-1016	
11104-28-2	Aroclor-1221	
11141-16-5	Aroclor-1232	
53469-21-9	Aroclor-1242	
12672-29-6	Aroclor-1248	
11097-69-1	Aroclor-1254	
11096-82-5	Aroclor-1260	

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s _____ V_t _____ V_i _____

Form 1

Revision 0
Date September 1986

Initial Calibration Data
Volatile HSL Compounds

Case No. _____ Instrument I.D. _____

Laboratory Name _____ Calibration Date _____

Minimum $\overline{RF}$ for SPCC is 0.300 (0.25 for Bromoform)

Maximum % RSD for CCC is 30%

Laboratory ID								
Compound	RF_{20}	RF_{50}	RF_{100}	RF_{150}	RF_{200}	$\overline{RF}$	% RSD	CCC* SPCC**
Chloromethane								**
Bromomethane								
Vinyl Chloride								*
Chloroethane								
Methylene Chloride								
Acetone	—		—	—	—	—		
Carbon Disulfide	—		—	—	—	—		
1, 1-Dichloroethene								*
1, 1-Dichloroethane								**
Trans-1, 2-Dichloroethene								
Chloroform								*
1, 2-Dichloroethane								
2-Butanone	—		—	—	—	—		
1, 1, 1-Trichloroethane								
Carbon Tetrachloride								
Vinyl Acetate	—		—	—	—	—		
Bromodichloromethane								
1, 2-Dichloropropane								*
Trans-1, 3-Dichloropropene	—		—	—	—	—		
Trichloroethene								
Dibromochloromethane								
1, 1, 2-Trichloroethane	—		—	—	—	—		
Benzene								
cis-1, 3-Dichloropropene								
2-Chloroethylvinylether	—		—	—	—	—		
Bromoform								**
4-Methyl-2-Pentanone	—		—	—	—	—		
2-Hexanone	—		—	—	—	—		
Tetrachloroethene								
1, 1, 2, 2-Tetrachloroethane	—		—	—	—	—		**
Toluene								*
Chlorobenzene								**
Ethylbenzene								*
Styrene	—		—	—	—	—		
Total Xylenes	—		—	—	—	—		

RF - Response Factor (subscript is the amount of ug/L)
$\overline{RF}$ - Average Response Factor
%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*)
SPCC - System Performance Check Compounds (**)

Form VI

Revision 0

Continuing Calibration Check
Volatile HSL Compounds

Case No: _____ Calibration Date: _____

Laboratory Name _____ Time: _____

Contract No: _____ Laboratory ID: _____

Instrument ID: _____ Initial Calibration Date: _____

Minimum RF for SPCC is 0.300 (0.25 for Bromoform)

Maximum %D for CCC is 25%

Compound	RF	RF_{50}	%D	CCC	SPCC
Chloromethane					• •
Bromomethane					
Vinyl Chloride				•	
Chloroethane					
Methylene Chloride		—			
Acetone		—			
Carbon Disulfide		—			
1, 1-Dichloroethene				•	
1, 1-Dichloroethane					• •
Trans-1, 2-Dichloroethene		—			
Chloroform				•	
1, 2-Dichloroethane		—			
2-Butanone		—			
1, 1, 1-Trichloroethane					
Carbon Tetrachloride		—			
Vinyl Acetate		—			
Bromodichloromethane		—			
1, 2-Dichloropropane				•	
Trans-1, 3-Dichloropropene		—			
Trichloroethene		—			
Dibromochloromethane		—			
1, 1, 2-Trichloroethane		—			
Benzene		—			
cis-1, 3-Dichloropropene		—			
2-Chloroethylvinylether		—			
Bromoform					• •
4-Methyl-2-Pentanone		—			
2-Hexanone		—			
Tetrachloroethene					
1, 1, 2, 2-Tetrachloroethane					• •
Toluene				•	
Chlorobenzene					• •
Ethylbenzene				•	
Styrene		—			
Total Xylenes		—			

RF_{50} -Response Factor from daily standard file at 50 ug/l
RF -Average Response Factor from initial calibration Form VI

%D -Percent Difference
CCC -Calibration Check Compounds (•)
SPCC -System Performance Check Compounds (••)

Form VII

Revision 0
Date September 1986

GC/MS TUNING AND MASS CALIBRATION

Bromofluorobenzene (BFB)

Case No. _____ Laboratory Name _____

Instrument ID _____ Date _____ Time _____

Data Release Authorized By: _____

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE	
50	15.0 - 40.0% of the base peak	[illegible]	✓
75	30.0 - 60.0% of the base peak	96	✓
95	Base peak, 100% relative abundance	[illegible]	
96	5.0 - 9.0% of the base peak	< 1	
173	Less than 1.0% of the base peak	< 1	✓
174	Greater than 50.0% of the base peak	[illegible]	✓
175	5.0 - 9.0% of mass 174	< [illegible]	(< [illegible])[1]
176	Greater than 95.0%, but less than 101.0% of mass 174	91	(91)[1]
177	5.0 - 9.0% of mass 176	< 1	( )[2]

THIS PERFORMANCE TUNE APPLIES TO THE FOLLOWING SAMPLES, BLANKS AND STANDARDS.

[1]Value in parenthesis is % mass 174.
[2]Value in parenthesis is % mass 176.

SAMPLE ID	LAB ID	DATE OF ANALYSIS	TIME OF ANALYSIS
[illegible]	[illegible]	[illegible]	

FORM V

Revision 0

GC/MS TUNING AND MASS CALIBRATION

Bromofluorobenzene (BFB)

Case No. _____ Laboratory Name TEI Analytical Inc.

Instrument ID 5970 Date 12-24-90 Time _____

Data Release Authorized By: G. Marks

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	15.0 - 40.0% of the base peak	25
75	30.0 - 60.0% of the base peak	43
95	Base peak, 100% relative abundance	100
96	5.0 - 9.0% of the base peak	<10
173	Less than 1.0% of the base peak	<10
174	Greater than 50.0% of the base peak	97
175	5.0 - 9.0% of mass 174	<10 (<10)[1]
176	Greater than 95.0%, but less than 101.0% of mass 174	81 (84)[1]
177	5.0 - 9.0% of mass 176	<10 (<10)[2]

THIS PERFORMANCE TUNE APPLIES TO THE FOLLOWING SAMPLES, BLANKS AND STANDARDS.

[1]Value in parenthesis is % mass 174.
[2]Value in parenthesis is % mass 176.

SAMPLE ID	LAB ID	DATE OF ANALYSIS	TIME OF ANALYSIS
T1	90461	12-24-90	
T2	90463	12-24-90	
T4	90464	12-24-90	
T5	90465	12-24-90	
T6	90466	12-24-90	
T7	90467	12-24-90	

FORM V

ONE - 42

Revision 0

Initial Calibration Data
Volatile HSL Compounds

Case No: _____ Instrument I D _____

Laboratory Name _____ Calibration Date _____

Minimum $\overline{RF}$ for SPCC is 0.300 (0.25 for Bromoform) Maximum % RSD for CCC is 30%

Laboratory ID								
Compound	RF_{20}	RF_{50}	RF_{100}	RF_{150}	RF_{200}	$\overline{RF}$	% RSD	CCC* SPCC**
Chloromethane								
Bromomethane								
Vinyl Chloride								
Chloroethane								
Methylene Chloride								
Acetone								
Carbon Disulfide								
1, 1-Dichloroethene								
1, 1-Dichloroethane								
Trans-1, 2-Dichloroethene								
Chloroform								
1, 2-Dichloroethane								
2-Butanone								
1, 1, 1-Trichloroethane								
Carbon Tetrachloride								
Vinyl Acetate								
Bromodichloromethane								
1, 2-Dichloropropane								
Trans-1, 3-Dichloropropene								
Trichloroethene								
Dibromochloromethane								
1, 1, 2-Trichloroethane								
Benzene								
cis-1, 3-Dichloropropene								
2-Chloroethylvinylether								
Bromoform								
4-Methyl-2-Pentanone								
2-Hexanone								
Tetrachloroethene								
1, 1, 2, 2-Tetrachloroethane								
Toluene								
Chlorobenzene								
Ethylbenzene								
Styrene								
Total Xylenes								

RF -Response Factor (subscript is the amount of ug/L)
$\overline{RF}$ -Average Response Factor
%RSD -Percent Relative Standard Deviation

CCC -Calibration Check Compounds (*)
SPCC -System Performance Check Compounds (**)

Form VI

Continuing Calibration Check
Volatile HSL Compounds

Case No: _____ Calibration Date: _____

Laboratory Name _____ Time: _____

Contract No: _____ Laboratory ID. _____

Instrument ID: _____ Initial Calibration Date: _____

Minimum RF for SPCC is 0.300 (0.25 for Bromoform)

Maximum %D for CCC is 25%

Compound	RF	RF_{50}	%D	CCC	SPCC
Chloromethane					• •
Bromomethane					
Vinyl Chloride				•	
Chloroethane					
Methylene Chloride					
Acetone					
Carbon Disulfide					
1, 1-Dichloroethene	.22			•	
1, 1-Dichloroethane					• •
Trans-1, 2-Dichloroethene					
Chloroform	.46			•	
1, 2-Dichloroethane					
2-Butanone					
1, 1, 1-Trichloroethane					
Carbon Tetrachloride					
Vinyl Acetate					
Bromodichloromethane					
1, 2-Dichloropropane	.19			•	
Trans-1, 3-Dichloropropene					
Trichloroethene					
Dibromochloromethane					
1, 1, 2-Trichloroethane					
Benzene					
cis-1, 3-Dichloropropene					
2-Chloroethylvinylether					
Bromoform					• •
4-Methyl-2-Pentanone					
2-Hexanone					
Tetrachloroethene					
1, 1, 2, 2-Tetrachloroethane					• •
Toluene				•	
Chlorobenzene					• •
Ethylbenzene				•	
Styrene					
Total Xylenes					

SLS 2/14/91

RF_{50} -Response Factor from daily standard file at 50 ug/l
RF -Average Response Factor from initial calibration Form VI

%D -Percent Difference
CCC -Calibration Check Compounds (•)
SPCC -System Performance Check Compounds (••)

Form VII

Revision 0
Date September 1986

SOIL MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Case No. _____ **Laboratory Name** TEL Analytical, Inc

FRACTION	COMPOUND	CONC. SPIKE ADDED (ug/Kg)	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	QC LIMITS RPD	QC LIMITS RECOVERY
VOA	1,1-Dicholorethene	—						4.4	22	59 172
	Trichloroethene	10 14	100 U	70	70	67	70	2.2	24	62 137
SAMPLE NO.	Chlorobenzene	2 6	100 U	56	100	56	100	0	21	60 133
	Toluene	—							21	59 139
S 407	Benzene	74	100 U	33	75	33	75	0	21	66 142
B/N	1,2,4 Trichlorobenzene								23	38 107
	Acenaphthene								19	31 137
	2,4 Dinitrotoluene								47	28 89
SAMPLE NO	Di-n Butylphthalate								47	29 135
	Pyrene								36	35 142
	N Nitrosodi-n Propylamine								38	41 126
_____	1,4 Dichlorobenzene								27	28 104
ACID	Pentachlorophenol								47	17 109
	Phenol								35	26 90
SAMPLE NO.	2 Chlorophenol								50	25 102
	4 Chloro-3-Methylphenol								33	26 103
_____	4 Nitrophenol								50	11 114
PEST	Lindane								50	46 127
	Heptachlor								31	35 130
	Aldrin								43	34 132
SAMPLE NO.	Dieldrin								38	31 134
	Endrin								45	42 139
_____	4,4'-DDT								50	23 134

ADVISORY LIMITS

RPD: VOAs 0 out of 6 ; outside QC limits
B/N ____ out of ____ ; outside QC limits
ACID ____ out of ____ ; outside QC limits
PEST ____ out of ____ ; outside QC limits

RECOVERY: VOAs 0 out of 6 ; outside QC limits
B/N ____ out of ____ ; outside QC limits
ACID ____ out of ____ ; outside QC limits
PEST ____ out of ____ ; outside QC limits

Comments: _____

FORM III

Case No. _____ Laboratory Name TEI Analytical, Inc.

SAMPLE NO.	VOLATILE: TOLUENE-D8 (81-117)	VOLATILE: BFB (74-101)	VOLATILE: 1,2-DICHLOROETHANE-D4 (70-121)	SEMI-VOLATILE: NITROBENZENE-D5 (23-120)	SEMI-VOLATILE: 2-FLUOROBIPHENYL (30-115)	SEMI-VOLATILE: TERPHENYL-D14 (18-137)			SEMI-VOLATILE: PHENOL-D5 (24-113)	SEMI-VOLATILE: 2-FLUOROPHENOL (20-101)	SEMI-VOLATILE: 2,4,6-TRIBROMOPHENOL (19-122)	PESTICIDE: DIBUTYLCHLORENDATE (20-150)
80461		78	87									
80462		127	142									
80463		52	65									
80464		130	72									
80465		47	49									
80466		78	87									
80467		40	72									

VALUES ARE OUTSIDE OF REQUIRED QC LIMITS

Volatiles: 8 out of 14 ; outside of QC limits
Semi-Volatiles: _____ out of _____ ; outside of QC limits
Pesticides: _____ out of _____ ; outside of QC limits

Comments: samples only

FORM II

all [illegible]

METHOD BLANK SUMMARY

Case No. _____ Laboratory Name TEI Analytical, Inc.

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	CONC. LEVEL	INST. ID	CAS NUMBER	COMPOUND (HSL, TIC OR UNKNOWN)	CONC.	UNITS	CRDL
	12.24.[illegible]	VOA	Unk. Liquid				None			
	12.21.[illegible]	VOA	Unk. Liquid				None			

Comments:

FORM IV

Case No. _____ Laboratory Name TEI Analytical

GC Column SPB 608 GC Instrument ID Tracor

	DATE OF ANALYSIS 02-21-86				DATE OF ANALYSIS 02-23-86			
	TIME OF ANALYSIS				TIME OF ANALYSIS			
	LABORATORY ID 1ppm				LABORATORY ID 1ppm			
COMPOUND	RT	RETENTION TIME WINDOW	CALIBRATION FACTOR	CONF. OR QUANT.	RT	CALIBRATION FACTOR	CONF. OR QUANT.	PERCENT DIFF. **
alpha-BHC								
beta-BHC								
delta-BHC								
gamma-BHC								
Heptachlor								
Aldrin								
Heptachlor Epoxide								
Endosulfan I								
Dieldrin								
4,4'-DDE								
Endrin								
Endosulfan II								
4,4'-DDD								
Endrin Aldehyde								
Endosulfan Sulfate								
4,4'-DDT								
Methoxychlor								
Endrin Ketone								
Tech. Chlordane								
alpha-Chlordane								
gamma-Chlordane								
Toxaphene								
Aroclor - 1016								
Aroclor - 1221								
Aroclor - 1232								
Aroclor - 124								
Aroclor - 1248	11.34	11.34	15.4113		11.34	17.0332		
Aroclor - 1254								
Aroclor - 1260								

** CONF. = CONFIRMATION (<20% DIFFERENCE)
QUANT. = QUANTITATION (<15% DIFFERENCE)

FORM IX

APPENDIX D

ANALYTICAL RESULTS OF GOLDER ASSOCIATES INC.
DECEMBER 1990

RADIAN

Radian Work Order SO-12-101

Analytical Report
02/12/91

F-6
903-8065

Golder Associates

Golder Associates
1809 N. MILL ST. SUITE C
NAPERVILLE, IL 60563

MIKE FERRIGAN

1991

Customer Work Identification 903-8065 IPC ROCKFORD
Purchase Order Number 903-8065

Contents:

1 Analytical Data Summary
2 Sample History
3 Comments Summary
4 Notes and Definitions

Radian Analytical Services
10395 Old Placerville Road
Sacramento, CA 95827

916-362-5332

Client Services Coordinator: KELARSON

Certified by: [illegible]

RADIAN

Analytical Data Summary

Golder Associates
Radian Work Order: SO-12-101

Method:Pest/PCBs by SW8080 (1)
List:PCB analyte list

Sample ID:	IPC1-O/W-12/1-9/90	IPC2-O/W-12/1-9/90	IPC3-O/W-12/1-9/90	IPC4-O/W-12/1-9/90
Factor:	18	18	19	19
Results in:	mg/kg	mg/kg	mg/kg	mg/kg
	01A	02A	03A	04A
Matrix:	oil	oil	oil	oil

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
PCB-1016	ND	1.8	ND	1.8	ND	1.9	ND	1.9
PCB-1221	ND	3.6	ND	3.6	ND	3.8	ND	3.9
PCB-1232	ND	3.6	ND	3.6	ND	3.8	ND	3.9
PCB-1242	ND	1.8	ND	1.8	ND	1.9	ND	1.9
PCB-1248	ND	1.8	ND	1.8	ND	1.9	ND	1.9
PCB-1254	ND	3.6	6.4 X@	3.6	ND	3.8	ND	3.9
PCB-1260	ND	3.6	ND	3.6	ND	3.8	ND	3.9
Surrogate Recovery(%)								
Dibutylchlorendate	NS		NS		NS		NS	
Control Limits: 20 to 150								
2,4,5,6-Tetrachloro-m-xylene	NS		NS		NS		NS	
Control Limits: 17 to 152								

ND Not detected at specified detection limit
X See definition in report narrative
NS Not spiked
@ Est. result less that 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

RADIAN

Analytical Data Summary

Golder Associates
Radian Work Order: SO-12-101

Method:Pest/PCBs by SW8080 (1)
List:PCB analyte list

Sample ID:	IPC5-O/W-12/1-9/90	IPC6-O/W-12/1-9/90	REAGENT BLANK	IPC7-W-12/19/-90
Factor:	20	19	20	50
Results in:	mg/kg	mg/kg	mg/kg	ug/L
	05A	06A	07A	08A
Matrix:	oil	oil	oil	water

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
PCB-1016	ND	2.0	ND	1.9	ND	2.0	ND	5.0
PCB-1221	ND	3.9	ND	3.8	ND	4.0	ND	10
PCB-1232	ND	3.9	ND	3.8	ND	4.0	ND	10
PCB-1242	ND	2.0	ND	1.9	ND	2.0	ND	5.0
PCB-1248	ND	2.0	ND	1.9	ND	2.0	ND	5.0
PCB-1254	ND	3.9	4.6 Xa	3.8	ND	4.0	ND	10
PCB-1260	ND	3.9	ND	3.8	ND	4.0	ND	10
Surrogate Recovery(%)								
Dibutylchlorendate	NS		NS		NS		77	
Control Limits: 24 to 154								
2,4,5,6-Tetrachloro-m-xylene	NS		NS		NS		NS	
Control Limits: 26 to 144								

ND Not detected at specified detection limit
X See definition in report narrative
NS Not spiked
a Est. result less that 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

Golder Associates
Radian Work Order: SO-12-101

Method:Pest/PCBs by SW8080 (1)
List:PCB analyte list
Sample ID: REAGENT BLANK

Factor: 1
Results in: ug/L
09A
Matrix: water

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
PCB-1016	ND	0.10						
PCB-1221	ND	0.20						
PCB-1232	ND	0.20						
PCB-1242	ND	0.10						
PCB-1248	ND	0.10						
PCB-1254	ND	0.20						
PCB-1260	ND	0.20						
Surrogate Recovery(%)								
Dibutylchlorendate	90							
Control Limits: 24 to 154								
2,4,5,6-Tetrachloro-m-xylene	NS							
Control Limits: 26 to 144								

ND Not detected at specified detection limit NS Not spiked

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

Golder Associates
Radian Work Order: SO-12-101

Method:Volatiles by SW8240 (1)
List:Table 1 analyte list

Sample ID:	1PC7-W-12/19/-90	REAGENT BLANK
Factor:	100.000	1.000
Results in:	ug/L	ug/L
	10A	11A
Matrix:	water	water

	Result	Det. Limit	Result	Det. Limit
Acetone	99000	1000	ND	10
Acrolein	ND	7500	ND	75
Acrylonitrile	ND	8000	ND	80
Benzene	ND	440	ND	4.4
Bromodichloromethane	ND	350	ND	3.5
Bromoform	ND	470	ND	4.7
Bromomethane	ND	500	ND	5.0
2-Butanone	ND	1000	ND	10
Carbon disulfide	ND	500	ND	5.0
Carbon tetrachloride	ND	280	ND	2.8
Chlorobenzene	ND	500	ND	5.0
Chloroethane	ND	500	ND	5.0
2-Chloroethylvinylether	ND	1000	ND	10
Chloroform	ND	250	ND	2.5
Chloromethane	ND	500	ND	5.0
Dibromochloromethane	ND	310	ND	3.1
Dibromomethane	ND	500	ND	5.0
1,4-Dichloro-2-butene (total)	ND	500	ND	5.0
Dichlorodifluoromethane	ND	390	ND	3.9
1,1-Dichloroethane	22000	470	ND	4.7
1,2-Dichloroethane	ND	280	ND	2.8
1,1-Dichloroethene	ND	280	ND	2.8
trans-1,2-Dichloroethene	130 J	500	ND	5.0
1,2-Dichloropropane	ND	500	ND	5.0
cis-1,3-Dichloropropene	ND	500	ND	5.0
trans-1,3-Dichloropropene	ND	500	ND	5.0
Ethyl methacrylate	ND	1700	ND	17
Ethylbenzene	870 a	500	ND	5.0
2-Hexanone	ND	1000	ND	10
Iodomethane	ND	570	ND	5.7

ND Not detected at specified detection limit
J Detected at less than detection limit
a Est. result less that 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

RADIAN

Analytical Data Summary

Golder Associates
Radian Work Order: SD-12-101

Method:Volatiles by SW8240 (1)
List:Table 1 analyte list

Sample ID:	IPC7-W-12/19/-90	REAGENT BLANK
Factor:	100.000	1.000
Results in:	ug/L	ug/L
	10A	11A
Matrix:	water	water

	Result	Det. Limit	Result	Det. Limit
4-Methyl-2-pentanone	4000 @	1000	ND	10
Methylene chloride	12000	500	ND	5.0
Styrene	ND	500	ND	5.0
1,1,2,2-Tetrachloroethane	ND	500	ND	5.0
Tetrachloroethene	760 @	410	ND	4.1
Toluene	4200	500	ND	5.0
Total Xylenes	890 @	500	ND	5.0
1,1,1-Trichloroethane	1000 @	380	ND	3.8
1,1,2-Trichloroethane	ND	500	ND	5.0
Trichloroethene	2500	250	ND	2.5
Trichlorofluoromethane	ND	500	ND	5.0
1,2,3-Trichloropropane	ND	400	ND	4.0
Vinyl acetate	ND	690	ND	6.9
Vinyl chloride	ND	500	ND	5.0
Surrogate Recovery(%)				
1,2-Dichloroethane-d4	90		94	
Control Limits: 86 to 115				
Toluene-d8	100		101	
Control Limits: 76 to 114				
1,4-Bromofluorobenzene	101		102	
Control Limits: 88 to 110				

@ Est. result less that 5 times detection limit

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

Golder Associates
Radian Work Order: S0-12-101

Sample Identifications and Dates

Sample ID	IPC1-0/W-12/1-9/90	IPC2-0/W-12/1-9/90	IPC3-0/W-12/1-9/90	IPC4-0/W-12/1-9/90	IPC5-0/W-12/1-9/90	IPC6-0/W-12/1-9/90
Date Sampled	12/19/90	12/19/90	12/19/90	12/19/90	12/19/90	12/19/90
Date Received	12/22/90	12/22/90	12/22/90	12/22/90	12/22/90	12/22/90
Matrix	oil	oil	oil	oil	oil	oil
	01	02	03	04	05	06
est/PCBs by SW8080						
Prepared	12/26/90	12/26/90	12/26/90	12/26/90	12/26/90	12/26/90
Analyzed	01/02/91	01/02/91	01/02/91	01/02/91	01/02/91	01/02/91
Analyst	JM	JM	JM	JM	JM	JM
File ID	710122744	710122743	710122742	710122741	710122740	710122739
Blank ID	710122751	710122751	710122751	710122751	710122751	710122751
Instrument	7	7	7	7	7	7
Report as	received	received	received	received	received	received

RADIAN

Sample History

Golder Associates
Radian Work Order: S0-12-101

Sample Identifications and Dates

Sample ID	REAGENT BLANK	IPC7-W-12/19/-90	REAGENT BLANK	IPC7-W-12/19/-90	REAGENT BLANK
Date Sampled		12/19/90		12/19/90	
Date Received	12/22/90	12/22/90	12/22/90	12/22/90	12/22/90
Matrix	oil	water	water	water	water
	07	08	09	10	11
Pest/PCBs by SW8080					
Prepared	12/26/90	12/26/90	12/26/90		
Analyzed	01/03/91	01/03/91	01/03/91		
Analyst	JM	JM	JM		
File ID	710122751	710122754	710122752		
Blank ID		710122752			
Instrument	7	7	7		
Report as	received	received	received		
Volatiles by SW8240					
Prepared					
Analyzed				12/26/90	12/26/90
Analyst				RLJ	RLJ
File ID				1210110RR	1206605A
Blank ID				1206605A	
Instrument				F4	F4
Report as				received	received

Appendix A

Comments, Notes and Definitions

Golder Associates
Radian Work Order: S0-12-101

General Comments

The X flag indicates the presence of this analyte was not confirmed after analysis on a second column.

Golder Associates
Radian Work Order: S0-12-101

a ALL METHODS EXCEPT CLP
The results which are less than five times the method specified detection limit.
EXPLANATION
Uncertainty of the analysis will increase as the method detection limit is approached. These results should be considered approximate.

J ORGANIC METHODS
Indicates an estimated value for GC/MS data.
EXPLANATION
This flag is used either when estimating a concentration for tentatively identified compounds where a response factor of 1 is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit.

ND ALL METHODS EXCEPT CLP
This flag is used to denote analytes which are not detected at or above the specified detection limit.
EXPLANATION
The value to the right of the < symbol is the method specified detection limit for the analyte.

NS ALL METHODS EXCEPT CLP
This analyte or surrogate was not spiked into the sample for this analysis.

X ALL METHODS EXCEPT INORGANIC CLP
This is a general purpose flag for those situations not covered by the standard flags. The specific definition of this flag is described in the Comments Summary and/or in the case narrative.

Golder Associates
Radian Work Order: S0-12-101

TERMS USED IN THIS REPORT:

Analyte - A chemical for which a sample is to be analyzed. The analysis will meet EPA method and QC specifications.

Compound - See Analyte.

Detection Limit - The method specified detection limit, which is the lower limit of quantitation specified by EPA for a method. Radian staff regularly assess their laboratories' method detection limits to verify that they meet or are lower than those specified by EPA. Detection limits which are higher than method limits are based on experimental values at the 99% confidence level. The detection limits for EPA CLP (Contract Laboratory Program) methods are CRQLs (contract required quantitation limits) for organics and CRDLs (contract required detection limits) for inorganics. Note, the detection limit may vary from that specified by EPA based on sample size, dilution or cleanup. (Refer to Factor, below)

EPA Method - The EPA specified method used to perform an analysis. EPA has specified standard methods for analysis of environmental samples. Radian will perform its analyses and accompanying QC tests in conformance with EPA methods unless otherwise specified.

Factor - Default method detection limits are based on analysis of clean water samples. A factor is required to calculate sample specific detection limits based on alternate matrices (soil or water), reporting units, use of cleanup procedures, or dilution of extracts/digestates. For example, extraction or digestion of 10 grams of soil in contrast to 1 liter of water will result in a factor of 100.

Matrix - The sample material. Generally, it will be soil, water, air, oil, or solid waste.

Radian Work Order - The unique Radian identification code assigned to the samples reported in the analytical summary.

Units -	ug/L	micrograms per liter (parts per billion);liquids/water
	ug/kg	micrograms per kilogram (parts per billion); soils/solids
	ug/M3	micrograms per cubic meter; air samples
	mg/L	milligrams per liter (parts per million);liquids/water
	mg/kg	milligrams per kilogram (parts per million);soils/solids
	%	percent; usually used for percent recovery of QC standards
	uS/cm	conductance unit; microSiemans/centimeter
	mL/hr	milliliters per hour; rate of settlement of matter in water
	NTU	turbidity unit; nephelometric turbidity unit
	CU	color unit; equal to 1 mg/L of chloroplatinate salt

RADIAN

Analytical Data Summary

File 903-8065

GOLDER AND ASSOCIATES
Radian Work Order: M0-12-070

Method/Analyte	Sample Identifications		
	IPC1-O/W-12/1-9/90 01	IPC2-O/W-12/1-9/90 02	IPC3-O/W-12/1-9/90 03
Matrix	oil	oil	oil

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Ignitability, oil						
Ignitability	170	deg. F	145	deg. F	180	deg. F

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

GOLDER AND ASSOCIATES
Radian Work Order: M0-12-070

Method/Analyte	Sample Identifications					
	IPC4-O/W-12/1-9/90		IPC5-O/W-12/1-9/90		IPC6-O/W-12/1-9/90	
	04		05		06	
Matrix	oil		oil		oil	
	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Ignitability, oil						
Ignitability	145	deg. F	185	deg. F	160	deg. F

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

RADIAN

GOLDER AND ASSOCIATES
Radian Work Order: MO-12-070

Method/Analyte	IPC7-O/W-12/1-9/90 07	Sample Identifications	
Matrix	water		
	Result Det. Limit		
Ignitability			
Ignitability	>212 deg. F		

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

GOLDER AND ASSOCIATES
Radian Work Order: MO-12-070

Sample Identifications and Dates

Sample ID	IPC1-O/W-12/1-9/90	IPC2-O/W-12/1-9/90	IPC3-O/W-12/1-9/90	IPC4-O/W-12/1-9/90	IPC5-O/W-12/1-9/90	IPC6-O/W-12/1-9/90
Date Sampled	12/19/90	12/19/90	12/19/90	12/19/90	12/19/90	12/19/90
Date Received	12/20/90	12/20/90	12/20/90	12/20/90	12/20/90	12/20/90
Matrix	oil	oil	oil	oil	oil	oil
	01	02	03	04	05	06
Ignitability, oil						
Prepared	12/21/90	12/21/90	12/21/90	12/21/90	12/21/90	12/21/90
Analyzed	12/21/90	12/21/90	12/21/90	12/21/90	12/21/90	12/21/90
Analyst	TJM	TJM	TJM	TJM	TJM	TJM
File ID	23845-28	23845-28	23845-28	23845-28	23845-28	23845-28
Blank ID						
Instrument	Setaflas	Setaflas	Setaflas	Setaflas	Setaflas	Setaflas
Report as	received	received	received	received	received	received

RADIAN

Sample History

GOLDER AND ASSOCIATES
Radian Work Order: MO-12-070

Sample Identifications and Dates

Sample ID	IPC7-O/W-12/1-9/90
Date Sampled	12/19/90
Date Received	12/20/90
Matrix	water 07

Ignitability						
Prepared	12/21/90					
Analyzed	12/21/90					
Analyst	TJM					
File ID	23845-28					
Blank ID						
Instrument	FLSH MTR					
Report as	received					

Appendix A

Comments, Notes and Definitions

GOLDER AND ASSOCIATES
Radian Work Order: MO-12-070

TERMS USED IN THIS REPORT:

Analyte - A chemical for which a sample is to be analyzed. The analysis will meet EPA method and QC specifications.

Compound - See Analyte.

Detection Limit - The method specified detection limit, which is the lower limit of quantitation specified by EPA for a method. Radian staff regularly assess their laboratories' method detection limits to verify that they meet or are lower than those specified by EPA. Detection limits which are higher than method limits are based on experimental values at the 99% confidence level. The detection limits for EPA CLP (Contract Laboratory Program) methods are CRQLs (contract required quantitation limits) for organics and CRDLs (contract required detection limits) for inorganics. Note, the detection limit may vary from that specified by EPA based on sample size, dilution or cleanup. (Refer to Factor, below)

EPA Method - The EPA specified method used to perform an analysis. EPA has specified standard methods for analysis of environmental samples. Radian will perform its analyses and accompanying QC tests in conformance with EPA methods unless otherwise specified.

Factor - Default method detection limits are based on analysis of clean water samples. A factor is required to calculate sample specific detection limits based on alternate matrices (soil or water), reporting units, use of cleanup procedures, or dilution of extracts/digestates. For example, extraction or digestion of 10 grams of soil in contrast to 1 liter of water will result in a factor of 100.

Matrix - The sample material. Generally, it will be soil, water, air, oil, or solid waste.

Radian Work Order - The unique Radian identification code assigned to the samples reported in the analytical summary.

Units -	ug/L	micrograms per liter (parts per billion);liquids/water
	ug/kg	micrograms per kilogram (parts per billion); soils/solids
	ug/M3	micrograms per cubic meter; air samples
	mg/L	milligrams per liter (parts per million);liquids/water
	mg/kg	milligrams per kilogram (parts per million);soils/solids
	%	percent; usually used for percent recovery of QC standards
	uS/cm	conductance unit; microSiemans/centimeter
	mL/hr	milliliters per hour; rate of settlement of matter in water
	NTU	turbidity unit; nephelometric turbidity unit
	CU	color unit; equal to 1 mg/L of chloroplatinate salt

APPENDIX E

DECONTAMINATION OF SAMPLING AND TESTING EQUIPMENT

Equipment, tools and materials used for sampling or measuring shall be decontaminated (cleaned) before being used in any tank on site or between samples in accordance with the procedures specified.

- The condition of the equipment shall be such that contamination is not created.

- Distilled water and pesticide-grade alcohol shall be used for decontamination.

- Oily gloves will not be used when handling tools after cleaning. Clean latex gloves shall be used or, if heavier gloves are required, butyl rubber or nitrile gloves shall be used.

- New clean hose shall be used at the site for sampling.

- For sampling and testing equipment (e.g., that which will go into the sample medium) the following procedures shall be used before and between sampling:

  a. Wash equipment thoroughly with detergent (e.g., Alconox) and water using a brush to remove any particulate matter or surface film.

  b. Rinse equipment thoroughly with distilled water.

  c. Rinse equipment with solvent (alcohol).

  d. Rinse equipment with distilled water by spraying or pouring.

- All decontamination fluids will be retained in buckets and poured back into the respective tanks following sampling.

(65061516.wp1/glb)

APPENDIX F

HEALTH AND SAFETY PLAN

1. Items 1-9 to be completed by Project Manager.

Project Name IPC/RI-FS/IL

Task Preliminary Removal Action: Tank Sampling and Analysis

Requested by IPC Steering Committee

Proposed Start-Up Date May 28, 1991 Project/Task No. 903-8065.6

Rev. Level 0

Prepared by/Reviewed by Health and Safety Officer

Printed Name Daniel A. Gmitro

Signature _____ Date May 21, 1991

Reviewed by Site Health and Safety Coordinator

Printed Name Mary E. Daily

Signature _____ Date May 21, 1991

Approved by Project Manager

Printed Name Richard S. Williams

Signature _____ Date May 21, 1991

Title Principal

2. **Project Description:**

Seven underground tanks (USTs) and one above ground tank are reported at the IPC site. Six of the tanks are known to contain oils, aqueous liquids and sludges but the volumes of the various phases have not been determined. A Technical Memorandum has been prepared for estimating the volumes of the various phases in the tanks and collecting samples for chemical analysis of the aqueous (water) phase present in each tank. The results of the analyses will be the basis for determining if the aqueous contents are hazardous.

3. **Location:**

The Interstate Pollution Control (IPC) site is located on Seminary Street near Quaker Road in a mixed residential and industrial neighborhood in southeastern Rockford, Illinois.

4. **Facility/Work Site Description:**

The IPC site was reportedly used to store liquid wastes temporarily in drums, tanks, trucks and a shallow surface impoundment. Six underground storage tanks (T-1 through T-6) and one above ground storage tank (T-8) are presently reported to contain liquids. Tank T-7 reportedly contains only dirt and solid debris and will not be sampled for this task.

5. **Proposed Personnel and Tasks:**

Project Manager Richard S. Williams

Health and Safety Officer Daniel A. Gmitro

Field Team Leader Rodney L. Allen

Site Health and Safety Coordinator Rodney L. Allen

Proposed Field Team	Job Function/Tasks
Daniel A. Gmitro	Health and Safety Officer
Rodney L. Allen	Field Team Leader and Site Health and Safety Coordinator
Myra Hart	Decontamination Support

6. Confined Space Entry

A confined space is defined as any space not currently used or intended for human occupancy, having a limited means of egress, which is subject to the accumulation of toxic contaminants, a flammable or oxygen deficient atmosphere, or other hazards, such as engulfment, or electrical or mechanical hazards should equipment be inadvertently activated while an employee is in the space. Confined spaces include but are not limited to storage tanks, process vessels, bins, boilers, ventilation or exhaust ducts, air pollution control devices, smoke stacks, underground utility vaults, sewers, septic tanks, and open top spaces more than four feet in depth such as test pits, waste disposal trenches, sumps and vats.

Will this task require entry into any confined or partially confined space?

___ Yes - Describe below
_x_ No

7. Cutting and Welding

Will this task involve use of a cutting torch or welding?

___ Yes - Describe below
_x_ No

8. Other Potential Hazards

_x_ Chemical
___ Radiological
_x_ Fire/Explosion
___ Heat Stress
___ Electrical
___ Machinery/Mechanical Equipment
_x_ Trips, Slips, Falls
___ Trenching/Shoring
___ Heavy Equipment/Vehicular Traffic
___ Overhead Hazards
___ Unstable/Uneven Terrain
_x_ Other - Describe below

6,7,8 Description/Other

At no time throughout this sampling event will personnel enter the tanks.
Other Hazards: Working off a ladder to sample and measure a 20-foot high tank.

9. I, Daniel A. Gmitro (name), attest that this information is accurate to the best of my knowledge and hereby request a Health and Safety Plan for the task(s) designated above.

Signature Date

Project Hydrogeologist
Title

10. Chemical/Radiological Hazard Evaluation

Waste Media

___ Airborne Contamination
_x_ Surface Contamination
___ Contaminated Soil
___ Contaminated Groundwater
___ Contaminated Surface Water
___ Solid Waste
_x_ Liquid Waste
_x_ Sludge

Hazardous Characteristics

_x_ Ignitable
___ Corrosive
___ Reactive
___ Explosive
_x_ Toxic (non-radiological)
___ Radioactive

Substance

Each of the planned activities may involve similar possible exposure to the substances listed below at concentrations or in quantities which may be hazardous to the health of the site personnel. The anticipated potential level of risk is indicated for each substance and exposure route. The criteria for the evaluation are based on available analytical data for leachate and the results of previous ambient air monitoring which has not shown high levels of volatile organics or potentially explosive gases.

Primary Hazard Rate: negligible,(neg) low, medium, (med), high, extreme (ext)

Substance	Inhalation of Gases/ Vapors	Inhalation of Dusts/ Mists	Ingestion	Dermal Absorption of Solids/ Liquids and/or Skin Contam.	Dermal Absorption of Gases/ Vapors	Corrosive/ Irritant	Ignit-ability	Reactivity/ Explosion
VOCs	High (T-8) Low (T-1 thru T-6)			med.	low		med.	
Chlorinated organic hydrocarbons	High (T-8) Low (T-1 thru T-6)			med.	low		med.	

Substance	Exposure Limit	IDHL Level	Health Effects
VOCs	Various with compound Various with compound	varies varies	Control nervous system toxins Control nervous system toxins
Chlorinated organic hydrocarbons			Liver and kidney toxins, carcinogens

11. Ambient Air/Site Monitoring Procedures

The following instruments shall be used to monitor the work environment and workers' breathing zones prior to site entry and at the specified intervals.

	Instrument	*Monitoring Frequency*				
x	PID (HNU, OVM) w/ 10.6 eV lamp	Cont.	15min.	30min.	hourly	other x
	OVA	Cont.	15min.	30min.	hourly	other
x	Combustible Gas Indicator	Cont.	15min.	30min.	hourly	other x
x	H2S Detector	Cont.	15min.	30min.	hourly	other x
x	Colorimetric Detector Tubes	Cont.	15min.	30min.	hourly	other x
	Other (describe below)	Cont.	15min.	30min.	hourly	other

Description/Other:

Ambient air and the headspace in tanks will be monitored for explosive gases, percent oxygen, parts per million of hydrogen sulfide and VOCs at the start of any open-tank activities. A calibrated explosive gas/H_2S/O_2 and photoionization detection (PID) meters will be used to monitor these parameters. In addition, upon initially opening the tanks, cyanide (CHN) will be measured at the opening using a portable air sampling pump with detection tubes.

The ambient air will be monitored prior to opening any tanks. After opening the tanks, measurements will be taken every 30 minutes in the breathing zone, at the tank's opening and within the headspace of the tank if present. If at any time action limits are exceeded, the tanks will be allowed to vent for a period of about 5 minutes and then retested. If the air quality is below the action limits, work will proceed. If it remains above the action limits, the level of respiratory protection will be upgraded.

12. Action Levels

Task personnel shall observe the following Action Levels:

Instrument	*Action Level*	*Specific Action*
OVM	5 ppm continues in breathing for one minute	Don SCBA
OVM	25 ppm spike in breathing zone	Don SCBA
MSA 361 - combustible gas	25% LEL at tank opening	Perform continuous monitoring
	50% LEL at tank opening	Allow tank to vent for 10 minutes and then monitor
	25% LEL in work zone	Evacuate work zone
MSA 361 - H_2S	2 ppm in breathing zone	Evacuate work zone, allow to vent for 10 minutes and then monitor
HCN Detector Tubes	2 ppm in breathing zone	Evacuate work zone, allow to vent for 10 minutes and then monitor

NOTE: A respiratory protection plan has been established by Golder Associates. All Golder personnel have been properly trained in care and maintenance of respirators. All Golder field personnel have been properly fitted for respirators according to OSHA regulations.

13. Personal Monitoring

___ Passive Dosimeter ___ Personal Air Sampling ___ Other

Description/Other:

N/A

14. Biological Monitoring/Medical Surveillance

____ This project requires medical surveillance or biological monitoring procedures beyond the provisions of the routine medical surveillance program, see description below

Description:

N/A

15. On-site Control

Control boundaries have been established, and the Exclusion Zone (the contaminated area), Hotline, Decontamination Line, Contamination Control Zone and Support Zone (clean area) have been designated and are identified as follows:

Exclusion Zone: 10-foot radius surrounding the tank opening.
Contamination Reduction Zone; 10-foot radius surrounding the exclusion zone.
Support Zone: Area outside the contamination reduction zone.

Rodney L. Allen has been designated to coordinate access control on the work
(Name)
site during this task. No unauthorized person shall be allowed beyond the Contamination Control line.

16. **Personal Protective Equipment**

Location	Job Function/Task	Initial Level of Protection						
Exclusion Zone	Physical Measurements of Tanks 1-6	B	C	D	1	2	3	other
	Tanks (1-6) Sampling	B	C	D	1	2	3	other
	Physical Measurements of Tank 8	B	C	D	1	2	3	other
	Tank 8 Sampling	B	C	D	1	2	3	other
		B	C	D	1	2	3	other
Decontamination Zone	Decontaminating Equipment	B	C	D	1	2	3	other
		B	C	D	1	2	3	other
		B	C	D	1	2	3	other

List the specific protective equipment and material (where applicable) for each of the Levels of Protection identified above

Level B-1

___ Pressure demand airline
___ Pressure demand airline with escape provisions
x Pressure demand SCBA
x Saranax Coveralls
x Latex inner gloves
x Neoprene outer gloves
x Outer disposable boots

Level B-2

x Pressure demand SCBA
x Tyvek coveralls
x Latex inner glove
x Outer disposable boots

Level D 1

x Saranax Coveralls
x Latex inner gloves
x Neoprene outer gloves
x Outer disposable boots

Level D 2

x Tyvek coveralls
x Latex inner glove
x Neoprane outer gloves
x Outer disposable boots

NO CHANGES TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE WITHOUT THE KNOWLEDGE AND APPROVAL OF THE HEALTH AND SAFETY OFFICER AND THE PROJECT MANAGER

17. Decontamination

Personnel and equipment leaving the Controlled Zone shall proceed through the following decontamination stations and procedures from the decontamination zone:

Personnel Decontamination

Station	Procedure
1	Remove outer gloves if applicable
2	Remove SCBA if applicable
3	Remove saranax/tyvek if applicable
4	Remove inner gloves

Equipment Decontamination

Station	Procedure
See Appendix E	

The following decontamination equipment is required:

Emergency decontamination procedures:

18. Confined Entry Procedures ___x___ Not Applicable

Yes	N/A	
___	___	Provide Forced Ventilation
___	___	Test Atmosphere For:
___	___	(a) $\%O_2$
___	___	(b) %LEL
___	___	(c) Other

Yes	N/A	
___	___	Refer to Personal Protective Equip. (#16)
___	___	Refer to Emergency Procedures (#24)
___	___	Other Special Procedures

Descriptions/Other:

19. Cutting/Welding Procedure ___x___ Not Applicable

Yes	N/A	
___	___	Relocate or Protect Combustibles
___	___	Wet Down or Cover Combustible Floor
___	___	Check Flammable Gas Concentrations (%LEL) in air
___	___	Cover Wall, Floor, Duct and Tank Openings
___	___	Provide Fire Extinguisher

Other Special Instructions:

20. On-site Organization and Coordination

Project Manager: Richard S. Williams
Field Team Leader: Rodney L. Allen
Site Health and Safety Coordinator Rodney L. Allen

Field Team Name	Job Function
Rodney L. Allen	Sampling
Daniel A. Gmitro	Sampling
Myra L. Hart	Sample Custodian/Decontamination Support

21. Special Instructions

22. Sanitation Requirements

Potable water supply available on work site? ___ Yes
_x_ No

Portable toilets required on work site? ___ Yes If Yes, how many? ____
_x_ No

Temporary washing/shower facilities required at work site? ___ Yes If yes, describe below.
_x_ No If no, state location of nearest existing facilities.

Description:

Located in parking lot of industrial park adjacent to site.

23. Field Procedures Change Authorization

Instruction Number to be changed

Duration of Authorization Requested
___ Today only
___ Duration of Task

Date:_____

Description of Procedures Modification:

Justification:

Person Requesting Change:

Verbal Authorization Received From:

Name

Name

Time

Title

Title

Signature

Approved By
(Signature of person named above to be obtained within 48 hours of verbal authorization)

24. Emergency Procedures This page is to be posted at prominent location on site.

Yes	No	
___	x	On-site Communications Required? Emergency Channel _____

Nearest Telephone _____

Fire and Explosion

In the event of a fire or explosion, if the situation can be readily controlled with available resources without jeopardizing the health and safety of yourself, the public, or other site personnel, take immediate action to do so, otherwise:

1. Notify emergency personnel by calling 911.
2. If possible, isolate the fire to prevent spreading.
3. Evacuate the area (the area to be evacuated includes the landfill and Surface Impoundment areas).

Chemical Exposure

Site workers must notify the site health and safety officer immediately in the event of any injury or any of the signs or symptoms of overexposure to hazardous substances identified below:

Substances Present	Symptoms of Acute Exposure	First Aid
VOCs	Headache; dizziness; nausea	Remove to fresh air; seek medical attention
H_2S	Initial odor of sulphur (rotten eggs), but olfactory paralysis with continued exposure at high units; respiratory irritation; unconsciousness	Remove to fresh air; seek medical attention
HCN	Bitter almond odor; headache; confusion; nausea	Remove to fresh air; seek medical attention

24. **Emergency Procedures - Cont'd**

On Site Injury Or Illness

In the event of an injury requiring more than minor first aid, or any employee reporting any sign or symptom of exposure to hazardous substances, immediately take the victim to Swedish-American Hospital located at 1400 Charles Street, Rockford, IL Phone (815) 968-4400. In the event of life-threatening or traumatic injury, implement appropriate first-aid and immediately call for emergency medical assistance at 911. The nearest designated trauma center is Rockford-Memorial Hospital located at 2400 North Rockton Avenue, Rockford, IL Phone (815)968-6861 x5550.

Designated Personnel Current in First Aid/CPR (Names)

Rodney L. Allen
Daniel A. Gmitro

Designated Back-Up Personnel (Names)	Function
Myra L. Hart	Decontamination Support

Required Emergency Back-Up Equipment

Emergency Response Authority

The Site Health and Safety Coordinator shall also act as the designated site emergency coordinator and shall have final authority for initial response to on-site emergency situations.

Upon arrival of the appropriate emergency response personnel, the site health and safety coordinator shall defer all authority but shall remain on the scene if necessary to provide any and all possible assistance. At the earliest opportunity, the site health and safety coordinator shall contact the project manager or coordinator shall contact the project manager or health and safety officer.

Project Manager Richard S. Williams Phone (w) 708-357-2066 (h) 708-717-5832

Health and Safety Officer Daniel A. Gmitro Phone (w) 708-357-2066 (h) 312-427-4214

25. Safety Briefing

The following personnel were present at pre-job safety briefing conducted at _____(time) on _____(date) at_____(location), and have read the above plan and are familiar with its provisions:

Name	Signature

Fully charged ABC Class fire extinguisher available on site? YES ___
Fully stocked First Aid Kit available on site? YES ___
All project personnel advised of location of nearest phone? YES ___
All project personnel advised of location of designated medical facility or facilities? YES ___

_____
Printed Name of Field Team Leader or Site Safety Officer

_____
Signature Date

(65061518.wp1/glb)