US EPA RECORDS CENTER REGION 5
556224

12/13

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 1/7/91

1/9/91

SUBJECT: Review of Region V CLP Data
Received for Review on NOVEMBER 19, 1990

FROM: Curtis Ross, Director (ESCRL) Patrick J. Chunlla for
Central Regional Laboratory

TO: Data User: FIT

We have reviewed the data for the following case(s).

SITE NAME: LAKE ABRAMS HOLDING PONDS (OH) SMO Case No. 15113

EPA Data Set No. _____ No. of Samples: 9 D.U./Activity Numbers TFA1 TFA102

CRL No. 91FH30S48 - S56

SMO Traffic No. EKQ76 - 84

CLP Laboratory: GULF Hrs. Required for Review: 9 42=11.

Following are our findings.

- This review covers nine soil samples (EKQ76 through EKQ84) for complete organic analysis at low levels except for the pesticide fractions of EKQ76 through EKQ79, EKQ81 and EKQ82, which were analyzed at medium level.

The reviewer's narrative and data qualifiers follow.

Al Venuto (Weston/ESAT)
2 Jan. 1991

( ) Data are acceptable for use.
(✓) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Dr. Alfred Haeberer/Joan Fisk/Gary Ward, EPA Support Services
Ross K. Robeson, EMSL-Las Vegas
Don Trees, CLP/Sample Management Office

DATA QUALIFIERS

Contractor: GULF SOUTH ENVIRON. Case 15113

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

① Holding Times:
The seven day holding time from date of sampling to date of analysis for volatiles in soils was exceeded by two days for all samples. All volatile results should therefore be considered J, estimated, for positive values or UJ, estimated quantitation limits, for negative values.
All samples were extracted for semi-volatiles and pesticides/PCBs well within the fourteen day holding times for these fractions and then promptly analyzed.
② GC/MS Tuning and GC Instrument Performance:
The GC tuning and mass calibration were all within the required Q.C. limits. The pesticide breakdown in the columns for pesticides/PCBs was only a small fraction of the maximum permissible 20%.
③ Calibration:
The volatile and semi-volatile calibration outliers are listed on the outliers forms. All evaluation checks in the primary pesticides/PCBs column (DB-608) were very well within the Q.C. limits.
④ Method Blanks:
None of the method blanks for any fraction contained any TCL compounds, but the two semi-volatile method blanks each contained two TICs (unknown ketones); most of

Reviewed by: Al Venuto
Phone: (312) 353-2959
Date: 2 Jan. 1991

DATA QUALIFIERS

Contractor: GULF SOUTH ENVIRON. Case 15113

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

these were also found in their associated samples.

(5) Surrogate Recoveries:

All volatile and semi-volatile surrogate recoveries were within the Q.C. limits. In the pesticide fraction, the recovery of DBC in EKQ84MSD was slightly above the limit; since the recoveries in EKQ84 and EKQ84MS were well within the limits, no action is recommended.

(6) Matrix Spikes and Matrix Spike Duplicates:

All volatile MS and MSD recoveries were well within the Q.C. limits, but the RPDs for 1,1-dichloroethene and benzene were slightly above the limits; since neither compound was present in the unspiked sample EKQ76, no action is recommended.

All semi-volatile MS and MSD recoveries and RPDs were well within the Q.C. limits.

The medium level pesticide MS and MSD recoveries and RPDs were all well within the Q.C. limits, but for the low level pesticide fraction, the recoveries of heptachlor, aldrin, dieldrin, endrin and DDT were somewhat above the limits for EKQ84MSD, as was the RPD for heptachlor. Since none of these compounds was found in the unspiked sample EKQ84, no action is recommended.

Reviewed by: Al Venuto

Phone: (312) 353-2959

Date: 2 Jan. 1991

DATA QUALIFIERS

Contractor: GULF SOUTH ENVIRON.

Case 15113

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

(7) Field Duplicates and Field Blanks:
No samples in this case were identified as field duplicates or field blanks.
(8) Internal Standards Performance:
All IS areas for both volatile and semi-volatile fractions were within the QC limits.
(9) Compound Identification:
The compound identification for all fractions appears to be satisfactory.
(10) Compound Quantition and Reported Detection Limits:
The correct limits were used and the proper adjustments were made for sample size, percent moisture, level and GPC cleanup.
(11) System Performance:
All aspects of the system performance appear to be satisfactory.
(12) Additional Case-Specific Problems:
None noted.

Reviewed by: Al Venuto
Phone: (312) 353-2959
Date: 2 Jan. 1991

CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # 15113

CONTRACTOR GULF SOUTH

Instrument # E	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME: 10-24-90	10-24-90 11:26			10-27-90 14:34											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane	.856			1.10	28.6	J									
Bromomethane															
Vinyl Chloride															
Chloroethane	.610	32.7	J	.942	54.4	J									
Methylene Chloride	.331			1.96	40.8	J									
Acetone	.220	30.7	J	.317	44.1	J									
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone	.046	59.7	J/R	.034	26.1	J									
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate	.050			.007	86.0	J									
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene	.115			.076	33.9	J									
Trichloroethene															
Dibromochloromethane	.434			.316	27.2	J									
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform	.398			.287	27.9	J									
4-Methyl-2-Pentanone															
2-Hexanone															
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

VBLK1
EKQ76
EKQ84
EKQ76MS
EKQ76MSD

Reviewer's Initials/Date: AV 12-31-90

* These flags should be applied to the analytes on the sample data sheets.

CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
(Page 1)

CASE/SAS # 15113 CONTRACTOR GULF SOUTH ENVIRON.

Instrument # B	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME: 10-26-90	10-26-90 14:05			10-28-90 15:20			10-29-90 10:05								
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Phenol															
bis(-2-Chloroethyl)Ether		-													
2-Chlorophenol															
1,3-Dichlorobenzene															
1,4-Dichlorobenzene															
Benzyl Alcohol															
1,2-Dichlorobenzene															
2-Methylphenol															
bis(2-chloroisopropyl)Ether															
4-Methylphenol															
N-Nitroso-Di-n-Propylamine															
Hexachloroethane															
Nitrobenzene															
Isophorone															
2-Nitrophenol															
2,4-Dimethylphenol															
Benzoic Acid	.164			.103	37.2	J	.097	40.8	J						
bis(2-Chloroethoxy)Methane															
2,4-Dichlorophenol															
1,2,4-Trichlorobenzene															
Naphthalene															
4-Chloroaniline	.229			.351	53.3	J	.348	52.0	J						
Hexachlorobutadiene															
4-Chloro-3-Methylphenol															
2-Methylnaphthalene															
Hexachlorocyclopentadiene															
2,4,6-Trichlorophenol															
2,4,5-Trichlorophenol															
2-Chloronaphthalene															
2-Nitroaniline															
Dimethyl Phthalate															
Acenaphthylene															
3-Nitroaniline	.169			.284	68.0	J	.310	83.4	J						
Acenaphthene															
2,4-Dinitrophenol															
4-Nitrophenol															
Dibenzofuran															

AFFECTED SAMPLES:

SBLKL1
EKQ84
EKQ84MS
EKQ84MSD

Reviewer Initials/Date: AV 1-2-91

* These flags should be applied to the analytes on the sample data sheets.

CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
Page 2

CASE/SAS # 15113 CONTRACTOR GULF SOUTH ENVIRON.

Instrument # B	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME: 10-26-90	10-26-90 14:05			10-28-90 15:20			10-29-90 10:05								
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
2,4-Dinitrotoluene		-													
2,6-Dinitrotoluene															
Diethylphthalate															
4-Chlorophenyl-phenylether															
Fluorene															
4-Nitroaniline															
4,6-Dinitro-2-Methylphenol															
N-Nitrosodiphenylamine															
4-Bromophenyl-phenylether															
Hexachlorobenzene															
Pentachlorophenol															
Phenanthrene															
Anthracene															
Di-n-Butylphthalate															
Fluoranthene															
Pyrene															
Butylbenzylphthalate															
Benzo(a)Anthracene															
bis(2-Ethylhexyl)Phthalate															
Chrysene															
Di-n-Octyl Phthalate															
Benzo(b)Fluoranthene															
Benzo(k)Fluoranthene	1.48			1.18			1.06	28.2	J						
Benzo(a)Pyrene															
Indeno(1,2,3-cd)Pyrene															
Dibenz(a,h)Anthracene															
Benzo(g,h,i) Perylene															

SEE PAGE 1 FOR AFFECTED SAMPLES.

* These flags should be applied to the analytes on the sample data sheets.

Reviewer's Initials/Date: AY 1-2-91

CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
(Page 1)

CASE/SAS # 15113 CONTRACTOR GULF SOUTH ENVIRON.

Instrument # C	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME: 11-5-90	11-5-90 16:46			11-9-90 17:36			11-10-90 9:37								
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Phenol															
bis(-2-Chloroethyl)Ether		-													
2-Chlorophenol															
1,3-Dichlorobenzene															
1,4-Dichlorobenzene															
Benzyl Alcohol															
1,2-Dichlorobenzene															
2-Methylphenol															
bis(2-chloroisopropyl)Ether															
4-Methylphenol															
N-Nitroso-Di-n-Propylamine															
Hexachloroethane															
Nitrobenzene															
Isophorone															
2-Nitrophenol															
2,4-Dimethylphenol															
Benzoic Acid	.247			.240			.137	44.5	J						
bis(2-Chloroethoxy)Methane															
2,4-Dichlorophenol															
1,2,4-Trichlorobenzene															
Naphthalene															
4-Chloroaniline															
Hexachlorobutadiene															
4-Chloro-3-Methylphenol															
2-Methylnaphthalene															
Hexachlorocyclopentadiene	.447			.373			.263	41.2	J						
2,4,6-Trichlorophenol															
2,4,5-Trichlorophenol															
2-Chloronaphthalene															
2-Nitroaniline															
Dimethyl Phthalate															
Acenaphthylene															
3-Nitroaniline															
Acenaphthene															
2,4-Dinitrophenol	.187			.191			.112	40.1	J						
4-Nitrophenol	.177			.154			.110	37.8	J						
Dibenzofuran															
				EKQ83			SBLKL2								

AFFECTED SAMPLES:

Reviewer Initials/Date: AV 1-2-91

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CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
Page 2

CASE/SAS # 15113 CONTRACTOR GULF SOUTH ENVIRON

Instrument # C	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME: 11-5-90	11-5-90 16:46			11-9-90 17:36			11-10-90 9:37								
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
2,4-Dinitrotoluene		-													
2,6-Dinitrotoluene								-							
Diethylphthalate															
4-Chlorophenyl-phenylether															
Fluorene															
4-Nitroaniline															
4,6-Dinitro-2-Methylphenol	.127			.125			.078	38.6	J						
N-Nitrosodiphenylamine															
4-Bromophenyl-phenylether															
Hexachlorobenzene	.348			.280			.249	28.4	J						
Pentachlorophenol															
Phenanthrene															
Anthracene															
Di-n-Butylphthalate															
Fluoranthene															
Pyrene															
Butylbenzylphthalate															
Benzo(a)Anthracene															
bis(2-Ethylhexyl)Phthalate															
Chrysene															
Di-n-Octyl Phthalate															
Benzo(b)Fluoranthene															
Benzo(k)Fluoranthene															
Benzo(a)Pyrene															
Indeno(1,2,3-cd)Pyrene															
Dibenz(a,h)Anthracene								-							
Benzo(g,h,i) Perylene															

SEE PAGE 1 FOR AFFECTED SAMPLES.

* These flags should be applied to the analytes on the sample data sheets.

Reviewer's Initials/Date: AV 1-2-91

CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
(Page 1)

CASE/SAS # 15113 CONTRACTOR GULF SOUTH ENVIRON.

Instrument # C	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME: 11-11-90	11-11-90 10:44														
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Phenol															
bis(-2-Chloroethyl)Ether															
2-Chlorophenol															
1,3-Dichlorobenzene															
1,4-Dichlorobenzene															
Benzyl Alcohol															
1,2-Dichlorobenzene															
2-Methylphenol															
bis(2-chloroisopropyl)Ether															
4-Methylphenol															
N-Nitroso-Di-n-Propylamine															
Hexachloroethane															
Nitrobenzene															
Isophorone															
2-Nitrophenol															
2,4-Dimethylphenol															
Benzoic Acid															
bis(2-Chloroethoxy)Methane															
2,4-Dichlorophenol															
1,2,4-Trichlorobenzene															
Naphthalene															
4-Chloroaniline															
Hexachlorobutadiene															
4-Chloro-3-Methylphenol															
2-Methylnaphthalene															
Hexachlorocyclopentadiene															
2,4,6-Trichlorophenol															
2,4,5-Trichlorophenol															
2-Chloronaphthalene															
2-Nitroaniline															
Dimethyl Phthalate															
Acenaphthylene															
3-Nitroaniline															
Acenaphthene															
2,4-Dinitrophenol															
4-Nitrophenol															
Dibenzofuran															

AFFECTED SAMPLES: EKQ76 through EKQ82

Reviewer Initials/Date: AV 1-2-91

* These flags should be applied to the analytes on the sample data sheets.

CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
Page 2

CASE/SAS # 15113 CONTRACTOR GULF SOUTH ENVIRON.

Instrument # C	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME: 11-11-90	11-11-90 10:44														
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
2,4-Dinitrotoluene		-													
2,6-Dinitrotoluene															
Diethylphthalate															
4-Chlorophenyl-phenylether															
Fluorene															
4-Nitroaniline															
4,6-Dinitro-2-Methylphenol															
N-Nitrosodiphenylamine															
4-Bromophenyl-phenylether															
Hexachlorobenzene															
Pentachlorophenol															
Phenanthrene															
Anthracene															
Di-n-Butylphthalate															
Fluoranthene															
Pyrene															
Butylbenzylphthalate															
Benzo(a)Anthracene															
bis(2-Ethylhexyl)Phthalate															
Chrysene															
Di-n-Octyl Phthalate															
Benzo(b)Fluoranthene															
Benzo(k)Fluoranthene															
Benzo(a)Pyrene															
Indeno(1,2,3-cd)Pyrene															
Dibenz(a,h)Anthracene															
Benzo(g,h,i) Perylene															

SEE PAGE 1 FOR AFFECTED SAMPLES.

* These flags should be applied to the analytes on the sample data sheets.

Reviewer's Initials/Date: AV 1-2-91

ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

CRL Receipt Date 11/19/90 FIT Receipt Date 1/9/91 Review Completed 1/9/91

TO: K. Sadler
FROM: C. Kouns
SUBJECT: Lake Abrams
PAN: OH013858 (1 hour charged for review) Case # 15113

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
# 9	Low Soil	#	Low Soil
	Low Water		Low Water
	Drinking Water		Drinking Water
	Other		Other

Project Data Status X Completed!!

Incomplete, awaiting

FIT Data Review Findings:

Check Data Sheets for Transcription Errors

✓ Compounds were detected in sample(s); see enclosed sheet.

Book No. 9 Page No. Date Sampled 10/18/90

0759:2

recycled paper

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S1

SAMPLING DATE 10/18/90 SAMPLING TIME 0850

ORGANIC TRAFFIC NUMBER EKQ-76

INORGANIC TRAFFIC NUMBER MEKB-71

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz.	METALS/CN-	134268	0144013
8oz.	EXTRACTABLE	134269-	0144013
2-120ml	VOA	134270-71	W0172013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

recycled paper

ecology and environment

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S2

SAMPLING DATE 10/18/90 SAMPLING TIME 0855

ORGANIC TRAFFIC NUMBER EKQ-77

INORGANIC TRAFFIC NUMBER MEKB-72

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8 oz.	METALS / CN^-	134272	0144013
8 oz.	EXTRACTABLE	134273	0144013
2-120 mL	VOA	134274-75	W0172013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S3

SAMPLING DATE 10/18/90 SAMPLING TIME 0855

ORGANIC TRAFFIC NUMBER EKQ-

INORGANIC TRAFFIC NUMBER MEKB-

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz.	METALS / CN^-	134276	0144013
8oz.	EXTRACTABLE	134277	0144013
2-120ml	VOA	134278-79	W0172013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S4

SAMPLING DATE 10/18/90 SAMPLING TIME 0855

ORGANIC TRAFFIC NUMBER EKQ-79

INORGANIC TRAFFIC NUMBER MEKB-74

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz.	METALS/CN-	134280	0144013
8oz.	EXTRACTABLE	134281	0144013
2-120ml	VOA	134282-83	W0172013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S5

SAMPLING DATE 10/18/90 SAMPLING TIME 0920

ORGANIC TRAFFIC NUMBER EKQ-80

INORGANIC TRAFFIC NUMBER MEKB-75

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz	METALS / CN^-	134284	0144013
8oz.	EXTRACTABLE	134285	0144013
2-120ml	VOA	134286-87	W0172013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

recycled paper

ecology and environment

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S6

SAMPLING DATE 10/18/90 SAMPLING TIME 0915

ORGANIC TRAFFIC NUMBER EKQ-81

INORGANIC TRAFFIC NUMBER MEKB-76

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz	METALS / CN^-	134288	0144013
8oz.	EXTRACTABLE	134289	0144013
2-120ml	VOA	134290-91	W0172013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

recycled paper

ecology and environment

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S7

SAMPLING DATE 10/18/90 SAMPLING TIME 0915

ORGANIC TRAFFIC NUMBER EKQ-82

INORGANIC TRAFFIC NUMBER MEKB-77

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz	METALS / CN^-	134292	0137013
8oz.	EXTRACTABLE	134293	0137013
2-120ml	VOA	134294-95	W0201013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

recycled paper

ecology and environment

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S8

SAMPLING DATE 10/18/90 SAMPLING TIME 0915

ORGANIC TRAFFIC NUMBER EKQ- 83

INORGANIC TRAFFIC NUMBER MEKB-78

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz.	METALS / CN^-	134296	0137013
8oz.	EXTRACTABLE	134297	0137013
2-120ml	VOA	134298-99	W0201013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S9

SAMPLING DATE 10/18/90 SAMPLING TIME 0940

ORGANIC TRAFFIC NUMBER EKQ-84

INORGANIC TRAFFIC NUMBER MEKB-79

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz.	METALS / CN^-	134300	0137013
8oz.	EXTRACTABLE	134301	0137013
2-120ml	VOA	134302-03	W0201013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

COOLER # 127

PROJ. NO.: F0H0138
PROJECT NAME: TDD F05-8912-013 / CASE# 15113
SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	ABN, PEST/PCB 8oz.	VOA 120 ml					TAG NUMBERS	REMARKS: LOW CONC. MATRIX
EKQ 76	10/18/90	0850		X	S1	3	1	2					134269, 134270-71	SOIL
EKQ 77	10/18/90	0855		X	S2	3	1	2					134273, 134274-75	SOIL
EKQ 78	10/18/90	0855		X	S3	3	1	2					134277, 134278-79	SOIL
EKQ 79	10/18/90	0855		X	S4	3	1	2					134281, 134282-83	SOIL
EKQ 80	10/18/90	0920		X	S5	3	1	2					134285, 134286-87	SOIL
EKQ 81	10/18/90	0915		X	S6	3	1	2					134289, 134290-91	SOIL
EKQ 82	10/18/90	0915		X	S7	3	1	2					134293, 134294-95	SOIL
EKQ 83	10/18/90	0915		X	S8	3	1	2					134297, 134298-99	SOIL
EKQ 84	10/18/90	0940		X	S9	3	1	2					134301, 134302-03	SOIL

LOT #: 8oz.: 0144013, 0137013
120ml: W0172013, W0201013

(OTR IN COOLER # 127)

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	10/18/90 1200				
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: SHIPPED FED EX TO GULF AIRBILL # 9157648780 CUSTODY SEALS - 33703 & 33704	

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

5- 11378

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.: F0H0138
PROJECT NAME: TDP F05-8912-013
CASE #: 15113
SAMPLERS: (Signature) [signature]

Cooler # 301

STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	METALS/OV 8oz.						REMARKS: TAG NUMBERS	REMARKS: LOW CONC. MATRIX
MEKB 71	10/18/90				S1	1	1						134268	Soil
MEKB 72	10/18/90				S2	1	1						134272	Soil
MEKB 73	10/18/90				S3	1	1						134276	Soil
MEKB 74	10/18/90				S4	1	1						134280	Soil
MEKB 75	10/18/90				S5	1	1						134284	Soil
MEKB 76	10/18/90				S6	1	1						134288	Soil
MEKB 77	10/18/90				S7	1	1						134292	Soil
MEKB 78	10/18/90				S8	1	1						134296	Soil
MEKB 79	10/18/90				S9	1	1						134300	Soil
													Lot # 8oz.: 0144013, 0137013	
													(ITR in Cooler # 301)	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	10/18/90 1200				
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: SHIPPED FED EX TO BETZ (TX) AIRBILL # 9157648813 CUSTODY SEALS - 33701, 33702	

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

EPA

United States Environmental Protection Agency
Contract Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

Organic Traffic Report
(For CLP Use Only)

Case Number: 15113
SAS No. (if applicable): N/A

1. Type of Activity (Check one)
☐ ENF ☐ NPLD ☐ RA ☒ SI ☐ STSI
☐ ER ☐ O&M ☐ RD ☐ ST ☐ Other *(Specify)*
☐ ESI ☐ PA ☐ RIFS ☐ STPA

Non-Superfund Program

Site Name: LAKE ABRAMS HOLDING PONDS

City, State: MIDDLEBURG HTS., OHIO

Site Spill ID:

2. Region Number: V
Sampling Co.: FIT
Sampler (Name): LAWRENCE NELSON

3. Ship To: GULF
6801 PRESS DR. EAST BLDG.
P.O. BOX 26578
NEW ORLEANS, LA 70126
ATTN: KAREN BRANDT

4. Date Shipped: 10/18/90
Carrier: F
Airbill Number: 9157648980

Triple volume required for matrix spike/duplicate aqueous sample.

Ship medium and high concentration samples in paint cans.

See reverse for additional instructions.

5. Sample Description *(Enter in Column A)*
1. Surface Water
2. Ground Water
3. Leachate
4. Rinsate
5. Soil/Sediment
6. Oil (SAS)
7. Waste (SAS)
8. Other (SAS) *(Specify)*

IF VOA SAMPLE PRESERVED INDICATE IN COLUMN C WITH Y OR N.

CLP Sample Number *(From labels)*	(A) Sample Description *(From box 5)*	(B) Concentration L=low M=med H=high	(C) RAS Analysis VOA	BNA	Pest/PCB	ARO/TOX	(D) Special Handling	(E) Station Location	(F) Date/Time of Sample Collection	(G) Corresponding CLP Inorganic Sample Number
EKQ76	5	L	N	X	X			S1	10/18/90 0850	MEKB 71 10/18/90
EKQ77	5	L	N	X	X			S2	10/18/90 0855	MEKB 72
EKQ78	5	L	N	X	X			S3	10/18/90 0855	MEKB 73
EKQ79	5	L	N	X	X			S4	10/18/90 0855	MEKB 74
EKQ80	5	L	N	X	X			S5	10/18/90 0920	MEKB 75
EKQ81	5	L	N	X	X			S6	10/18/90 0915	MEKB 76
EKQ82	5	L	N	X	X			S7	10/18/90 0915	MEKB 77
EKQ83	5	L	N	X	X			S8	10/18/90 0915	MEKB 78
EKQ84	5	L	N	X	X			S9	10/18/90 0940	MEKB 79

SHIPMENT IS COMPLETE

EPA

United States Environmental Protection Agency
Contract Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

Inorganic Traffic Report
(For CLP Use Only)

Case Number: 15113
SAS No. (if applicable): N/A

1. Type of Activity (Check one)
- [ ] ENF [ ] NPLD [ ] RA [x] SI [ ] STSI
- [ ] ER [ ] O&M [ ] RD [ ] ST [ ] Other *(Specify)*
- [ ] ESI [ ] PA [ ] RIFS [ ] STPA

Non-Superfund Program

Site Name: LAKE ABRAMS HOLDING PONDS

City, State: MIDDLEBURG HTS., OHIO

Site Spill ID:

2. Region Number: V
Sampling Co.: FIT
Sampler (Name): LAWRENCE NELSON

3. Ship To: BETZ (TX), 9659 GROGANS MILL ROAD, THE WOODLANDS, TX 77380
ATTN: SUSAN OVERBECK

4. Date Shipped: 10/18/90
Airbill Number: 9157648813
Carrier: F

Double volume required for matrix spike/duplicate aqueous sample.

Ship medium and high concentration samples in paint cans.

See reverse for additional instructions.

5. Sample Description *(Enter in Column A)*
1. Surface Water
2. Ground Water
3. Leachate
4. Rinsate
5. Soil/Sediment
6. Oil (SAS)
7. Waste (SAS)
8. Other (SAS) *(Specify)*

CLP Sample Number *(From labels)*	(A) Sample Description *(From box 1)*	(B) Concentration L=low M=med H=high	(C) RAS Analysis: Total Metals	(C) RAS Analysis: Cyanide	(D) Special Handling	(E) Station Location	(F) Date/Time of Sample Collection	(G) Corresponding Organic Sample Number
MEKB 71	5	L	X	X		S1	10/18/90 0850	EKQ 76
MEKB 72	5	L	X	X		S2	10/18/90 0855	EKQ 77
MEKB 73	5	L	X	X		S3	10/18/90 0855	EKQ 78
MEKB 74	5	L	X	X		S4	10/18/90 0855	EKQ 79
MEKB 75	5	L	X	X		S5	10/18/90 0920	EKQ 80
MEKB 76	5	L	X	X		S6	10/18/90 0915	EKQ 81
MEKB 77	5	L	X	X		S7	10/18/90 0915	EKQ 82
MEKB 78	5	L	X	X		S8	10/18/90 0915	EKQ 83
MEKB 79	5	L	X	X		S9	10/18/90 0940	EKQ 84

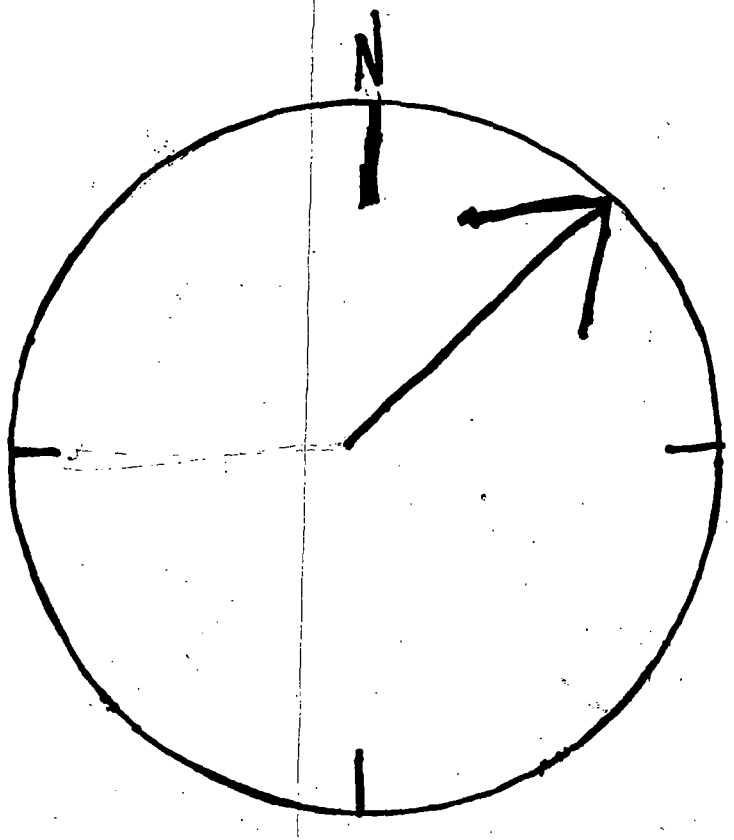
SHIPMENT IS COMPLETE

SITE OHD980510218

DATE 10/18/90

SAMPLE S1

TIME 8:50



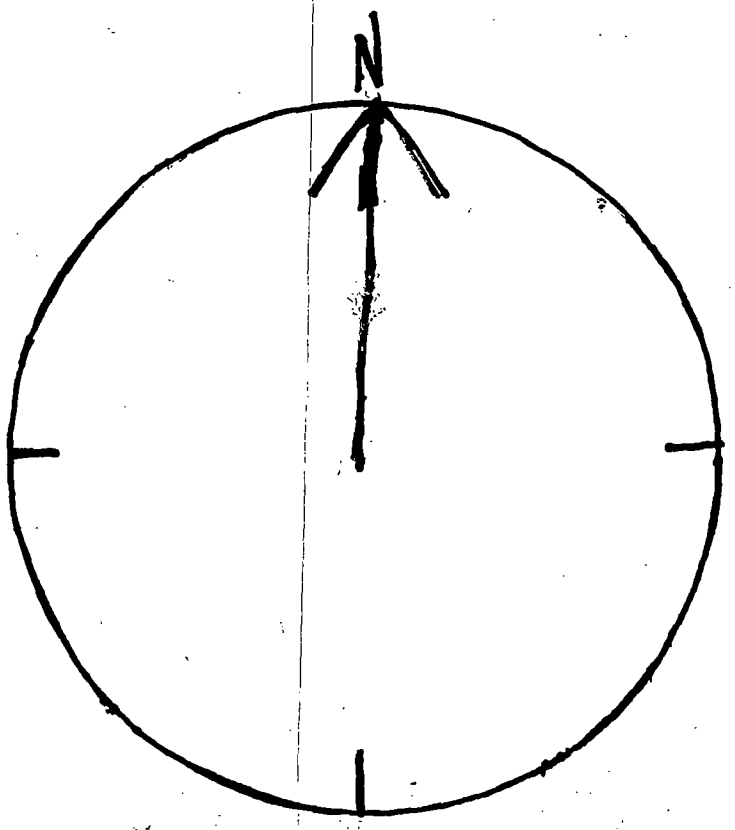
ecology and environment

SITE OHD980510218

DATE 10/18/90

SAMPLE S2

TIME 8:55



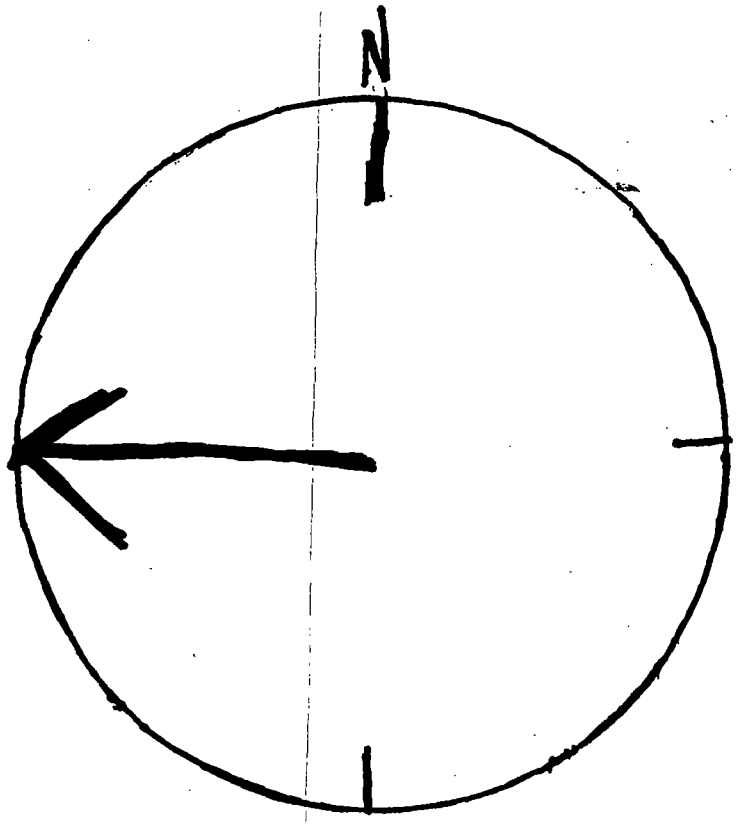
ecology and environment

SITE OHD980510218

DATE 10/18/90

SAMPLE S3

TIME 8:55



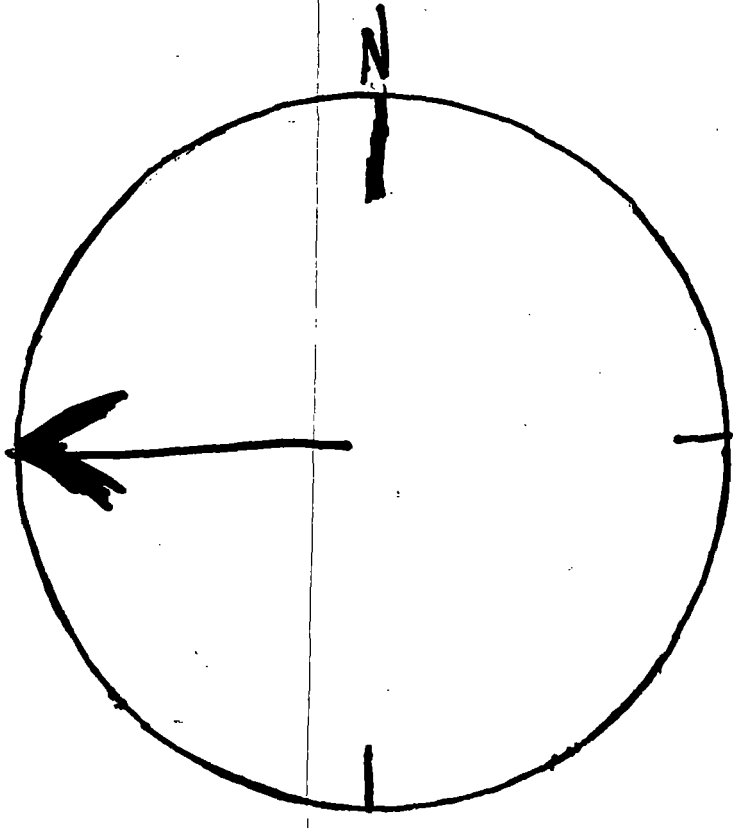
ecology and environment

SITE OHD980510218

DATE 10/18/90

SAMPLE S4

TIME 8:55



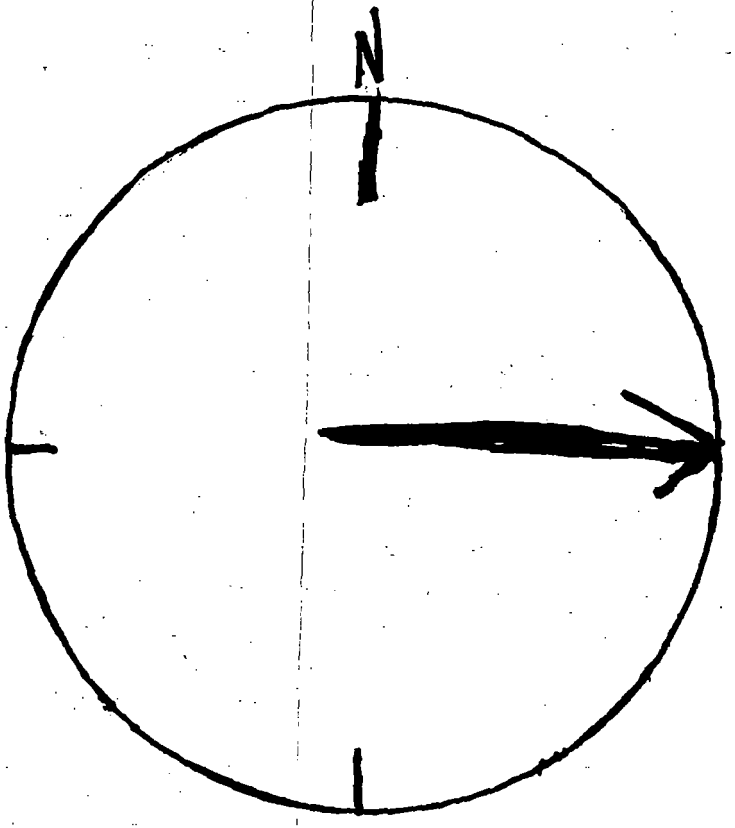
ecology and environment

SITE OHD980510218

DATE 10/18/90

SAMPLE S5

TIME 9:20



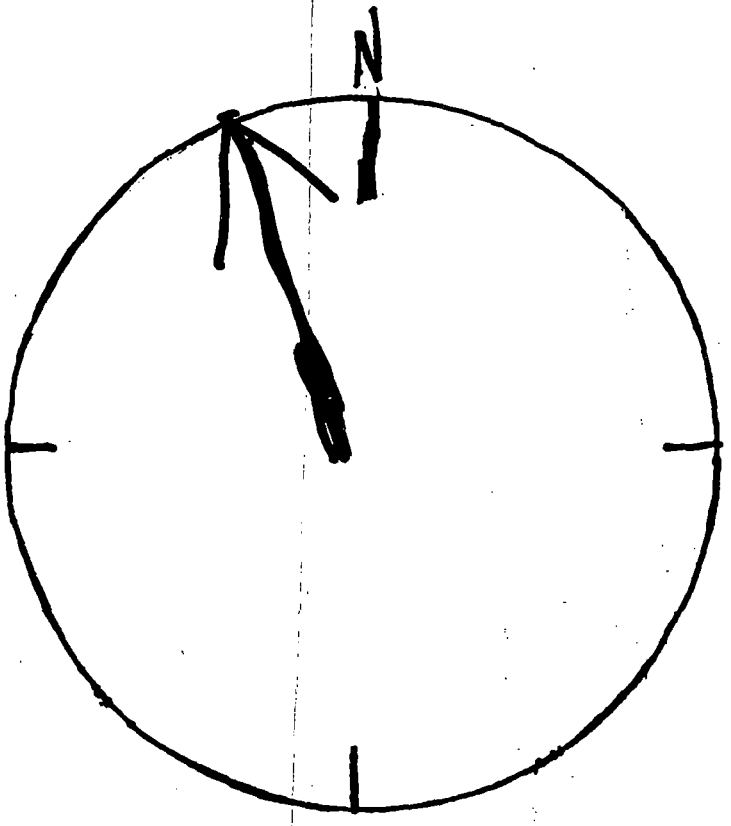
ecology and environment

SITE OHD980510218

DATE 10/18/90

SAMPLE S6

TIME 9:15



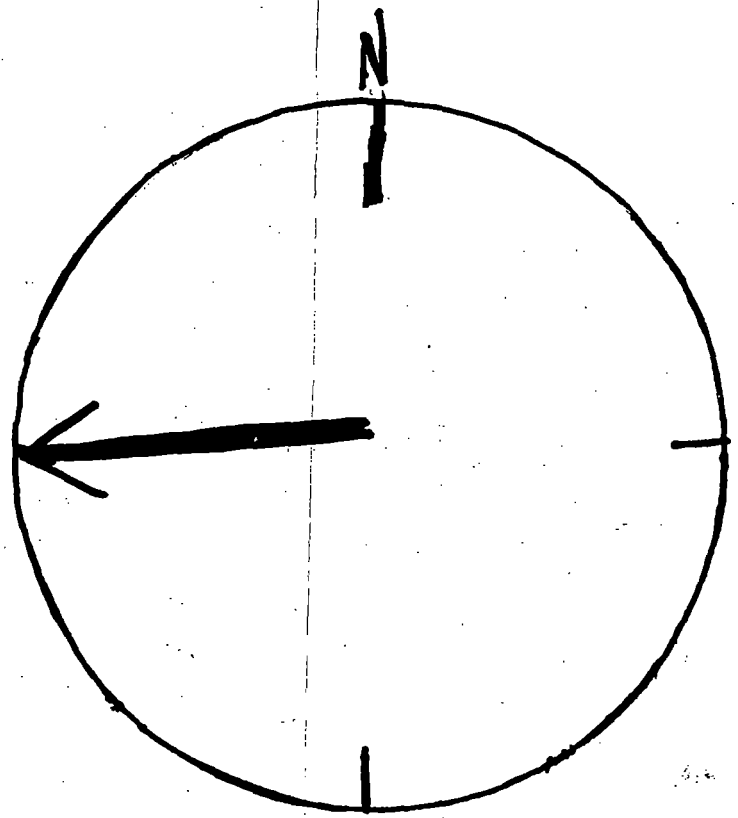
ecology and environment

SITE OHD980510218

DATE 10/18/90

SAMPLE S7

TIME 9:15



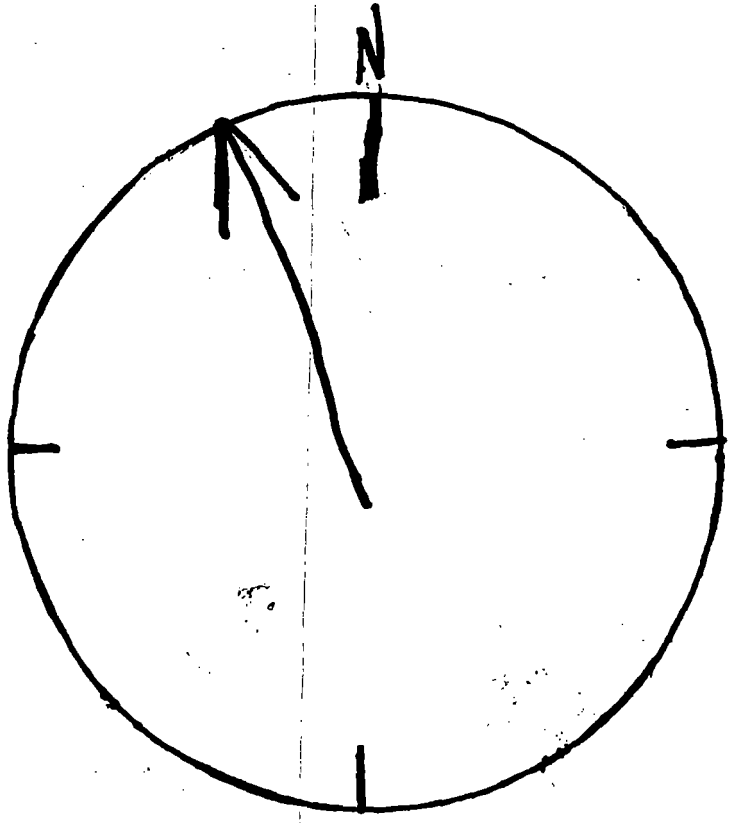
ecology and environment

SITE OHD980510218

DATE 10/18/90

SAMPLE S8

TIME 9:15



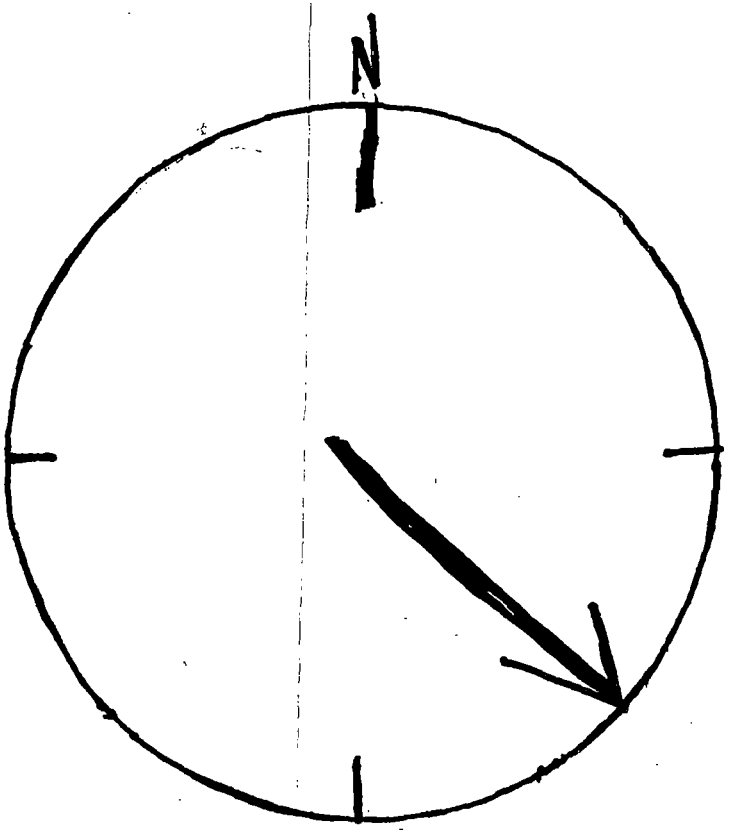
ecology and environment

SITE OHD980510218

DATE 10/18/90

SAMPLE S9

TIME 9:40



ecology and environment

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following result 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 but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For example, 10 U for phenol in water if the sample final volume is the protocol-specified final volume. If a 1 to 10 dilution of extract is necessary, the reported limit is 100 U. For a soil sample, the value must also be adjusted for percent moisture. For example, if the sample had 24% moisture and a 1 to 10 dilution factor, the sample quantitation limit for phenol (330 U) would be corrected to:

$$\frac{(330\ U)}{D} \times df \qquad \text{where } D = \frac{100 - \%\ \text{moisture}}{100}$$

and df = dilution factor

$$\text{at 24\% moisture, } D = \frac{100-24}{100} = 0.76$$

$$\frac{(330\ U)}{.76} \times 10 = 4300\ U$$ rounded to the appropriate number of significant figures

For soil sample subjected to GPC clean-up procedures, the CRQL is also multiplied by 2, to account for the fact that only half of the extract is recovered.

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 indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L, but a concentration is 3 ug/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for both dilution and percent moisture as discussed for the U flag, so that if a sample with 24% moisture and a 1 to 10 dilution factor has a calculated concentration of 300 ug/L and a sample quantitation limit of 430 ug/kg, report the concentration as 300J on Form I.

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides $\geq$10 ng/ul in the final extract shall be confirmed by GC/MS.

2

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified TCL compound.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and re-analyzed according to the specifications. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample and all concentration values reported on that Form I are flagged with the "D" flag.

A - This flag indicates that TIC is a suspected aldol-condensation product.

X - 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 Sample Data Summary Package and the Case Narrative. If more than one is required, use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some sample.

EPA

United States Environmental Protection Agency
Contract Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

Organic Traffic Report
(For CLP Use Only)

Case Number: 15113
SAS No. (if applicable): N/A

1. Sample Description *(Enter in Column A)*
1. Surface Water
2. Ground Water
3. Leachate
4. Rinsate
5. Soil/Sediment
6. Oil (SAS)
7. Waste (SAS)
8. Other (SAS) *(Specify)*

IF VOA SAMPLE PRESERVED INDICATE IN COLUMN C WITH Y OR N.

2. Region Number: V
Sampling Co.: FIT
Sampler (Name): LAURENCE NELSON

3. Ship To: GULF
6801 PRESS DR. EAST BLDG.
P.O. BOX 26518
NEW ORLEANS, LA 70126
ATTN: KAREN PRICHOT

4. Date Shipped: 10/18/90
Carrier: F
Airbill Number: 9157648780

Triple volume required for matrix spike/duplicate aqueous sample.
Ship medium and high concentration samples in paint cans.
See reverse for additional instructions.

5. Date Received: 10-19-90 Received by: C. McCollum
Laboratory Contract Number: 68-D9-0038
Unit Price: 937.00
6. Transfer to
Date Received
Received by
Contract Number
Price

CLP Sample Number (From labels)	(A) Sample Description (From box 1)	(B) Concentration L=low M=med H=high	(C) RAS Analysis VOA	BNA	Pest/PCB	ARO/TOX	(D) Special Handling	(E) Station Location	(F) Date/Time of Sample Collection	(G) Corresponding CLP Inorganic Sample Number	(H) Sample Condition on Receipt	(I) High Conc. Phases (Check below) Solid	Water—MIS Liq.	Non Water—MIS Liq.
EKQ76	5	L	N	X	X			S1	10/18/90 0850	MEKB 71 W 10/18/90				
EKQ77	5	L	N	X	X			S2	10/18/90 0855	MEKB 72				
EKQ78	5	L	N	X	X			S3	10/18/90 0855	MEKB 73				
EKQ79	5	L	N	X	X			S4	10/18/90 0855	MEKB 74				
EKQ80	5	L	N	X	X			S5	10/18/90 0920	MEKB 75				
EKQ81	5	L	N	X	X			S6	10/18/90 0915	MEKB 76				
EKQ82	5	L	N	X	X			S7	10/18/90 0915	MEKB 77				
EKQ83	5	L	N	X	X			S8	10/18/90 0915	MEKB 78				
EKQ84	5	L	N	X	X			S9	10/18/90 0940	MEKB 79				

VOA's are required per SMO. co 10/18/90

SHIPMENT IS COMPLETE

SDG EKQ76
Final SDG EKQ84

PARAMETER:	YES	NO
ICE PRESENT?	✓	
BOTTLES BROKEN?		✓
EPA TAG PRESENT?	✓	
SHIPPING SEALS?	✓	
CONTAINER SEALS?	✓	
CUSTODY FORM OK?	✓	
LABELS ACCURATE?	✓	
NOTES COMMENTS (if none)	✓	

CENTRAL REGIONAL LABORATORY SAMPLE DATA RECORD
ORGANICS/INORGANICS

THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

NOV 8 1990

CASE NUMBER/SAS No. 15113 SITE NAME Lake Abrams Holding Pond LABORATORY GULF/BETZ (TX) DATE SHIPPED 10/18/90

SUPERFUND DU NUMBER TFA102 EPA RPM or OSC (S.M.S.) (CES) CERCLIS NUMBER OHD980281612 PAGE 1 OF 1

ACTIVITY NUMBER ZZ

CRL LOG NUMBER	ORGANIC TRAFFIC REPORT NUMBER	INORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No.	WATER OR LIQUIDS													SEDIMENTS or SOILS									
			ACID-BASE NEUTRAL OTHER ORGANIC SOA UG/L TOXT7/T4	VOLATILE ORGANIC ANALYSIS ORGANIC SOA UG/L TOXT7/T4	WATER POLYCHLORINATED BIPHENYLS UG/L PCB 17/T4	WATER ORGANOCHLORINE PESTICIDES UG/L PCS 17/T4	TOTAL METALS IN WATER UG/L MET 11/T	WATER CYANIDE UG/L CN/T 13	NITRATE/NITRITE UG/L MN/T4	AMMONIA UG/L MN/T4	RESIDUE, PERSISTENT MG/L MN/T4	RESIDUE, NONFILTERABLE MG/L MN/T4			ACID-BASE NEUTRAL OTHER ORGANIC SOA UG/KG TOXT7/T2	VOLATILE ORGANIC ANALYSIS ORGANIC SOA UG/KG TOXT7/T2	SEDIMENTS POLYCHLORINATED BIPHENYLS UG/KG PCB 17/T2	SEDIMENT ORGANOCHLORINE PESTICIDES UG/KG PCS 17/T2	TOTAL METALS UG/KG MET 13	CYANIDE UG/KG CN/T 13	% TOXICITY METALS UG/KG	AMMONIA UG/KG MN/T2			
91FH30548	EKQ 76	MEKB 71												X	X	X	X	X	X				
49	77	72																					
50	78	73																					
51	79	74																					
52	80	75																					
53	81	76																					
54	82	77																					
55	83	78																					
56	84	79																					

NOV 8 1990 A. C. Hanley / ESAT

Gulf South Environmental Laboratory
Case 15113

SDG No. EQK76
Contract 68-D9-0038

Narrative

Case 15113 consisted of nine (9) soil samples which were received by Gulf South Environmental Laboratory on October 19, 1990 and logged in as Episode FFD. The samples were identified as follows:

EKQ76 EKQ77 EKQ78 EKQ79 EKQ80 EKQ81 EKQ82 EKQ83 EKQ84

The samples were analyzed for volatile organics, semivolatile organics and pesticide/PCB's.

No problems were encountered with the analyses.

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Shelley R Antoine
Shelley R. Antoine
GC/MS Laboratory Manager

11/14/90
Date

2B
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EK076

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	EK076	105	99	107	0	0
02	EK077	108	80	105	0	0
03	EK078	109	81	106	0	0
04	EK079	107	88	103	0	0
05	EK080	93	96	108	0	0
06	EK081	106	107	119	0	0
07	EK082	103	96	97	0	0
08	EK083	111	82	101	0	0
09	EK084	106	89	107	0	0
10	EK076MS	101	91	120	0	0
11	EK076MSD	105	91	95	0	0
12	VBLKL1	104	100	91	0	0

		QC LIMITS
S1 (TOL)	= Toluene-d8	(81-117)
S2 (BFB)	= Bromofluorobenzene	(74-121)
S3 (DCE)	= 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	EKQ76	83	97	103	86	82	69	0	0
02	EKQ77	71	77	89	72	73	65	0	0
03	EKQ78	79	89	89	83	79	54	0	0
04	EKQ79	94	102	103	100	94	76	0	0
05	EKQ80	76	86	85	79	75	53	0	0
06	EKQ81	80	91	98	81	75	50	0	0
07	EKQ82	82	91	110	85	77	43	0	0
08	EKQ83	76	80	84	79	73	64	0	0
09	EKQ84	82	77	95	71	90	84	0	0
10	EKQ84MS	83	79	91	74	91	84	0	0
11	EKQ84MSD	81	78	98	76	89	84	0	0
12	SBLKL1	80	77	98	76	82	78	0	0
13	SBLKL2	87	92	91	72	65	50	0	0

	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	(23-120)
S2 (FBP) = 2-Fluorobiphenyl	(30-115)
S3 (TPH) = Terphenyl	(18-137)
S4 (PHL) = Phenol-d5	(24-113)
S5 (2FP) = 2-Fluorophenol	(25-121)
S6 (TBP) = 2,4,6-Tribromophenol	(19-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

000001

2F
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	EKQ80	71	0
02	EKQ83	69	0
03	EKQ84	101	0
04	EKQ84MS	121	0
05	EKQ84MSD	176 *	0
06	PBLKL1	128	0
07	PBLKL2	85	0

ADVISORY
QC LIMITS
S1 (DBC) = Dibutlychlorendate (20-150)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2F
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Level:(low/med) MED

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	EKQ76	95	0
02	EKQ77	98	0
03	EKQ78	98	0
04	EKQ79	95	0
05	EKQ81	91	0
06	EKQ82	85	0
07	EKQ78MS	91	0
08	EKQ78MSD	95	0
09	PBLKM1	102	0

ADVISORY QC LIMITS

S1 (DBC) = Dibutlychlorendate (20-150)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

000002

FORM II PEST-2 1/87 Rev.

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: G S F L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EK076

Matrix Spike - EPA Sample No.: EK076 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	62.5	0	49.6	79	59-172
Trichloroethene	62.5	0	53.8	86	62-137
Benzene	62.5	0	57.0	91	66-142
Toluene	62.5	0	57.0	91	59-139
Chlorobenzene	62.5	0	61.8	99	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	62.5	65.5	105	-28 *	22	59-172
Trichloroethene	62.5	65.0	104	-19	24	62-137
Benzene	62.5	71.1	114	-22 *	21	66-142
Toluene	62.5	68.5	110	-19	21	59-139
Chlorobenzene	62.5	71.4	114	-14	21	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 2 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: EK076 SOIL-5GMS CASE:15113
RTX-502.2 60M X .53MM 35/4220@6 INST. E

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix Spike - EPA Sample No.: EKQ84 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	9720	0	7490	77	26- 90
2-Chlorophenol	9720	0	8220	85	25-102
1,4-Dichlorobenzene	4860	0	3760	77	28 104
N-Nitroso-di-n-prop.(1)	4860	0	3640	75	41 126
1,2,4-Trichlorobenzene	4860	0	4230	87	38 107
4-Chloro-3-methylphenol	9720	0	8650	89	26 103
Acenaphthene	4860	0	4370	90	31-137
4-Nitrophenol	9720	0	8020	83	11-114
2,4-Dinitrotoluene	4860	0	3870	80	28- 89
Pentachlorophenol	9720	0	7490	77	17-109
Pyrene	4860	0	4560	94	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	9670	7640	79	-3	35	26- 90
2-Chlorophenol	9670	8260	85	0	50	25-102
1,4-Dichlorobenzene	4830	3740	77	0	27	28 104
N-Nitroso-di-n-prop.(1)	4830	3590	74	1	38	41 126
1,2,4-Trichlorobenzene	4830	4200	87	0	23	38 107
4-Chloro-3-methylphenol	9670	8460	87	2	33	26 103
Acenaphthene	4830	4360	90	0	19	31-137
4-Nitrophenol	9670	7780	80	4	50	11-114
2,4-Dinitrotoluene	4830	3810	79	1	47	28- 89
Pentachlorophenol	9670	7250	75	3	47	17-109
Pyrene	4830	5510	114	-19	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS: EKQ84 (LOW SOIL) CASE:15113
0.32MM RTX-5 FSCC (1.0U) 45/4-300@12 INST B

000002

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix Spike - EPA Sample No.: EKQ78 Level:(low/med) MED

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	968	0	682	71	46-127
Heptachlor	968	0	794	80	35-130
Aldrin	968	0	751	78	34-132
Dieldrin	2420	0	2395	99	31-134
Endrin	2420	0	2657	110	42-139
4,4'-DDT	2420	0	2169	88	23-134

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	968	742	77	-8	50	46-127
Heptachlor	968	849	86	-7	31	35-130
Aldrin	968	840	87	-11	43	34-132
Dieldrin	2420	2560	106	-6	38	31-134
Endrin	2420	2894	120	-9	45	42-139
4,4'-DDT	2420	2324	95	-7	50	23-134

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

COMMENTS:

000003

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix Spike - EPA Sample No.: EKQ84 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	37.1	0	23.1	62	46-127
Heptachlor	37.1	0	38.1	103	35-130
Aldrin	37.1	0	36.9	99	34-132
Dieldrin	92.6	0	107	116	31-134
Endrin	92.6	0	110	119	42-139
4,4'-DDT	92.6	0	104	112	23-134

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	37.1	34.6	93	-40	50	46-127
Heptachlor	37.1	56.6	153 *	-39 *	31	35-130
Aldrin	37.1	54.2	146 *	-38	43	34-132
Dieldrin	92.6	157	170 *	-38	38	31-134
Endrin	92.6	162	175 *	-38	45	42-139
4,4'-DDT	92.6	155	167 *	-39	50	23-134

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 6 outside limits
Spike Recovery: 5 out of 12 outside limits

COMMENTS:

000004

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Lab File ID: EVB102790A Lab Sample ID: VBLKL1

Date Analyzed: 10/27/90 Time Analyzed: 1525

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: E

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EKQ76	FFD01	VOFFD01	1808
02	EKQ77	FFD02	VOFFD02	1955
03	EKQ78	FFD03	VOFFD03	2033
04	EKQ79	FFD04	VOFFD04	2112
05	EKQ80	FFD05	VOFFD05	2150
06	EKQ81	FFD06	VOFFD06	2228
07	EKQ82	FFD07	VOFFD07	2306
08	EKQ83	FFD08	VOFFD08	2344
09	EKQ84	FFD09	VOFFD09	0023
10	EKQ76MS	FFD01MS	VOFFD01MS	1838
11	EKQ76MSD	FFD01MSD	VOFFD01MSD	1917

COMMENTS: VBLKL BLANK# SOIL-5GMS
RTX-502.2 60M X .53MM 35/422006 INST. E

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Lab File ID: SVFFDSBL1 Lab Sample ID: SBLKL1

Date Extracted: 10/25/90 Extraction:(SepF/Cont/Sonc) SONC

Date Analyzed: 10/28/90 Time Analyzed: 2352

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: B

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EKQ84	FFD09	SVFFD09	10/29/90
02	EKQ84MS	FFD09MS	SVFFD09MS	10/29/90
03	EKQ84MSD	FFD09MSD	SVFFD09MSD	10/29/90

COMMENTS: SBLKL1 (LOW SOIL - BLANK #1)
0.32MM RTX-5 FSCC (1.0U) 45/4-300@12 INST B

000003

FORM IV SV 1/87 Rev.

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Lab File ID: SVFFDSBL2R Lab Sample ID: SBLKL2

Date Extracted: 10/25/90 Extraction:(SepF/Cont/Sonc) SONC

Date Analyzed: 11/10/90 Time Analyzed: 1031

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: C

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EKQ76	FFD01	SVFFD01	11/11/90
02	EKQ77	FFD02	SVFFD02	11/11/90
03	EKQ78	FFD03	SVFFD03	11/11/90
04	EKQ79	FFD04	SVFFD04	11/11/90
05	EKQ80	FFD05	SVFFD05	11/11/90
06	EKQ81	FFD06	SVFFD06	11/11/90
07	EKQ82	FFD07	SVFFD07	11/11/90
08	EKQ83	FFD08	SVFFD08	11/09/90

COMMENTS: SBLKL1 LOW SOIL-GPC CASE:15113
0.32MM X 30M RTX-5 1.0UM 45/4-300@12 INBT 0

000004

FORM IV SV 1/87 Rev.

PBLKM1

4C
PESTICIDE METHOD BLANK SUMMARY

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Lab Sample ID: FERPBLKM1 Lab File ID: _____

Matrix:(soil/water) SOIL Level:(low/med) MED

Date Extracted: 10/26/90 Extraction:(SepF/Cont/Sonc) SONC

Date Analyzed (1): 11/03/90 Date Analyzed (2): 11/03/90

Time Analyzed (1): 0748 Time Analyzed (2): 0748

Instrument ID (1): GCG Instrument ID (2): GCG

GC Column ID (1): DB-608 GC Column ID (2): DB-1701

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EKQ76	FFD01	11/03/90	11/03/90
02	EKQ77	FFD02	11/03/90	11/03/90
03	EKQ78	FFD03	11/03/90	
04	EKQ79	FFD04	11/03/90	11/03/90
05	EKQ81	FFD06	11/03/90	11/03/90
06	EKQ82	FFD07	11/03/90	11/03/90
07	EKQ78MS	FFD03MS	11/03/90	11/03/90
08	EKQ78MSD	FFD03MSD	11/03/90	11/03/90

COMMENTS:

000005

FORM IV PEST 1/87 Rev.

PBLKL1

4C
PESTICIDE METHOD BLANK SUMMARY

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Lab Sample ID: FFDPBLKL1 Lab File ID: _____

Matrix:(soil/water) SOIL Level:(low/med) LOW

Date Extracted: 10/25/90 Extraction:(SepF/Cont/Sonc) SONC

Date Analyzed (1): 11/03/90 Date Analyzed (2): 11/03/90

Time Analyzed (1): 0922 Time Analyzed (2): 0922

Instrument ID (1): GCH Instrument ID (2): GCH

GC Column ID (1): DB-608 GC Column ID (2): DB-1701

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EKQ84	FFD09	11/03/90	
02	EKQ84MS	FFD09MS	11/03/90	11/03/90
03	EKQ84MSD	FFD09MSD	11/03/90	11/03/90

COMMENTS:

000006

FORM IV PEST 1/87 Rev.

PBLK L2

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Lab Sample ID: FFDPBLKL2 Lab File ID: _____

Matrix:(soil/water) SOIL Level:(low/med) LOW

Date Extracted: 10/25/90 Extraction:(SepF/Cont/Sonc) SONC

Date Analyzed (1): 11/03/90 Date Analyzed (2): 11/03/90

Time Analyzed (1): 1000 Time Analyzed (2): 1000

Instrument ID (1): GCH Instrument ID (2): GCH

GC Column ID (1): DB-608 GC Column ID (2): DB-1701

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EKQ80	FFD05	11/03/90	11/03/90
02	EKQ83	FFD08	11/03/90	

COMMENTS:

000007

FORM IV PEST 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKL1

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: SDG No.: EK076

Matrix: (soil/water) SOIL Lab Sample ID: VBLKL1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EVB102790A

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/27/90

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKL1

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: SDG No.: EK076

Matrix: (soil/water) SOIL Lab Sample ID: VBLKL1

Sample wt/vol: 5.0 (g/mL) G Lab File ID: EVB102790A

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/27/90

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKL1

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: SBLKL1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFDSBL1

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/28/90

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
100-51-6	Benzyl Alcohol	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	bis(2-Chloroisopropyl)Ether	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
65-85-0	Benzoic Acid	1600	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	1600	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	1600	U
131-11-3	Dimethyl Phthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKL1

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: SBLKL1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFDSBL1

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/28/90

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1600	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	1600	U
100-02-7	4-Nitrophenol	1600	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	1600	U
534-52-1	4,6-Dinitro-2-Methylphenol	1600	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	1600	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	660	U
56-55-3	Benzo(a)Anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	330	U
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

001039

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLKL1

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: SBLKL1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFDSBL1

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/28/90

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.00

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN KETONE	5.95	1500	J
2.	UNKNOWN KETONE	6.73	190	J

001040

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKL2

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: SBLKL2

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFDSBL2R

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/10/90

GPC Cleanup: (Y/N) Y pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	660	U
111-44-4	bis(2-Chloroethyl)Ether	660	U
95-57-8	2-Chlorophenol	660	U
541-73-1	1,3-Dichlorobenzene	660	U
106-46-7	1,4-Dichlorobenzene	660	U
100-51-6	Benzyl Alcohol	660	U
95-50-1	1,2-Dichlorobenzene	660	U
95-48-7	2-Methylphenol	660	U
108-60-1	bis(2-Chloroisopropyl)Ether	660	U
106-44-5	4-Methylphenol	660	U
621-64-7	N-Nitroso-Di-n-Propylamine	660	U
67-72-1	Hexachloroethane	660	U
98-95-3	Nitrobenzene	660	U
78-59-1	Isophorone	660	U
88-75-5	2-Nitrophenol	660	U
105-67-9	2,4-Dimethylphenol	660	U
65-85-0	Benzoic Acid	3200	U
111-91-1	bis(2-Chloroethoxy)Methane	660	U
120-83-2	2,4-Dichlorophenol	660	U
120-82-1	1,2,4-Trichlorobenzene	660	U
91-20-3	Naphthalene	660	U
106-47-8	4-Chloroaniline	660	U
87-68-3	Hexachlorobutadiene	660	U
59-50-7	4-Chloro-3-Methylphenol	660	U
91-57-6	2-Methylnaphthalene	660	U
77-47-4	Hexachlorocyclopentadiene	660	U
88-06-2	2,4,6-Trichlorophenol	660	U
95-95-4	2,4,5-Trichlorophenol	3200	U
91-58-7	2-Chloronaphthalene	660	U
88-74-4	2-Nitroaniline	3200	U
131-11-3	Dimethyl Phthalate	660	U
208-96-8	Acenaphthylene	660	U
606-20-2	2,6-Dinitrotoluene	660	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKL2

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: SBLKL2

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFDSBL2R

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/10/90

GPC Cleanup: (Y/N) Y pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3200	U
83-32-9	Acenaphthene	660	U
51-28-5	2,4-Dinitrophenol	3200	U
100-02-7	4-Nitrophenol	3200	U
132-64-9	Dibenzofuran	660	U
121-14-2	2,4-Dinitrotoluene	660	U
84-66-2	Diethylphthalate	660	U
7005-72-3	4-Chlorophenyl-phenylether	660	U
86-73-7	Fluorene	660	U
100-01-6	4-Nitroaniline	3200	U
534-52-1	4,6-Dinitro-2-Methylphenol	3200	U
86-30-6	N-Nitrosodiphenylamine (1)	660	U
101-55-3	4-Bromophenyl-phenylether	660	U
118-74-1	Hexachlorobenzene	660	U
87-86-5	Pentachlorophenol	3200	U
85-01-8	Phenanthrene	660	U
120-12-7	Anthracene	660	U
84-74-2	Di-n-Butylphthalate	660	U
206-44-0	Fluoranthene	660	U
129-00-0	Pyrene	660	U
85-68-7	Butylbenzylphthalate	660	U
91-94-1	3,3'-Dichlorobenzidine	1300	U
56-55-3	Benzo(a)Anthracene	660	U
218-01-9	Chrysene	660	U
117-81-7	bis(2-Ethylhexyl)Phthalate	660	U
117-84-0	Di-n-Octyl Phthalate	660	U
205-99-2	Benzo(b)Fluoranthene	660	U
207-08-9	Benzo(k)Fluoranthene	660	U
50-32-8	Benzo(a)Pyrene	660	U
193-39-5	Indeno(1,2,3-cd)Pyrene	660	U
53-70-3	Dibenz(a,h)Anthracene	660	U
191-24-2	Benzo(g,h,i)Perylene	660	U

(1) - Cannot be separated from Diphenylamine

001051

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLKL2

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: SBLKL2

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFDSBL2R

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/10/90

GPC Cleanup: (Y/N) Y pH: _____ Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN KETONE	6.97	1400	J
2.	UNKNOWN KETONE	7.70	760	J

001052

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKM1

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FERPBLKM1

Sample wt/vol: 1.0 (g/mL) G Lab File ID: _____

Level: (low/med) MED Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/03/90

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	120	U
319-85-7	beta-BHC	120	U
319-86-8	delta-BHC	120	U
58-89-9	gamma-BHC (Lindane)	120	U
76-44-8	Heptachlor	120	U
309-00-2	Aldrin	120	U
1024-57-3	Heptachlor epoxide	120	U
959-98-8	Endosulfan I	120	U
60-57-1	Dieldrin	240	U
72-55-9	4,4'-DDE	240	U
72-20-8	Endrin	240	U
33213-65-9	Endosulfan II	240	U
72-54-8	4,4'-DDD	240	U
1031-07-8	Endosulfan sulfate	240	U
50-29-3	4,4'-DDT	240	U
72-43-5	Methoxychlor	1200	U
53494-70-5	Endrin ketone	240	U
5103-71-9	alpha-Chlordane	1200	U
5103-74-2	gamma-Chlordane	1200	U
8001-35-2	Toxaphene	2400	U
12674-11-2	Aroclor-1016	1200	U
11104-28-2	Aroclor-1221	1200	U
11141-16-5	Aroclor-1232	1200	U
53469-21-9	Aroclor-1242	1200	U
12672-29-6	Aroclor-1248	1200	U
11097-69-1	Aroclor-1254	2400	U
11096-82-5	Aroclor-1260	2400	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKL1

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFDPBLKL1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/03/90

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.0	U
319-85-7	beta-BHC	8.0	U
319-86-8	delta-BHC	8.0	U
58-89-9	gamma-BHC (Lindane)	8.0	U
76-44-8	Heptachlor	8.0	U
309-00-2	Aldrin	8.0	U
1024-57-3	Heptachlor epoxide	8.0	U
959-98-8	Endosulfan I	8.0	U
60-57-1	Dieldrin	16	U
72-55-9	4,4'-DDE	16	U
72-20-8	Endrin	16	U
33213-65-9	Endosulfan II	16	U
72-54-8	4,4'-DDD	16	U
1031-07-8	Endosulfan sulfate	16	U
50-29-3	4,4'-DDT	16	U
72-43-5	Methoxychlor	80	U
53494-70-5	Endrin ketone	16	U
5103-71-9	alpha-Chlordane	80	U
5103-74-2	gamma-Chlordane	80	U
8001-35-2	Toxaphene	160	U
12674-11-2	Aroclor-1016	80	U
11104-28-2	Aroclor-1221	80	U
11141-16-5	Aroclor-1232	80	U
53469-21-9	Aroclor-1242	80	U
12672-29-6	Aroclor-1248	80	U
11097-69-1	Aroclor-1254	160	U
11096-82-5	Aroclor-1260	160	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKL2

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFDPBLKL2

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/03/90

GPC Cleanup: (Y/N) Y pH: 8.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	16	U
319-85-7	beta-BHC	16	U
319-86-8	delta-BHC	16	U
58-89-9	gamma-BHC (Lindane)	16	U
76-44-8	Heptachlor	16	U
309-00-2	Aldrin	16	U
1024-57-3	Heptachlor epoxide	16	U
959-98-8	Endosulfan I	16	U
60-57-1	Dieldrin	32	U
72-55-9	4,4'-DDE	32	U
72-20-8	Endrin	32	U
33213-65-9	Endosulfan II	32	U
72-54-8	4,4'-DDD	32	U
1031-07-8	Endosulfan sulfate	32	U
50-29-3	4,4'-DDT	32	U
72-43-5	Methoxychlor	160	U
53494-70-5	Endrin ketone	32	U
5103-71-9	alpha-Chlordane	160	U
5103-74-2	gamma-Chlordane	160	U
8001-35-2	Toxaphene	320	U
12674-11-2	Aroclor-1016	160	U
11104-28-2	Aroclor-1221	160	U
11141-16-5	Aroclor-1232	160	U
53469-21-9	Aroclor-1242	160	U
12672-29-6	Aroclor-1248	160	U
11097-69-1	Aroclor-1254	320	U
11096-82-5	Aroclor-1260	320	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EK076

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: SDG No.: EK076

Matrix: (soil/water) SOIL Lab Sample ID: FFD01

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD01

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 20 Date Analyzed: 10/27/90

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	44	
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EK076

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: SDG No.: EK076

Matrix: (soil/water) SOIL Lab Sample ID: FFD01

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD01

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 20 Date Analyzed: 10/27/90

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN FLUOROCHLOROCARBON	3.88	41	J
2.	UNKNOWN HYDROCARBON	7.28	43	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ77

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD02

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD02

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 28 Date Analyzed: 10/27/90

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	37	
67-64-1	Acetone	14	U
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Xylene (total)	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EK077

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EK076

Matrix: (soil/water) SOIL Lab Sample ID: FFD02

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD02

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 28 Date Analyzed: 10/27/90

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	3.82	45	J
2.	UNKNOWN HYDROCARBON	7.23	74	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ78

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD03

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD03

Level: (low/med) LOw Date Received: 10/19/90

% Moisture: not dec. 18 Date Analyzed: 10/27/90

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	40	
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EK078

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: SDG No.: EK076

Matrix: (soil/water) SOIL Lab Sample ID: FFD03

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD03

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 18 Date Analyzed: 10/27/90

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	3.87	32	J
2.	UNKNOWN HYDROCARBON	7.27	44	J
3.	UNKNOWN	8.72	13	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ79

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD04

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD04

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 24 Date Analyzed: 10/27/90

Column: (pack/cap) CAP Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	57	
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	13	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Xylene (total)	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EK079

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EK076

Matrix: (soil/water) SOIL Lab Sample ID: FFD04

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD04

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 24 Date Analyzed: 10/27/90

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN FLUOROCHLOROCARBON	3.85	47	J
2.	UNKNOWN HYDROCARBON	7.23	78	J
3.	UNKNOWN HYDROCARBON	8.70	39	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EK080

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: SDG No.: EK076

Matrix: (soil/water) SOIL Lab Sample ID: FFD05

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD05

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 17 Date Analyzed: 10/27/90

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	80	
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EKQ80

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD05

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD05

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 17 Date Analyzed: 10/27/90

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	3.87	18	J
2.	UNKNOWN HYDROCARBON	7.28	55	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EK081

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: SDG No.: EK076

Matrix: (soil/water) SOIL Lab Sample ID: FFD06

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD06

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 35 Date Analyzed: 10/27/90

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	15	U
74-83-9	Bromomethane	15	U
75-01-4	Vinyl Chloride	15	U
75-00-3	Chloroethane	15	U
75-09-2	Methylene Chloride	44	
67-64-1	Acetone	15	U
75-15-0	Carbon Disulfide	8	U
75-35-4	1,1-Dichloroethene	8	U
75-34-3	1,1-Dichloroethane	8	U
540-59-0	1,2-Dichloroethene (total)	8	U
67-66-3	Chloroform	8	U
107-06-2	1,2-Dichloroethane	8	U
78-93-3	2-Butanone	15	U
71-55-6	1,1,1-Trichloroethane	8	U
56-23-5	Carbon Tetrachloride	8	U
108-05-4	Vinyl Acetate	15	U
75-27-4	Bromodichloromethane	8	U
78-87-5	1,2-Dichloropropane	8	U
10061-01-5	cis-1,3-Dichloropropene	8	U
79-01-6	Trichloroethene	8	U
124-48-1	Dibromochloromethane	8	U
79-00-5	1,1,2-Trichloroethane	8	U
71-43-2	Benzene	8	U
10061-02-6	Trans-1,3-Dichloropropene	8	U
75-25-2	Bromoform	8	U
108-10-1	4-Methyl-2-Pentanone	15	U
591-78-6	2-Hexanone	15	U
127-18-4	Tetrachloroethene	8	U
79-34-5	1,1,2,2-Tetrachloroethane	8	U
108-88-3	Toluene	10	
108-90-7	Chlorobenzene	8	U
100-41-4	Ethylbenzene	8	U
100-42-5	Styrene	8	U
1330-20-7	Xylene (total)	8	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EKQ81

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD06

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD06

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 35 Date Analyzed: 10/27/90

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	7.27	100	J
2.	UNKNOWN HYDROCARBON	13.47	110	J
3.	UNKNOWN HYDROCARBON	13.74	82	J
4.	UNKNOWN HYDROCARBON	13.99	140	J
5.	UNKNOWN HYDROCARBON	14.14	130	J
6.	UNKNOWN HYDROCARBON	14.34	26	J
7.	UNKNOWN	15.00	400	J
8.	UNKNOWN HYDROCARBON	15.40	270	J
9.	UNKNOWN HYDROCARBON	15.82	33	J
10.	UNKNOWN HYDROCARBON	16.22	290	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EK082

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EK076

Matrix: (soil/water) SOIL Lab Sample ID: FFD07

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD07

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 31 Date Analyzed: 10/27/90

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	96	
67-64-1	Acetone	14	U
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Xylene (total)	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EKQ82

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD07

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD07

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 31 Date Analyzed: 10/27/90

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN CHLOROFLUOROCARBON	3.87	24	J
2.	UNKNOWN	7.28	110	J
3.	UNKNOWN HYDROCARBON	8.72	22	J
4.	UNKNOWN HYDROCARBON	15.44	12	J
5.	UNKNOWN HYDROCARBON	16.22	16	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ83

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD08

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD08

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 18 Date Analyzed: 10/27/90

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	32	
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylene (total)	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EK083

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: SDG No.: EK076

Matrix: (soil/water) SOIL Lab Sample ID: FFD08

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD08

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 18 Date Analyzed: 10/27/90

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CHLOROFLUOROCARBON	3.83	11	J
2.	UNKNOWN HYDROCARBON	7.23	43	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EK084

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EK076

Matrix: (soil/water) SOIL Lab Sample ID: FFD09

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD09

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 28 Date Analyzed: 10/28/90

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	35	
67-64-1	Acetone	14	U
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Xylene (total)	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EKQ84

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD09

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VOFFD09

Level: (low/med) LOW Date received: 10/19/90

% Moisture: not dec. 28 Date Analyzed: 10/28/90

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CHLOROFLUOROCARBON	3.87	21	J
2.	UNKNOWN HYDROCARBON	7.25	50	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ76

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD01

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 20 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 8.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	700	J
111-44-4	bis(2-Chloroethyl)Ether	820	U
95-57-8	2-Chlorophenol	820	U
541-73-1	1,3-Dichlorobenzene	820	U
106-46-7	1,4-Dichlorobenzene	820	U
100-51-6	Benzyl Alcohol	820	U
95-50-1	1,2-Dichlorobenzene	820	U
95-48-7	2-Methylphenol	820	U
108-60-1	bis(2-Chloroisopropyl)Ether	820	U
106-44-5	4-Methylphenol	820	U
621-64-7	N-Nitroso-Di-n-Propylamine	820	U
67-72-1	Hexachloroethane	820	U
98-95-3	Nitrobenzene	820	U
78-59-1	Isophorone	820	U
88-75-5	2-Nitrophenol	820	U
105-67-9	2,4-Dimethylphenol	820	U
65-85-0	Benzoic Acid	4000	U
111-91-1	bis(2-Chloroethoxy)Methane	820	U
120-83-2	2,4-Dichlorophenol	820	U
120-82-1	1,2,4-Trichlorobenzene	820	U
91-20-3	Naphthalene	380	J
106-47-8	4-Chloroaniline	820	U
87-68-3	Hexachlorobutadiene	820	U
59-50-7	4-Chloro-3-Methylphenol	820	U
91-57-6	2-Methylnaphthalene	460	J
77-47-4	Hexachlorocyclopentadiene	820	U
88-06-2	2,4,6-Trichlorophenol	820	U
95-95-4	2,4,5-Trichlorophenol	4000	U
91-58-7	2-Chloronaphthalene	820	U
88-74-4	2-Nitroaniline	4000	U
131-11-3	Dimethyl Phthalate	820	U
208-96-8	Acenaphthylene	820	U
606-20-2	2,6-Dinitrotoluene	820	U

000023

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ76

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD01

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 20 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 8.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4000	U
83-32-9	Acenaphthene	820	U
51-28-5	2,4-Dinitrophenol	4000	U
100-02-7	4-Nitrophenol	4000	U
132-64-9	Dibenzofuran	820	U
121-14-2	2,4-Dinitrotoluene	820	U
84-66-2	Diethylphthalate	820	U
7005-72-3	4-Chlorophenyl-phenylether	820	U
86-73-7	Fluorene	820	U
100-01-6	4-Nitroaniline	4000	U
534-52-1	4,6-Dinitro-2-Methylphenol	4000	U
86-30-6	N-Nitrosodiphenylamine (1)	820	U
101-55-3	4-Bromophenyl-phenylether	820	U
118-74-1	Hexachlorobenzene	820	U
87-86-5	Pentachlorophenol	4000	U
85-01-8	Phenanthrene	2100	
120-12-7	Anthracene	280	J
84-74-2	Di-n-Butylphthalate	820	U
206-44-0	Fluoranthene	1900	
129-00-0	Pyrene	2800	
85-68-7	Butylbenzylphthalate	820	U
91-94-1	3,3'-Dichlorobenzidine	1600	U
56-55-3	Benzo(a)Anthracene	1100	
218-01-9	Chrysene	1200	
117-81-7	bis(2-Ethylhexyl)Phthalate	3300	
117-84-0	Di-n-Octyl Phthalate	400	J
205-99-2	Benzo(b)Fluoranthene	1600	
207-08-9	Benzo(k)Fluoranthene	1100	
50-32-8	Benzo(a)Pyrene	1200	
193-39-5	Indeno(1,2,3-cd)Pyrene	1800	
53-70-3	Dibenz(a,h)Anthracene	580	J
191-24-2	Benzo(g,h,i)Perylene	1200	

(1) - Cannot be separated from Diphenylamine

000024

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EKQ76

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD01

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 20 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 8.9 Dilution Factor: 1.0

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN KETONE	7.12	710	J
2.	UNKNOWN HYDROCARBON	17.14	1100	J
3.	UNKNOWN HYDROCARBON	17.69	620	J
4.	UNKNOWN HYDROCARBON	18.25	3000	J
5.	UNKNOWN HYDROCARBON	19.30	2400	J
6.	UNKNOWN HYDROCARBON	20.30	1500	J
7.	ALKYL PNA (MW=192)	20.85	630	J
8.	UNKNOWN HYDROCARBON	21.25	1100	J
9.	UNKNOWN HYDROCARBON	24.69	590	J
10.	UNKNOWN HYDROCARBON & ALKYL	24.79	550	J
11.	UNKNOWN PNA (MW=252)	31.36	420	J
12.	UNKNOWN	33.34	440	J
13.	KETONE	6.77	1400	~~BJ~~ V
14.	KETONE	7.53	810	~~BJ~~ V
15.	KETONE	8.47	970	J

AV
1-2-91

000025

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ77

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD02

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 28 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 8.7 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1500	
111-44-4	bis(2-Chloroethyl)Ether	910	U
95-57-8	2-Chlorophenol	910	U
541-73-1	1,3-Dichlorobenzene	910	U
106-46-7	1,4-Dichlorobenzene	910	U
100-51-6	Benzyl Alcohol	910	U
95-50-1	1,2-Dichlorobenzene	910	U
95-48-7	2-Methylphenol	910	U
108-60-1	bis(2-Chloroisopropyl)Ether	910	U
106-44-5	4-Methylphenol	910	U
621-64-7	N-Nitroso-Di-n-Propylamine	910	U
67-72-1	Hexachloroethane	910	U
98-95-3	Nitrobenzene	910	U
78-59-1	Isophorone	910	U
88-75-5	2-Nitrophenol	910	U
105-67-9	2,4-Dimethylphenol	910	U
65-85-0	Benzoic Acid	4400	U
111-91-1	bis(2-Chloroethoxy)Methane	910	U
120-83-2	2,4-Dichlorophenol	910	U
120-82-1	1,2,4-Trichlorobenzene	910	U
91-20-3	Naphthalene	960	
106-47-8	4-Chloroaniline	910	U
87-68-3	Hexachlorobutadiene	910	U
59-50-7	4-Chloro-3-Methylphenol	910	U
91-57-6	2-Methylnaphthalene	1400	
77-47-4	Hexachlorocyclopentadiene	910	U
88-06-2	2,4,6-Trichlorophenol	910	U
95-95-4	2,4,5-Trichlorophenol	4400	U
91-58-7	2-Chloronaphthalene	910	U
88-74-4	2-Nitroaniline	4400	U
131-11-3	Dimethyl Phthalate	910	U
208-96-8	Acenaphthylene	910	U
606-20-2	2,6-Dinitrotoluene	910	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ77

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD02

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 28 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 8.7 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4400	U
83-32-9	Acenaphthene	910	U
51-28-5	2,4-Dinitrophenol	4400	U
100-02-7	4-Nitrophenol	4400	U
132-64-9	Dibenzofuran	910	U
121-14-2	2,4-Dinitrotoluene	910	U
84-66-2	Diethylphthalate	910	U
7005-72-3	4-Chlorophenyl-phenylether	910	U
86-73-7	Fluorene	910	U
100-01-6	4-Nitroaniline	4400	U
534-52-1	4,6-Dinitro-2-Methylphenol	4400	U
86-30-6	N-Nitrosodiphenylamine (1)	910	U
101-55-3	4-Bromophenyl-phenylether	910	U
118-74-1	Hexachlorobenzene	910	U
87-86-5	Pentachlorophenol	4400	U
85-01-8	Phenanthrene	910	
120-12-7	Anthracene	910	U
84-74-2	Di-n-Butylphthalate	910	U
206-44-0	Fluoranthene	280	J
129-00-0	Pyrene	570	J
85-68-7	Butylbenzylphthalate	910	U
91-94-1	3,3'-Dichlorobenzidine	1800	U
56-55-3	Benzo(a)Anthracene	320	J
218-01-9	Chrysene	480	J
117-81-7	bis(2-Ethylhexyl)Phthalate	5000	
117-84-0	Di-n-Octyl Phthalate	650	J
205-99-2	Benzo(b)Fluoranthene	600	J
207-08-9	Benzo(k)Fluoranthene	410	J
50-32-8	Benzo(a)Pyrene	430	J
193-39-5	Indeno(1,2,3-cd)Pyrene	910	U
53-70-3	Dibenz(a,h)Anthracene	910	U
191-24-2	Benzo(g,h,i)Perylene	910	U

(1) - Cannot be separated from Diphenylamine

000113

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EKQ77

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD02

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 28 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 8.7 Dilution Factor: 1.0

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	KETONE	6.78	1200	~~BJ~~ U
2.	KETONE	8.47	1100	J
3.	NAPHTHALENE, DIMETHYL-	15.17	790	J
4.	NAPHTHALENE, DIMETHYL-	15.44	770	J
5.	UNKNOWN HYDROCARBON	17.14	2400	J
6.	UNKNOWN HYDROCARBON	17.69	1200	J
7.	UNKNOWN HYDROCARBON	18.24	6500	J
8.	UNKNOWN HYDROCARBON	19.29	5600	J
9.	UNKNOWN PHTHALATE ESTER	20.09	2100	J
10.	UNKNOWN HYDROCARBON	20.29	4100	J
11.	UNKNOWN HYDROCARBON	21.25	2600	J
12.	UNKNOWN HYDROCARBON	21.94	660	J
13.	UNKNOWN HYDROCARBON	22.17	1900	J
14.	UNKNOWN HYDROCARBON	24.69	1000	J
15.	UNKNOWN	24.82	620	J
16.	UNKNOWN HYDROCARBON	25.57	690	J
17.	UNKNOWN HYDROCARBON	26.62	550	J
18.	UNKNOWN	29.67	840	J
19.	UNKNOWN	33.36	1100	J
20.	UNKNOWN KETONE	7.55	1100	~~BJ~~ U

AV
1-2-91

000114

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ78

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD03

Sample wt/vol: 30.0 (g/ml) G Lab File ID: SVFFD03

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 18 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 9.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1700	
111-44-4	bis(2-Chloroethyl)Ether	800	U
95-57-8	2-Chlorophenol	800	U
541-73-1	1,3-Dichlorobenzene	800	U
106-46-7	1,4-Dichlorobenzene	800	U
100-51-6	Benzyl Alcohol	800	U
95-50-1	1,2-Dichlorobenzene	800	U
95-48-7	2-Methylphenol	800	U
108-60-1	bis(2-Chloroisopropyl)Ether	800	U
106-44-5	4-Methylphenol	800	U
621-64-7	N-Nitroso-Di-n-Propylamine	800	U
67-72-1	Hexachloroethane	800	U
98-95-3	Nitrobenzene	800	U
78-59-1	Isophorone	800	U
88-75-5	2-Nitrophenol	800	U
105-67-9	2,4-Dimethylphenol	800	U
65-85-0	Benzoic Acid	3900	U
111-91-1	bis(2-Chloroethoxy)Methane	800	U
120-83-2	2,4-Dichlorophenol	800	U
120-82-1	1,2,4-Trichlorobenzene	800	U
91-20-3	Naphthalene	850	
106-47-8	4-Chloroaniline	800	U
87-68-3	Hexachlorobutadiene	800	U
59-50-7	4-Chloro-3-Methylphenol	800	U
91-57-6	2-Methylnaphthalene	1000	
77-47-4	Hexachlorocyclopentadiene	800	U
88-06-2	2,4,6-Trichlorophenol	800	U
95-95-4	2,4,5-Trichlorophenol	3900	U
91-58-7	2-Chloronaphthalene	800	U
88-74-4	2-Nitroaniline	3900	U
131-11-3	Dimethyl Phthalate	800	U
208-96-8	Acenaphthylene	800	U
606-20-2	2,6-Dinitrotoluene	800	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ78

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD03

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 18 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 9.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3900	U
83-32-9	Acenaphthene	800	U
51-28-5	2,4-Dinitrophenol	3900	U
100-02-7	4-Nitrophenol	3900	U
132-64-9	Dibenzofuran	800	U
121-14-2	2,4-Dinitrotoluene	800	U
84-66-2	Diethylphthalate	800	U
7005-72-3	4-Chlorophenyl-phenylether	800	U
86-73-7	Fluorene	800	U
100-01-6	4-Nitroaniline	3900	U
534-52-1	4,6-Dinitro-2-Methylphenol	3900	U
86-30-6	N-Nitrosodiphenylamine (1)	800	U
101-55-3	4-Bromophenyl-phenylether	800	U
118-74-1	Hexachlorobenzene	800	U
87-86-5	Pentachlorophenol	3900	U
85-01-8	Phenanthrene	1700	
120-12-7	Anthracene	800	U
84-74-2	Di-n-Butylphthalate	800	U
206-44-0	Fluoranthene	1100	
129-00-0	Pyrene	2100	
85-68-7	Butylbenzylphthalate	800	U
91-94-1	3,3'-Dichlorobenzidine	1600	U
56-55-3	Benzo(a)Anthracene	900	
218-01-9	Chrysene	1200	
117-81-7	bis(2-Ethylhexyl)Phthalate	7700	
117-84-0	Di-n-Octyl Phthalate	800	U
205-99-2	Benzo(b)Fluoranthene	1100	
207-08-9	Benzo(k)Fluoranthene	690	J
50-32-8	Benzo(a)Pyrene	780	J
193-39-5	Indeno(1,2,3-cd)Pyrene	1100	
53-70-3	Dibenz(a,h)Anthracene	800	U
191-24-2	Benzo(g,h,i)Perylene	960	

(1) - Cannot be separated from Diphenylamine

000208

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EKQ78

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD03

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 18 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 9.1 Dilution Factor: 1.0

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	KETONE	6.95	960	~~BJ~~ U
2.	PHENOL, METHYLETHYL	12.04	1100	J
3.	NAPHTHALENE, DIMETHYL-	15.20	630	J
4.	NAPHTHALENE, DIMETHYL-	15.45	290	J
5.	UNKNOWN HYDROCARBON	17.17	1800	J
6.	UNKNOWN HYDROCARBON	17.72	1200	J
7.	UNKNOWN HYDROCARBON	18.27	4400	J
8. 132-65-0	DIBENZOTHIOPHENE	19.15	400	J
9.	UNKNOWN HYDROCARBON	19.34	3500	J
10.	PHTHALATE ESTER	20.12	650	J
11.	UNKNOWN HYDROCARBON	20.34	2500	J
12.	ALKYL PNA (MW=192)	20.69	350	J
13.	ALKYL PNA (MW=192)	20.89	570	J
14.	UNKNOWN HYDROCARBON	21.29	1200	J
15.	DIMETHYL PNA (MW=206)	21.97	750	J
16.	UNKNOWN HYDROCARBON	22.20	1000	J
17.	UNKNOWN HYDROCARBON	23.07	800	J
18.	UNKNOWN HYDROCARBON	24.72	680	J
19.	UNKNOWN PNA (MW=230)	24.84	550	J
20.	KETONE	7.67	790	~~BJ~~ U

AV
1-2-91

000209

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ79

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD04

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 24 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 8.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4200	U
83-32-9	Acenaphthene	870	U
51-28-5	2,4-Dinitrophenol	4200	U
100-02-7	4-Nitrophenol	4200	U
132-64-9	Dibenzofuran	870	U
121-14-2	2,4-Dinitrotoluene	870	U
84-66-2	Diethylphthalate	870	U
7005-72-3	4-Chlorophenyl-phenylether	870	U
86-73-7	Fluorene	440 ✓	J
100-01-6	4-Nitroaniline	4200	U
534-52-1	4,6-Dinitro-2-Methylphenol	4200	U
86-30-6	N-Nitrosodiphenylamine (1)	870	U
101-55-3	4-Bromophenyl-phenylether	870	U
118-74-1	Hexachlorobenzene	870	U
87-86-5	Pentachlorophenol	4200	U
85-01-8	Phenanthrene	2500 ✓	
120-12-7	Anthracene	510 ✓	J
84-74-2	Di-n-Butylphthalate	870	U
206-44-0	Fluoranthene	1600 ✓	
129-00-0	Pyrene	2100 ✓	
85-68-7	Butylbenzylphthalate	870	U
91-94-1	3,3'-Dichlorobenzidine	1700	U
56-55-3	Benzo(a)Anthracene	950 ✓	
218-01-9	Chrysene	1200 ✓	
117-81-7	bis(2-Ethylhexyl)Phthalate	5100 ✓	
117-84-0	Di-n-Octyl Phthalate	560 ✓	J
205-99-2	Benzo(b)Fluoranthene	1500 ✓	
207-08-9	Benzo(k)Fluoranthene	850 ✓	J
50-32-8	Benzo(a)Pyrene	890 ✓	
193-39-5	Indeno(1,2,3-cd)Pyrene	1300 ✓	
53-70-3	Dibenz(a,h)Anthracene	870	U
191-24-2	Benzo(g,h,i)Perylene	1100 ✓	

(1) - Cannot be separated from Diphenylamine

000305

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ79

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD04

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 24 dec. _____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 8.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1500	
111-44-4	bis(2-Chloroethyl)Ether	870	U
95-57-8	2-Chlorophenol	870	U
541-73-1	1,3-Dichlorobenzene	870	U
106-46-7	1,4-Dichlorobenzene	870	U
100-51-6	Benzyl Alcohol	870	U
95-50-1	1,2-Dichlorobenzene	870	U
95-48-7	2-Methylphenol	870	U
108-60-1	bis(2-Chloroisopropyl)Ether	870	U
106-44-5	4-Methylphenol	870	U
621-64-7	N-Nitroso-Di-n-Propylamine	870	U
67-72-1	Hexachloroethane	870	U
98-95-3	Nitrobenzene	870	U
78-59-1	Isophorone	870	U
88-75-5	2-Nitrophenol	870	U
105-67-9	2,4-Dimethylphenol	870	U
65-85-0	Benzoic Acid	4200	U
111-91-1	bis(2-Chloroethoxy)Methane	870	U
120-83-2	2,4-Dichlorophenol	870	U
120-82-1	1,2,4-Trichlorobenzene	870	U
91-20-3	Naphthalene	1100	
106-47-8	4-Chloroaniline	870	U
87-68-3	Hexachlorobutadiene	870	U
59-50-7	4-Chloro-3-Methylphenol	870	U
91-57-6	2-Methylnaphthalene	1500	
77-47-4	Hexachlorocyclopentadiene	870	U
88-06-2	2,4,6-Trichlorophenol	870	U
95-95-4	2,4,5-Trichlorophenol	4200	U
91-58-7	2-Chloronaphthalene	870	U
88-74-4	2-Nitroaniline	4200	U
131-11-3	Dimethyl Phthalate	870	U
208-96-8	Acenaphthylene	870	U
606-20-2	2,6-Dinitrotoluene	870	U

000324

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EKQ79

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD04

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 24 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 8.5 Dilution Factor: 1.0

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	KETONE	6.83	870	~~EJ~~ J
2.	PHENOL, METHYLETHYL-	12.02	790	J
3.	NAPHTHALENE, DIMETHYL-	15.19	630	J
4.	UNKNOWN HYDROCARBON	15.54	390	J
5.	UNKNOWN HYDROCARBON	17.15	1900	J
6.	UNKNOWN HYDROCARBON	17.72	840	J
7.	UNKNOWN HYDROCARBON	18.27	4400	J
8.	UNKNOWN HYDROCARBON	19.32	3500	J
9.	PHTHALATE	20.12	850	J
10.	UNKNOWN HYDROCARBON	20.32	2500	J
11.	UNKNOWN METHYL PNA (MW=192)	20.87	430	J
12.	UNKNOWN HYDROCARBON	21.29	1400	J
13.	UNKNOWN	21.67	330	J
14.	DIMETHYL PNA (MW=206)	21.95	340	J
15.	UNKNOWN HYDROCARBON	22.19	1700	J
16.	UNKNOWN HYDROCARBON	24.72	470	J
17.	UNKNOWN	24.82	550	J
18.	UNKNOWN	26.72	250	J
19.	UNKNOWN	29.74	460	J
20.	UNKNOWN	33.41	920	J

AV
1-2-91

000306

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ80

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD05

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 17 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 9.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3800	U
83-32-9	Acenaphthene	790	U
51-28-5	2,4-Dinitrophenol	3800	U
100-02-7	4-Nitrophenol	3800	U
132-64-9	Dibenzofuran	790	U
121-14-2	2,4-Dinitrotoluene	790	U
84-66-2	Diethylphthalate	790	U
7005-72-3	4-Chlorophenyl-phenylether	790	U
86-73-7	Fluorene	790	U
100-01-6	4-Nitroaniline	3800	U
534-52-1	4,6-Dinitro-2-Methylphenol	3800	U
86-30-6	N-Nitrosodiphenylamine (1)	790	U
101-55-3	4-Bromophenyl-phenylether	790	U
118-74-1	Hexachlorobenzene	790	U
87-86-5	Pentachlorophenol	3800	U
85-01-8	Phenanthrene	1600	
120-12-7	Anthracene	790	U
84-74-2	Di-n-Butylphthalate	790	U
206-44-0	Fluoranthene	1500	
129-00-0	Pyrene	2000	
85-68-7	Butylbenzylphthalate	790	U
91-94-1	3,3'-Dichlorobenzidine	1600	U
56-55-3	Benzo(a)Anthracene	1000	
218-01-9	Chrysene	1400	
117-81-7	bis(2-Ethylhexyl)Phthalate	2200	
117-84-0	Di-n-Octyl Phthalate	790	U
205-99-2	Benzo(b)Fluoranthene	1300	
207-08-9	Benzo(k)Fluoranthene	960	
50-32-8	Benzo(a)Pyrene	960	
193-39-5	Indeno(1,2,3-cd)Pyrene	1300	
53-70-3	Dibenz(a,h)Anthracene	790	U
191-24-2	Benzo(g,h,i)Perylene	1100	

(1) - Cannot be separated from Diphenylamine

000409

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ80

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD05

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 17 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 9.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	760 ✓	J
111-44-4	bis(2-Chloroethyl)Ether	790	U
95-57-8	2-Chlorophenol	790	U
541-73-1	1,3-Dichlorobenzene	790	U
106-46-7	1,4-Dichlorobenzene	790	U
100-51-6	Benzyl Alcohol	790	U
95-50-1	1,2-Dichlorobenzene	790	U
95-48-7	2-Methylphenol	790	U
108-60-1	bis(2-Chloroisopropyl)Ether	790	U
106-44-5	4-Methylphenol	790	U
621-64-7	N-Nitroso-Di-n-Propylamine	790	U
67-72-1	Hexachloroethane	790	U
98-95-3	Nitrobenzene	790	U
78-59-1	Isophorone	790	U
88-75-5	2-Nitrophenol	790	U
105-67-9	2,4-Dimethylphenol	790	U
65-85-0	Benzoic Acid	3800	U
111-91-1	bis(2-Chloroethoxy)Methane	790	U
120-83-2	2,4-Dichlorophenol	790	U
120-82-1	1,2,4-Trichlorobenzene	790	U
91-20-3	Naphthalene	470 ✓	J
106-47-8	4-Chloroaniline	790	U
87-68-3	Hexachlorobutadiene	790	U
59-50-7	4-Chloro-3-Methylphenol	790	U
91-57-6	2-Methylnaphthalene	630 ✓	J
77-47-4	Hexachlorocyclopentadiene	790	U
88-06-2	2,4,6-Trichlorophenol	790	U
95-95-4	2,4,5-Trichlorophenol	3800	U
91-58-7	2-Chloronaphthalene	790	U
88-74-4	2-Nitroaniline	3800	U
131-11-3	Dimethyl Phthalate	790	U
208-96-8	Acenaphthylene	790	U
606-20-2	2,6-Dinitrotoluene	790	U

000408

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EKQ80

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD05

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 17 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 9.1 Dilution Factor: 1.0

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	17.15	1200	J
2.	UNKNOWN HYDROCARBON	17.70	580	J
3.	UNKNOWN HYDROCARBON	18.27	3100	J
4.	UNKNOWN HYDROCARBON	19.32	2600	J
5.	PHTHALATE ESTER	20.10	610	J
6.	UNKNOWN HYDROCARBON	20.32	1800	J
7.	UNKNOWN HYDROCARBON	21.29	1100	J
8.	UNKNOWN METHYL PNA (MW=216)	23.60	620	J
9.	UNKNOWN HYDROCARBON	24.72	730	J
10.	UNKNOWN	24.84	960	J
11.	UNKNOWN HYDROCARBON	26.71	450	J
12.	UNKNOWN HYDROCARBON	28.01	550	J
13.	UNKNOWN	33.44	570	J
14.	UNKNOWN	39.44	440	J
15.	KETONE	7.63	1100	~~BJ~~ U

AV
1-2-91

000410

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ81

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD06

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 35 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 9.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4900	U
83-32-9	Acenaphthene	1000	U
51-28-5	2,4-Dinitrophenol	4900	U
100-02-7	4-Nitrophenol	4900	U
132-64-9	Dibenzofuran	600	J
121-14-2	2,4-Dinitrotoluene	1000	U
84-66-2	Diethylphthalate	1000	U
7005-72-3	4-Chlorophenyl-phenylether	1000	U
86-73-7	Fluorene	390	J
100-01-6	4-Nitroaniline	4900	U
534-52-1	4,6-Dinitro-2-Methylphenol	4900	U
86-30-6	N-Nitrosodiphenylamine (1)	1000	U
101-55-3	4-Bromophenyl-phenylether	1000	U
118-74-1	Hexachlorobenzene	1000	U
87-86-5	Pentachlorophenol	4900	U
85-01-8	Phenanthrene	2100	
120-12-7	Anthracene	330	J
84-74-2	Di-n-Butylphthalate	1000	U
206-44-0	Fluoranthene	910	J
129-00-0	Pyrene	1400	
85-68-7	Butylbenzylphthalate	1000	U
91-94-1	3,3'-Dichlorobenzidine	2000	U
56-55-3	Benzo(a)Anthracene	610	J
218-01-9	Chrysene	920	J
117-81-7	bis(2-Ethylhexyl)Phthalate	8200	
117-84-0	Di-n-Octyl Phthalate	900	J
205-99-2	Benzo(b)Fluoranthene	920	J
207-08-9	Benzo(k)Fluoranthene	640	J
50-32-8	Benzo(a)Pyrene	610	J
193-39-5	Indeno(1,2,3-cd)Pyrene	590	J
53-70-3	Dibenz(a,h)Anthracene	1000	U
191-24-2	Benzo(g,h,i)Perylene	680	J

(1) - Cannot be separated from Diphenylamine

000492

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ81

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD06

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 35 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 9.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	8000	
111-44-4	bis(2-Chloroethyl)Ether	1000	U
95-57-8	2-Chlorophenol	1000	U
541-73-1	1,3-Dichlorobenzene	1000	U
106-46-7	1,4-Dichlorobenzene	1000	U
100-51-6	Benzyl Alcohol	1000	U
95-50-1	1,2-Dichlorobenzene	1000	U
95-48-7	2-Methylphenol	1300	
108-60-1	bis(2-Chloroisopropyl)Ether	1000	U
106-44-5	4-Methylphenol	1700	
621-64-7	N-Nitroso-Di-n-Propylamine	1000	U
67-72-1	Hexachloroethane	1000	U
98-95-3	Nitrobenzene	1000	U
78-59-1	Isophorone	1000	U
88-75-5	2-Nitrophenol	1000	U
105-67-9	2,4-Dimethylphenol	1300	
65-85-0	Benzoic Acid	4900	U
111-91-1	bis(2-Chloroethoxy)Methane	1000	U
120-83-2	2,4-Dichlorophenol	1000	U
120-82-1	1,2,4-Trichlorobenzene	1000	U
91-20-3	Naphthalene	1900	
106-47-8	4-Chloroaniline	1000	U
87-68-3	Hexachlorobutadiene	1000	U
59-50-7	4-Chloro-3-Methylphenol	1000	U
91-57-6	2-Methylnaphthalene	2500	
77-47-4	Hexachlorocyclopentadiene	1000	U
88-06-2	2,4,6-Trichlorophenol	1000	U
95-95-4	2,4,5-Trichlorophenol	4900	U
91-58-7	2-Chloronaphthalene	1000	U
88-74-4	2-Nitroaniline	4900	U
131-11-3	Dimethyl Phthalate	1000	U
208-96-8	Acenaphthylene	1000	U
606-20-2	2,6-Dinitrotoluene	1000	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EKQ81

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD06

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 35 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 9.8 Dilution Factor: 1.0

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	PHENOL, METHYLETHYL-	12.05	3200	J
2.	PHENOL, METHYLETHYL-	12.44	2000	J
3.	UNKNOWN HYDROCARBON	14.77	1400	J
4.	UNKNOWN HYDROCARBON	17.19	4700	J
5.	UNKNOWN HYDROCARBON	17.74	1500	J
6.	UNKNOWN HYDROCARBON	18.29	8400	J
7.	UNKNOWN HYDROCARBON	19.35	4600	J
8.	PHTHALATE ESTER	20.14	930	J
9.	UNKNOWN HYDROCARBON	20.35	4000	J
10.	UNKNOWN HYDROCARBON	21.30	2400	J
11.	UNKNOWN HYDROCARBON	21.67	730	J
12.	DIMETHYL PNA (MW=206)	21.99	1300	J
13.	UNKNOWN HYDROCARBON	22.22	1600	J
14.	UNKNOWN HYDROCARBON	23.09	1000	J
15.	UNKNOWN HYDROCARBON	23.42	910	J
16.	UNKNOWN PNA (MW216)	23.64	820	J
17.	UNKNOWN HYDROCARBON	24.30	700	J
18.	UNKNOWN HYDROCARBON	24.74	1200	J
19.	UNKNOWN	24.82	910	J
20.	UNKNOWN HYDROCARBON	25.62	1000	J

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ82

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD07

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 31 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 10.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4600	U
83-32-9	Acenaphthene	960	U
51-28-5	2,4-Dinitrophenol	4600	U
100-02-7	4-Nitrophenol	4600	U
132-64-9	Dibenzofuran	960	U
121-14-2	2,4-Dinitrotoluene	960	U
84-66-2	Diethylphthalate	960	U
7005-72-3	4-Chlorophenyl-phenylether	960	U
86-73-7	Fluorene	960	U
100-01-6	4-Nitroaniline	4600	U
534-52-1	4,6-DiNitro-2-Methylphenol	4600	U
86-30-6	N-Nitrosodiphenylamine (1)	960	U
101-55-3	4-Bromophenyl-phenylether	960	U
118-74-1	Hexachlorobenzene	960	U
87-86-5	Pentachlorophenol	4600	U
85-01-8	Phenanthrene	1700	
120-12-7	Anthracene	960	U
84-74-2	Di-n-Butylphthalate	960	U
206-44-0	Fluoranthene	770	J
129-00-0	Pyrene	1500	
85-68-7	Butylbenzylphthalate	960	U
91-94-1	3,3'-Dichlorobenzidine	1900	U
56-55-3	Benzo(a)Anthracene	550	J
218-01-9	Chrysene	820	J
117-81-7	bis(2-Ethylhexyl)Phthalate	8500	
117-84-0	Di-n-Octyl Phthalate	690	J
205-99-2	Benzo(b)Fluoranthene	750	J
207-08-9	Benzo(k)Fluoranthene	680	J
50-32-8	Benzo(a)Pyrene	540	J
193-39-5	Indeno(1,2,3-cd)Pyrene	350	J
53-70-3	Dibenz(a,h)Anthracene	960	U
191-24-2	Benzo(g,h,i)Perylene	770	J

(1) - Cannot be separated from Diphenylamine

000605

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ82

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD07

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 31 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 10.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2800	
111-44-4	bis(2-Chloroethyl)Ether	960	U
95-57-8	2-Chlorophenol	960	U
541-73-1	1,3-Dichlorobenzene	960	U
106-46-7	1,4-Dichlorobenzene	960	U
100-51-6	Benzyl Alcohol	960	U
95-50-1	1,2-Dichlorobenzene	960	U
95-48-7	2-Methylphenol	940	J
108-60-1	bis(2-Chloroisopropyl)Ether	960	U
106-44-5	4-Methylphenol	1300	
621-64-7	N-Nitroso-Di-n-Propylamine	960	U
67-72-1	Hexachloroethane	960	U
98-95-3	Nitrobenzene	960	U
78-59-1	Isophorone	960	U
88-75-5	2-Nitrophenol	960	U
105-67-9	2,4-Dimethylphenol	1000	
65-85-0	Benzoic Acid	4600	U
111-91-1	bis(2-Chloroethoxy)Methane	960	U
120-83-2	2,4-Dichlorophenol	960	U
120-82-1	1,2,4-Trichlorobenzene	960	U
91-20-3	Naphthalene	1400	
106-47-8	4-Chloroaniline	960	U
87-68-3	Hexachlorobutadiene	960	U
59-50-7	4-Chloro-3-Methylphenol	960	U
91-57-6	2-Methylnaphthalene	2100	
77-47-4	Hexachlorocyclopentadiene	960	U
88-06-2	2,4,6-Trichlorophenol	960	U
95-95-4	2,4,5-Trichlorophenol	4600	U
91-58-7	2-Chloronaphthalene	960	U
88-74-4	2-Nitroaniline	4600	U
131-11-3	Dimethyl Phthalate	960	U
208-96-8	Acenaphthylene	960	U
606-20-2	2,6-Dinitrotoluene	960	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EKQ82

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD07

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 31 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) Y pH: 10.6 Dilution Factor: 1.0

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	PHENOL,-METHYLETHYL-	12.00	860	J
2.	UNKNOWN HYDROCARBON	14.75	910	J
3.	UNKNOWN HYDROCARBON	15.19	770	J
4.	UNKNOWN HYDROCARBON	17.17	4200	J
5.	UNKNOWN HYDROCARBON	17.70	1900	J
6.	UNKNOWN HYDROCARBON	18.27	8700	J
7.	UNKNOWN HYDROCARBON	19.32	5100	J
8.	PHTHALATE	20.10	1100	J
9.	UNKNOWN HYDROCARBON	20.32	4200	J
10.	UNKNOWN HYDROCARBON	21.29	2200	J
11.	PHENANTHRENE,-DIMETHYL-	21.95	790	J
12.	UNKNOWN HYDROCARBON	22.20	2200	J
13.	UNKNOWN HYDROCARBON	22.55	720	J
14.	UNKNOWN HYDROCARBON	23.07	960	J
15.	UNKNOWN HYDROCARBON & ALKYL	23.60	900	J
16.	UNKNOWN HYDROCARBON	24.72	4600	J
17.	UNKNOWN	24.82	2800	J
18.	UNKNOWN	25.09	5200	J
19.	UNKNOWN HYDROCARBON	25.27	4900	J
20.	UKKNOWN HYDROCARBON	25.37	3300	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ83

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD08

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 18 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/09/90

GPC Cleanup: (Y/N) Y pH: 8.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	800	U
111-44-4	bis(2-Chloroethyl)Ether	800	U
95-57-8	2-Chlorophenol	800	U
541-73-1	1,3-Dichlorobenzene	800	U
106-46-7	1,4-Dichlorobenzene	800	U
100-51-6	Benzyl Alcohol	800	U
95-50-1	1,2-Dichlorobenzene	800	U
95-48-7	2-Methylphenol	800	U
108-60-1	bis(2-Chloroisopropyl)Ether	800	U
106-44-5	4-Methylphenol	800	U
621-64-7	N-Nitroso-Di-n-Propylamine	800	U
67-72-1	Hexachloroethane	800	U
98-95-3	Nitrobenzene	800	U
78-59-1	Isophorone	800	U
88-75-5	2-Nitrophenol	800	U
105-67-9	2,4-Dimethylphenol	800	U
65-85-0	Benzoic Acid	3900	U
111-91-1	bis(2-Chloroethoxy)Methane	800	U
120-83-2	2,4-Dichlorophenol	800	U
120-82-1	1,2,4-Trichlorobenzene	800	U
91-20-3	Naphthalene	800	U
106-47-8	4-Chloroaniline	800	U
87-68-3	Hexachlorobutadiene	800	U
59-50-7	4-Chloro-3-Methylphenol	800	U
91-57-6	2-Methylnaphthalene	800	U
77-47-4	Hexachlorocyclopentadiene	800	U
88-06-2	2,4,6-Trichlorophenol	800	U
95-95-4	2,4,5-Trichlorophenol	3900	U
91-58-7	2-Chloronaphthalene	800	U
88-74-4	2-Nitroaniline	3900	U
131-11-3	Dimethyl Phthalate	800	U
208-96-8	Acenaphthylene	800	U
606-20-2	2,6-Dinitrotoluene	800	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ83

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD08

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 18 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/09/90

GPC Cleanup: (Y/N) Y pH: 8.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3900	U
83-32-9	Acenaphthene	800	U
51-28-5	2,4-Dinitrophenol	3900	U
100-02-7	4-Nitrophenol	3900	U
132-64-9	Dibenzofuran	800	U
121-14-2	2,4-Dinitrotoluene	800	U
84-66-2	Diethylphthalate	800	U
7005-72-3	4-Chlorophenyl-phenylether	800	U
86-73-7	Fluorene	800	U
100-01-6	4-Nitroaniline	3900	U
534-52-1	4,6-Dinitro-2-Methylphenol	3900	U
86-30-6	N-Nitrosodiphenylamine (1)	800	U
101-55-3	4-Bromophenyl-phenylether	800	U
118-74-1	Hexachlorobenzene	800	U
87-86-5	Pentachlorophenol	3900	U
85-01-8	Phenanthrene	590	J
120-12-7	Anthracene	800	U
84-74-2	Di-n-Butylphthalate	800	U
206-44-0	Fluoranthene	360	J
129-00-0	Pyrene	510	J
85-68-7	Butylbenzylphthalate	800	U
91-94-1	3,3'-Dichlorobenzidine	1600	U
56-55-3	Benzo(a)Anthracene	800	U
218-01-9	Chrysene	350	J
117-81-7	bis(2-Ethylhexyl)Phthalate	1200	
117-84-0	Di-n-Octyl Phthalate	800	U
205-99-2	Benzo(b)Fluoranthene	300	J
207-08-9	Benzo(k)Fluoranthene	280	J
50-32-8	Benzo(a)Pyrene	270	J
193-39-5	Indeno(1,2,3-cd)Pyrene	800	U
53-70-3	Dibenz(a,h)Anthracene	800	U
191-24-2	Benzo(g,h,i)Perylene	800	U

(1) - Cannot be separated from Diphenylamine

000711

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EKQ83

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD08

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 18 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/09/90

GPC Cleanup: (Y/N) Y pH: 8.9 Dilution Factor: 1.0

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	18.47	1900	J
2.	UNKNOWN HYDROCARBON	19.52	1500	J
3.	UNKNOWN HYDROCARBON	20.52	1500	J
4.	UNKNOWN ALKYL PNA (MW=192)	21.09	590	J
5.	UNKNOWN DIMETHYL PNA (MW=206	22.17	450	J
6.	UNKNOWN HYDROCARBON	22.40	580	J
7.	KETONE	7.35	2300	~~BJ~~ U
8.	KETONE	7.65	1600	J
9.	KETONE	8.02	1400	~~BJ~~ U
10.	KETONE	8.85	1900	J
11.	KETONE	9.84	1100	J
12.	PHENOL, METHYLETHYL-	12.24	790	J
13.	UNKNOWN	17.37	910	J
14.	PHTHALATE	20.32	730	J
15.	UNKNOWN HYDROCARBON	21.49	960	J

AV
1-2-91

000712

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ84

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD09

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD09

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 28 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/29/90

GPC Cleanup: (Y/N) N pH: 5.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	460	U
111-44-4	bis(2-Chloroethyl)Ether	460	U
95-57-8	2-Chlorophenol	460	U
541-73-1	1,3-Dichlorobenzene	460	U
106-46-7	1,4-Dichlorobenzene	460	U
100-51-6	Benzyl Alcohol	460	U
95-50-1	1,2-Dichlorobenzene	460	U
95-48-7	2-Methylphenol	460	U
108-60-1	bis(2-Chloroisopropyl)Ether	460	U
106-44-5	4-Methylphenol	460	U
621-64-7	N-Nitroso-Di-n-Propylamine	460	U
67-72-1	Hexachloroethane	460	U
98-95-3	Nitrobenzene	460	U
78-59-1	Isophorone	460	U
88-75-5	2-Nitrophenol	460	U
105-67-9	2,4-Dimethylphenol	460	U
65-85-0	Benzoic Acid	5700	
111-91-1	bis(2-Chloroethoxy)Methane	460	U
120-83-2	2,4-Dichlorophenol	460	U
120-82-1	1,2,4-Trichlorobenzene	460	U
91-20-3	Naphthalene	460	U
106-47-8	4-Chloroaniline	460	U
87-68-3	Hexachlorobutadiene	460	U
59-50-7	4-Chloro-3-Methylphenol	460	U
91-57-6	2-Methylnaphthalene	460	U
77-47-4	Hexachlorocyclopentadiene	460	U
88-06-2	2,4,6-Trichlorophenol	460	U
95-95-4	2,4,5-Trichlorophenol	2200	U
91-58-7	2-Chloronaphthalene	460	U
88-74-4	2-Nitroaniline	2200	U
131-11-3	Dimethyl Phthalate	460	U
208-96-8	Acenaphthylene	460	U
606-20-2	2,6-Dinitrotoluene	460	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ84

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD09

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD09

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 28 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/29/90

GPC Cleanup: (Y/N) N pH: 5.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2200	U
83-32-9	Acenaphthene	460	U
51-28-5	2,4-Dinitrophenol	2200	U
100-02-7	4-Nitrophenol	2200	U
132-64-9	Dibenzofuran	460	U
121-14-2	2,4-Dinitrotoluene	460	U
84-66-2	Diethylphthalate	460	U
7005-72-3	4-Chlorophenyl-phenylether	460	U
86-73-7	Fluorene	460	U
100-01-6	4-Nitroaniline	2200	U
534-52-1	4,6-Dinitro-2-Methylphenol	2200	U
86-30-6	N-Nitrosodiphenylamine (1)	460	U
101-55-3	4-Bromophenyl-phenylether	460	U
118-74-1	Hexachlorobenzene	460	U
87-86-5	Pentachlorophenol	2200	U
85-01-8	Phenanthrene	460	U
120-12-7	Anthracene	460	U
84-74-2	Di-n-Butylphthalate	460	U
206-44-0	Fluoranthene	460	U
129-00-0	Pyrene	460	U
85-68-7	Butylbenzylphthalate	460	U
91-94-1	3,3'-Dichlorobenzidine	920	U
56-55-3	Benzo(a)Anthracene	460	U
218-01-9	Chrysene	460	U
117-81-7	bis(2-Ethylhexyl)Phthalate	460	U
117-84-0	Di-n-Octyl Phthalate	460	U
205-99-2	Benzo(b)Fluoranthene	460	U
207-08-9	Benzo(k)Fluoranthene	460	U
50-32-8	Benzo(a)Pyrene	460	U
193-39-5	Indeno(1,2,3-cd)Pyrene	460	U
53-70-3	Dibenz(a,h)Anthracene	460	U
191-24-2	Benzo(g,h,i)Perylene	460	U

(1) - Cannot be separated from Diphenylamine

000781

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EKQ84

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD09

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SVFFD09

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 28 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 10/29/90

GPC Cleanup: (Y/N) N pH: 5.1 Dilution Factor: 1.00

Number TICs found: 19

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	KETONE	6.30	1900	~~BJ~~ U
2.	KETONE	7.00	970	~~BJ~~ U
3.	KETONE	8.85	680	J
4.	UNKNOWN HYDROCARBON	23.29	950	J
5.	UNKNOWN HYDROCARBON	24.67	1400	J
6.	ALDEHYDE	25.71	370	J
7.	UNKNOWN HYDROCARBON	26.21	1300	J
8.	UNKNOWN HYDROCARBON	26.29	700	J
9.	ALDEHYDE	27.72	300	J
10.	UNKNOWN HYDROCARBON	28.41	2000	J
11.	UNKNOWN HYDROCARBON	31.66	730	J
12.	UNKNOWN	32.99	490	J
13.	KETONE	7.85	570	J
14.	FATTY ACID	19.10	140	J
15.	ALDEHYDE	24.24	160	J
16.	UNKNOWN	28.54	230	J
17.	UNKNOWN	28.79	240	J
18.	UNKNOWN	30.69	370	J
19.	UNKNOWN	32.22	270	J

AV
1-2-91

000782

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ76

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD01

Sample wt/vol: 1.0 (g/mL) G Lab File ID: _____

Level: (low/med) MED Date Received: 10/19/90

% Moisture: not dec. 20 dec. ____ Date Extracted: 10/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/03/90

GPC Cleanup: (Y/N) N pH: 9.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	150	U
319-85-7	beta-BHC	150	U
319-86-8	delta-BHC	150	U
58-89-9	gamma-BHC (Lindane)	150	U
76-44-8	Heptachlor	150	U
309-00-2	Aldrin	150	U
1024-57-3	Heptachlor epoxide	150	U
959-98-8	Endosulfan I	150	U
60-57-1	Dieldrin	300	U
72-55-9	4,4'-DDE	300	U
72-20-8	Endrin	300	U
33213-65-9	Endosulfan II	300	U
72-54-8	4,4'-DDD	300	U
1031-07-8	Endosulfan sulfate	300	U
50-29-3	4,4'-DDT	300	U
72-43-5	Methoxychlor	1500	U
53494-70-5	Endrin ketone	300	U
5103-71-9	alpha-Chlordane	1500	U
5103-74-2	gamma-Chlordane	1500	U
8001-35-2	Toxaphene	3000	U
12674-11-2	Aroclor-1016	1500	U
11104-28-2	Aroclor-1221	1500	U
11141-16-5	Aroclor-1232	1500	U
53469-21-9	Aroclor-1242	1500	U
12672-29-6	Aroclor-1248	1500	U
11097-69-1	Aroclor-1254	3000	U
11096-82-5	Aroclor-1260	3000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ77

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD02

Sample wt/vol: 1.0 (g/mL) G Lab File ID: _____

Level: (low/med) MED Date Received: 10/19/90

% Moisture: not dec. 28 dec. ____ Date Extracted: 10/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/03/90

GPC Cleanup: (Y/N) N pH: 8.7 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	170	U
319-85-7	beta-BHC	170	U
319-86-8	delta-BHC	170	U
58-89-9	gamma-BHC (Lindane)	170	U
76-44-8	Heptachlor	170	U
309-00-2	Aldrin	170	U
1024-57-3	Heptachlor epoxide	170	U
959-98-8	Endosulfan I	170	U
60-57-1	Dieldrin	330	U
72-55-9	4,4'-DDE	330	U
72-20-8	Endrin	330	U
33213-65-9	Endosulfan II	330	U
72-54-8	4,4'-DDD	330	U
1031-07-8	Endosulfan sulfate	330	U
50-29-3	4,4'-DDT	330	U
72-43-5	Methoxychlor	1700	U
53494-70-5	Endrin ketone	330	U
5103-71-9	alpha-Chlordane	1700	U
5103-74-2	gamma-Chlordane	1700	U
8001-35-2	Toxaphene	3300	U
12674-11-2	Aroclor-1016	1700	U
11104-28-2	Aroclor-1221	1700	U
11141-16-5	Aroclor-1232	1700	U
53469-21-9	Aroclor-1242	1700	U
12672-29-6	Aroclor-1248	1700	U
11097-69-1	Aroclor-1254	3300	U
11096-82-5	Aroclor-1260	3300	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ78

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD03

Sample wt/vol: 1.0 (g/mL) G Lab File ID: _____

Level: (low/med) MED Date Received: 10/19/90

% Moisture: not dec. 18 dec. ____ Date Extracted: 10/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/03/90

GPC Cleanup: (Y/N) N pH: 9.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	150	U
319-85-7	beta-BHC	150	U
319-86-8	delta-BHC	150	U
58-89-9	gamma-BHC (Lindane)	150	U
76-44-8	Heptachlor	150	U
309-00-2	Aldrin	150	U
1024-57-3	Heptachlor epoxide	150	U
959-98-8	Endosulfan I	150	U
60-57-1	Dieldrin	290	U
72-55-9	4,4'-DDE	290	U
72-20-8	Endrin	290	U
33213-65-9	Endosulfan II	290	U
72-54-8	4,4'-DDD	290	U
1031-07-8	Endosulfan sulfate	290	U
50-29-3	4,4'-DDT	290	U
72-43-5	Methoxychlor	1500	U
53494-70-5	Endrin ketone	290	U
5103-71-9	alpha-Chlordane	1500	U
5103-74-2	gamma-Chlordane	1500	U
8001-35-2	Toxaphene	2900	U
12674-11-2	Aroclor-1016	1500	U
11104-28-2	Aroclor-1221	1500	U
11141-16-5	Aroclor-1232	1500	U
53469-21-9	Aroclor-1242	1500	U
12672-29-6	Aroclor-1248	1500	U
11097-69-1	Aroclor-1254	2900	U
11096-82-5	Aroclor-1260	2900	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ79

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD04

Sample wt/vol: 1.0 (g/mL) G Lab File ID: _____

Level: (low/med) MED Date Received: 10/19/90

% Moisture: not dec. 24 dec. ____ Date Extracted: 10/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/03/90

GPC Cleanup: (Y/N) N pH: 8.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	160	U
319-85-7	beta-BHC	160	U
319-86-8	delta-BHC	160	U
58-89-9	gamma-BHC (Lindane)	160	U
76-44-8	Heptachlor	160	U
309-00-2	Aldrin	160	U
1024-57-3	Heptachlor epoxide	160	U
959-98-8	Endosulfan I	160	U
60-57-1	Dieldrin	320	U
72-55-9	4,4'-DDE	320	U
72-20-8	Endrin	320	U
33213-65-9	Endosulfan II	320	U
72-54-8	4,4'-DDD	320	U
1031-07-8	Endosulfan sulfate	320	U
50-29-3	4,4'-DDT	320	U
72-43-5	Methoxychlor	1600	U
53494-70-5	Endrin ketone	320	U
5103-71-9	alpha-Chlordane	1600	U
5103-74-2	gamma-Chlordane	1600	U
8001-35-2	Toxaphene	3200	U
12674-11-2	Aroclor-1016	1600	U
11104-28-2	Aroclor-1221	1600	U
11141-16-5	Aroclor-1232	1600	U
53469-21-9	Aroclor-1242	1600	U
12672-29-6	Aroclor-1248	1600	U
11097-69-1	Aroclor-1254	3200	U
11096-82-5	Aroclor-1260	3200	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ80

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 17 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/03/90

GPC Cleanup: (Y/N) Y pH: 9.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	19	U
319-85-7	beta-BHC	19	U
319-86-8	delta-BHC	19	U
58-89-9	gamma-BHC (Lindane)	19	U
76-44-8	Heptachlor	19	U
309-00-2	Aldrin	19	U
1024-57-3	Heptachlor epoxide	19	U
959-98-8	Endosulfan I	19	U
60-57-1	Dieldrin	39	U
72-55-9	4,4'-DDE	39	U
72-20-8	Endrin	39	U
33213-65-9	Endosulfan II	39	U
72-54-8	4,4'-DDD	39	U
1031-07-8	Endosulfan sulfate	39	U
50-29-3	4,4'-DDT	39	U
72-43-5	Methoxychlor	190	U
53494-70-5	Endrin ketone	39	U
5103-71-9	alpha-Chlordane	190	U
5103-74-2	gamma-Chlordane	190	U
8001-35-2	Toxaphene	390	U
12674-11-2	Aroclor-1016	190	U
11104-28-2	Aroclor-1221	190	U
11141-16-5	Aroclor-1232	190	U
53469-21-9	Aroclor-1242	420	
12672-29-6	Aroclor-1248	190	U
11097-69-1	Aroclor-1254	610	
11096-82-5	Aroclor-1260	390	U

000028

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ81

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD06

Sample wt/vol: 1.0 (g/mL) G Lab File ID: _____

Level: (low/med) MED Date Received: 10/19/90

% Moisture: not dec. 35 dec. ____ Date Extracted: 10/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/03/90

GPC Cleanup: (Y/N) N pH: 9.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	180	U
319-85-7	beta-BHC	180	U
319-86-8	delta-BHC	180	U
58-89-9	gamma-BHC (Lindane)	180	U
76-44-8	Heptachlor	180	U
309-00-2	Aldrin	180	U
1024-57-3	Heptachlor epoxide	180	U
959-98-8	Endosulfan I	180	U
60-57-1	Dieldrin	370	U
72-55-9	4,4'-DDE	370	U
72-20-8	Endrin	370	U
33213-65-9	Endosulfan II	370	U
72-54-8	4,4'-DDD	370	U
1031-07-8	Endosulfan sulfate	370	U
50-29-3	4,4'-DDT	370	U
72-43-5	Methoxychlor	1800	U
53494-70-5	Endrin ketone	370	U
5103-71-9	alpha-Chlordane	1800	U
5103-74-2	gamma-Chlordane	1800	U
8001-35-2	Toxaphene	3700	U
12674-11-2	Aroclor-1016	1800	U
11104-28-2	Aroclor-1221	1800	U
11141-16-5	Aroclor-1232	1800	U
53469-21-9	Aroclor-1242	1800	U
12672-29-6	Aroclor-1248	1800	U
11097-69-1	Aroclor-1254	3700	U
11096-82-5	Aroclor-1260	3700	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ82

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD07

Sample wt/vol: 1.0 (g/mL) G Lab File ID: _____

Level: (low/med) MED Date Received: 10/19/90

% Moisture: not dec. 31 dec. ____ Date Extracted: 10/26/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/03/90

GPC Cleanup: (Y/N) N pH: 10.7 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	170	U
319-85-7	beta-BHC	170	U
319-86-8	delta-BHC	170	U
58-89-9	gamma-BHC (Lindane)	170	U
76-44-8	Heptachlor	170	U
309-00-2	Aldrin	170	U
1024-57-3	Heptachlor epoxide	170	U
959-98-8	Endosulfan I	170	U
60-57-1	Dieldrin	350	U
72-55-9	4,4'-DDE	350	U
72-20-8	Endrin	350	U
33213-65-9	Endosulfan II	350	U
72-54-8	4,4'-DDD	350	U
1031-07-8	Endosulfan sulfate	350	U
50-29-3	4,4'-DDT	350	U
72-43-5	Methoxychlor	1700	U
53494-70-5	Endrin ketone	350	U
5103-71-9	alpha-Chlordane	1700	U
5103-74-2	gamma-Chlordane	1700	U
8001-35-2	Toxaphene	3500	U
12674-11-2	Aroclor-1016	1700	U
11104-28-2	Aroclor-1221	1700	U
11141-16-5	Aroclor-1232	1700	U
53469-21-9	Aroclor-1242	1700	U
12672-29-6	Aroclor-1248	1700	U
11097-69-1	Aroclor-1254	3500	U
11096-82-5	Aroclor-1260	3500	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EK083

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EK076

Matrix: (soil/water) SOIL Lab Sample ID: FFD08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 18 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/03/90

GPC Cleanup: (Y/N) Y pH: 9.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	20	U
319-85-7	beta-BHC	20	U
319-86-8	delta-BHC	20	U
58-89-9	gamma-BHC (Lindane)	20	U
76-44-8	Heptachlor	20	U
309-00-2	Aldrin	20	U
1024-57-3	Heptachlor epoxide	20	U
959-98-8	Endosulfan I	20	U
60-57-1	Dieldrin	39	U
72-55-9	4,4'-DDE	39	U
72-20-8	Endrin	39	U
33213-65-9	Endosulfan II	39	U
72-54-8	4,4'-DDD	39	U
1031-07-8	Endosulfan sulfate	39	U
50-29-3	4,4'-DDT	39	U
72-43-5	Methoxychlor	200	U
53494-70-5	Endrin ketone	39	U
5103-71-9	alpha-Chlordane	200	U
5103-74-2	gamma-Chlordane	200	U
8001-35-2	Toxaphene	390	U
12674-11-2	Aroclor-1016	200	U
11104-28-2	Aroclor-1221	200	U
11141-16-5	Aroclor-1232	200	U
53469-21-9	Aroclor-1242	200	U
12672-29-6	Aroclor-1248	200	U
11097-69-1	Aroclor-1254	390	U
11096-82-5	Aroclor-1260	390	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EKQ84

Lab Name: G S E L I Contract: 68-D9-0038

Lab Code: GULF Case No.: 15113 SAS No.: _____ SDG No.: EKQ76

Matrix: (soil/water) SOIL Lab Sample ID: FFD09

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 10/19/90

% Moisture: not dec. 28 dec. ____ Date Extracted: 10/25/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/03/90

GPC Cleanup: (Y/N) N pH: 5.2 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11	U
319-85-7	beta-BHC	11	U
319-86-8	delta-BHC	11	U
58-89-9	gamma-BHC (Lindane)	11	U
76-44-8	Heptachlor	11	U
309-00-2	Aldrin	11	U
1024-57-3	Heptachlor epoxide	11	U
959-98-8	Endosulfan I	11	U
60-57-1	Dieldrin	22	U
72-55-9	4,4'-DDE	22	U
72-20-8	Endrin	22	U
33213-65-9	Endosulfan II	22	U
72-54-8	4,4'-DDD	22	U
1031-07-8	Endosulfan sulfate	22	U
50-29-3	4,4'-DDT	22	U
72-43-5	Methoxychlor	110	U
53494-70-5	Endrin ketone	22	U
5103-71-9	alpha-Chlordane	110	U
5103-74-2	gamma-Chlordane	110	U
8001-35-2	Toxaphene	220	U
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	110	U
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	220	U
11096-82-5	Aroclor-1260	220	U

ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

CRL Receipt Date 11/16/90 FIT Receipt Date 1/9/91 Review Completed 1/9/91

TO: K. Sadler
FROM: C. Kouns
SUBJECT: Lake Abrams
PAN: OH0138SB (1 hour charged for review) Case # 15113

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
# _____	Low Soil	# 9	Low Soil
_____	Low Water	_____	Low Water
_____	Drinking Water	_____	Drinking Water
_____	Other	_____	Other

Project Data Status _____ Completed!!

X Incomplete, awaiting Org low Soil

FIT Data Review Findings:

Check Data Sheets for Transcription Errors

✓ Compounds were detected in sample(s); see enclosed sheet.

Book No. 9 Page No. _____ Date Sampled 10/18/90

0759:2

recycled paper

12/13

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

1/9/91

DATE: 1.4.91

SUBJECT: Review of Region V CLP Data
Received for Review on NOVEMBER 16, 1990

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory

TO: Data User: FIT

We have reviewed the data for the following case(s).

SITE NAME: LAKE ABRAMS HOLDING POND (OH) SMO Case No. 15113

EPA Data Set No. _____ No. of Samples: 9 D.U./Activity Numbers TFA1 TFA102

CRL No. 91FH30S48 - S56

SMO Traffic No. MEKB71 - 79

CLP Laboratory: BETZ (TX) Hrs. Required for Review: 14

1/2 hr J.S

Following are our findings.

SEE NEXT PAGE

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

1-2-91

cc: Dr. Alfred Haeberer/Joan Fisk/Gary Ward, EPA Support Services
Ross K. Robeson, EMSL-Las Vegas
Don Trees, CLP/Sample Management Office

DATA QUALIFIERS

Contract Lab: Betz (TX) Case No. 15113

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

This review covers the laboratory's portion of Case 15113 for the analysis of nine low soils for metals and cyanide.

ICAP Analysis: Matrix spike recoveries for Sb (48.4%R), Cd (57.4%R), Cr (49.3%R), and Ag (29.4%R) exceeded control limits and indicated low bias. All Cd and Cr sample results are estimated (J). Sb sample results for MEKB72, MEKB73, MEKB74, MEKB76, and MEKB77 are estimated (J); the remaining Sb sample results are estimated (UJ) with detection limits possibly elevated. All Ag sample results are unusable (R). Spike recoveries for Pb (-13.4%R), Mn (-66.9%R), and Zn (-171.2%R) were also low but for each of these analytes the sample concentration exceeded that of the spike added by more than four times, thereby invalidating the matrix spike audits for Pb, Mn, and Zn. Pb, Mn, and Zn sample results are acceptable.

Duplicate analysis RPD values for As (44.2%) and V (63.7%) exceeded 35% RPD but for each analyte the duplicate difference was less than twice the CRDL value. RPD values for Fe (24.5%) and Mn (22.4%) did not exceed the soil control limit of 35% RPD. Even though the laboratory flagged these analyte results, all As, Fe, Mn, and V results are acceptable.

The serial dilution percent difference for Cr (46.5%) exceeded control limits and indicated interference. All Cr sample results are already qualified.

GFAA Analysis: Matrix spike recovery for Se (68.2%R) indicated low bias. All Se sample results are estimated (J) except for MEKB79 which is estimated (UJ) with the detection limit possibly elevated.

Se sample results for MEKB71 and MEKB79 were flagged "W" by the laboratory indicating poor analytical spike recovery and probable interference. Se sample results are already qualified.

The Se sample result for MEKB72 was flagged "+" indicating possible interference since even with two MSA analysis attempts the correlation coefficient was less than 0.995. Se results are already qualified.

Other Qualifiers: Hg and cyanide results are acceptable.

R. Dilg
1-2-91

QC EXCEPTION SUMMARY REPORT

CASE # 15113
DATA SET #
LAB Q.C.#
DATE: 1-2-91

SITE LAKE ABRAMS HOLDING POND
LAB BETZ (TX)
REVIEWED BY WESTON

MATRIX: SOIL
CONC. : LOW
MATRIX:
CONC. :

WATER SAMPLE SPK.
WATER SAMPLE DUP.
SOIL SAMPLE SPK.
SOIL SAMPLE DUP.

	OVERALL CASE QC									MATRIX SPECIFIC QC						SAMPLE SPECIFIC QC		FIELD QC			REGIONAL QC			OTHER/ COMMENTS
	Holding Time	Cal Blanks	Std Calcur	Contin Calcur	Prep Blk AQ	Prep Blk SOL	ICS %R	ICS % AQ	ICS % SOL	Sol Dup RPD	Sol Spk %R	AQ Dup RPD	AQ Spk %R	Sol Diff AQ	Sol Diff SOL	GFAA Dup	GFAA Spike	Blank	Dup RPD	Spike %R	Blind Blank	Blind Spike %R	Split Sample RPD	
Aluminum		-78.1				-15,44																		
Antimony											43.4													
Arsenic		-9.1				-1.86				44.2														
Barium																								
Beryllium																								
Cadmium											57.4													
Calcium																								
Chromium											49.3				46.5									
Cobalt																								
Copper		-11.6				-2.26																		
Iron										24.5														
Lead											(-13.4)													
Magnesium																								
Manganese										22.4	(-66.9)													
Mercury																								
Nickel		-4.5				-0.96																		
Potassium																								
Selenium											68.2													
Silver											29.4													
Sodium		-298.3																						
Thallium																								
Tin																								
Vanadium										63.7														
Zinc						-0.26					(-171.2)													
Cyanide																								

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.:MEKB71

SOW No.: 7/88_

EPA Sample No.	Lab Sample ID
_MEKB71_____	_MEKB71_____
_MEKB71D_____	__MEKB71D_____
_MEKB71S_____	__MEKB71S_____
_MEKB72_____	__MEKB72_____
_MEKB73_____	__MEKB73_____
_MEKB74_____	__MEKB74_____
_MEKB75_____	__MEKB75_____
_MEKB76_____	__MEKB76_____
_MEKB77_____	__MEKB77_____
_MEKB78_____	__MEKB78_____
_MEKB79_____	__MEKB79_____

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before application of background corrections ? Yes/No NO_

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: William W. Walton Name: William W. Walton

Date: November 15, 1990 Title: Laboratory Manager

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEKB71

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Matrix (soil/water): SOIL_ Lab Sample ID: MEKB71____

Level (low/med): LOW__ Date Received: 10/19/90

% Solids: _77.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	9680			P_
7440-36-0	Antimony_	3.1	U	N	P_
7440-38-2	Arsenic__	8.0		*	P_
7440-39-3	Barium___	129			P_
7440-41-7	Beryllium	1.0	B		P_
7440-43-9	Cadmium__	18.4		N	P_
7440-70-2	Calcium__	31300			P_
7440-47-3	Chromium_	75.3		EN	P_
7440-48-4	Cobalt___	11.9	B		P_
7440-50-8	Copper___	108			P_
7439-89-6	Iron_____	40000		*	P_
7439-92-1	Lead_____	791			P_
7439-95-4	Magnesium	6450			P_
7439-96-5	Manganese	2150		*	P_
7439-97-6	Mercury__	0.11	U		CV
7440-02-0	Nickel___	33.4			P_
7440-09-7	Potassium	1600			P_
7782-49-2	Selenium_	0.74	B	WN	F_
7440-22-4	Silver___	0.78	U	N	P_
7440-23-5	Sodium___	831	B		P_
7440-28-0	Thallium_	0.52	U		F_
7440-62-2	Vanadium_	15.7		*	P_
7440-66-6	Zinc_____	3710			P_
_____	Cyanide__	1.3	U		C_

Color Before: BROWN____ Clarity Before: _____ Texture: FINE__

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

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1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEKB72

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Matrix (soil/water): SOIL_ Lab Sample ID: MEKB72____

Level (low/med): LOW__ Date Received: 10/19/90

% Solids: _63.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	11100			P_
7440-36-0	Antimony_	6.0	B	N	P_
7440-38-2	Arsenic__	10.9		*	P_
7440-39-3	Barium___	172			P_
7440-41-7	Beryllium	1.4	B		P_
7440-43-9	Cadmium__	45.0		N	P_
7440-70-2	Calcium__	34400			P_
7440-47-3	Chromium_	181		EN	P_
7440-48-4	Cobalt___	14.0	B		P_
7440-50-8	Copper___	211			P_
7439-89-6	Iron_____	70900		*	P_
7439-92-1	Lead_____	1560			P_
7439-95-4	Magnesium	5340			P_
7439-96-5	Manganese	4480		*	P_
7439-97-6	Mercury__	0.14	U		CV
7440-02-0	Nickel___	60.8			P_
7440-09-7	Potassium	2100			P_
7782-49-2	Selenium_	1.5	B	+N	F_
7440-22-4	Silver___	0.94	U	N	P_
7440-23-5	Sodium___	450	B		P_
7440-28-0	Thallium_	0.63	U		F_
7440-62-2	Vanadium_	23.2		*	P_
7440-66-6	Zinc_____	9970			P_
_____	Cyanide__	1.6	U		C_

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEKB73

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Matrix (soil/water): SOIL_ Lab Sample ID: MEKB73____

Level (low/med): LOW__ Date Received: 10/19/90

% Solids: _78.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	8870			P_
7440-36-0	Antimony_	3.8	B	N	P_
7440-38-2	Arsenic__	7.7		*	P_
7440-39-3	Barium___	126			P_
7440-41-7	Beryllium	0.97	B		P_
7440-43-9	Cadmium__	27.1		N	P_
7440-70-2	Calcium__	25800			P_
7440-47-3	Chromium_	112		EN	P_
7440-48-4	Cobalt___	12.2	B		P_
7440-50-8	Copper___	146			P_
7439-89-6	Iron____	49700		*	P_
7439-92-1	Lead____	1010			P_
7439-95-4	Magnesium	5560			P_
7439-96-5	Manganese	2990		*	P_
7439-97-6	Mercury__	0.12	U		CV
7440-02-0	Nickel___	47.3			P_
7440-09-7	Potassium	1740			P_
7782-49-2	Selenium_	1.1	B	N	F_
7440-22-4	Silver___	0.77	U	N	P_
7440-23-5	Sodium___	694	B		P_
7440-28-0	Thallium_	0.51	U		F_
7440-62-2	Vanadium_	16.5		*	P_
7440-66-6	Zinc____	5500			P_
	Cyanide__	2.6			C_

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

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1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEKB74

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Matrix (soil/water): SOIL_ Lab Sample ID: MEKB74____

Level (low/med): LOW__ Date Received: 10/19/90

% Solids: _77.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	10400			P_
7440-36-0	Antimony_	4.9	B	N	P_
7440-38-2	Arsenic__	13.4		*	P_
7440-39-3	Barium___	172			P_
7440-41-7	Beryllium	1.3			P_
7440-43-9	Cadmium__	47.6		N	P_
7440-70-2	Calcium__	29100			P_
7440-47-3	Chromium_	169		EN	P_
7440-48-4	Cobalt___	13.6			P_
7440-50-8	Copper___	221			P_
7439-89-6	Iron_____	62900		*	P_
7439-92-1	Lead_____	1760			P_
7439-95-4	Magnesium	5660			P_
7439-96-5	Manganese	5040		*	P_
7439-97-6	Mercury__	0.12	U		CV
7440-02-0	Nickel___	55.3			P_
7440-09-7	Potassium	2420			P_
7782-49-2	Selenium_	1.1	B	N	F_
7440-22-4	Silver___	0.77	U	N	P_
7440-23-5	Sodium___	990	B		P_
7440-28-0	Thallium_	0.51	U		F_
7440-62-2	Vanadium_	19.5		*	P_
7440-66-6	Zinc_____	10100			P_
	Cyanide__	2.8			C_

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEKB75

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Matrix (soil/water): SOIL_ Lab Sample ID: MEKB75____

Level (low/med): LOW__ Date Received: 10/19/90

% Solids: _80.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	11300			P_
7440-36-0	Antimony_	3.0	U	N	P_
7440-38-2	Arsenic__	7.1		*	P_
7440-39-3	Barium___	177			P_
7440-41-7	Beryllium	1.4			P_
7440-43-9	Cadmium__	22.6		N	P_
7440-70-2	Calcium__	52300			P_
7440-47-3	Chromium_	119		EN	P_
7440-48-4	Cobalt___	10.5	B		P_
7440-50-8	Copper___	135			P_
7439-89-6	Iron_____	44200		*	P_
7439-92-1	Lead_____	868			P_
7439-95-4	Magnesium	6920			P_
7439-96-5	Manganese	3220		*	P_
7439-97-6	Mercury__	0.11	U		CV
7440-02-0	Nickel___	40.5			P_
7440-09-7	Potassium	1760			P_
7782-49-2	Selenium_	0.77	B	N	F_
7440-22-4	Silver___	0.74	U	N	P_
7440-23-5	Sodium___	767	B		P_
7440-28-0	Thallium_	0.50	U		F_
7440-62-2	Vanadium_	15.8		*	P_
7440-66-6	Zinc_____	4750			P_
_____	Cyanide__	3.4			C_
_____	_____	_____			__

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN

7/88

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1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEKB76

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Matrix (soil/water): SOIL_ Lab Sample ID: MEKB76____

Level (low/med): LOW__ Date Received: 10/19/90

% Solids: _68.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	10800			P_
7440-36-0	Antimony_	9.6	B	N	P_
7440-38-2	Arsenic__	12.5		*	P_
7440-39-3	Barium___	159			P_
7440-41-7	Beryllium	1.4	B		P_
7440-43-9	Cadmium__	60.7		N	P_
7440-70-2	Calcium__	75000			P_
7440-47-3	Chromium_	185		EN	P_
7440-48-4	Cobalt___	14.3	B		P_
7440-50-8	Copper___	245			P_
7439-89-6	Iron____	73200		*	P_
7439-92-1	Lead____	2060			P_
7439-95-4	Magnesium	5540			P_
7439-96-5	Manganese	5750		*	P_
7439-97-6	Mercury__	0.13	U		CV
7440-02-0	Nickel___	56.4			P_
7440-09-7	Potassium	3360			P_
7782-49-2	Selenium_	1.6		N	F_
7440-22-4	Silver___	0.88	U	N	P_
7440-23-5	Sodium___	1950			P_
7440-28-0	Thallium_	0.59	U		F_
7440-62-2	Vanadium_	20.7		*	P_
7440-66-6	Zinc____	13200			P_
	Cyanide__	3.1			C_

Color Before: BROWN____ Clarity Before: _____ Texture: COARSE

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEKB77

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Matrix (soil/water): SOIL_ Lab Sample ID: MEKB77____

Level (low/med): LOW__ Date Received: 10/19/90

% Solids: 68.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12600			P
7440-36-0	Antimony	5.2	B	N	P
7440-38-2	Arsenic	7.6		*	P
7440-39-3	Barium	225			P
7440-41-7	Beryllium	1.8			P
7440-43-9	Cadmium	44.3		N	P
7440-70-2	Calcium	44600			P
7440-47-3	Chromium	186		EN	P
7440-48-4	Cobalt	12.5	B		P
7440-50-8	Copper	203			P
7439-89-6	Iron	59900		*	P
7439-92-1	Lead	1570			P
7439-95-4	Magnesium	7000			P
7439-96-5	Manganese	5650		*	P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	53.7			P
7440-09-7	Potassium	2650			P
7782-49-2	Selenium	1.7		N	F
7440-22-4	Silver	0.88	U	N	P
7440-23-5	Sodium	1460	B		P
7440-28-0	Thallium	0.59	U		F
7440-62-2	Vanadium	17.5		*	P
7440-66-6	Zinc	9230			P
	Cyanide	4.6			C

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEKB78

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Matrix (soil/water): SOIL_ Lab Sample ID: MEKB78____

Level (low/med): LOW__ Date Received: 10/19/90

% Solids: _75.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	5890			P_
7440-36-0	Antimony_	3.2	U	N	P_
7440-38-2	Arsenic__	4.8		*	P_
7440-39-3	Barium__	70.2			P_
7440-41-7	Beryllium	0.58	B		P_
7440-43-9	Cadmium__	11.5		N	P_
7440-70-2	Calcium__	13900			P_
7440-47-3	Chromium_	63.6		EN	P_
7440-48-4	Cobalt__	9.0	B		P_
7440-50-8	Copper__	67.4			P_
7439-89-6	Iron____	30600		*	P_
7439-92-1	Lead____	385			P_
7439-95-4	Magnesium	2810			P_
7439-96-5	Manganese	1440		*	P_
7439-97-6	Mercury__	0.12	U		CV
7440-02-0	Nickel__	27.1			P_
7440-09-7	Potassium	967	B		P_
7782-49-2	Selenium_	0.53	B	N	F_
7440-22-4	Silver__	0.80	U	N	P_
7440-23-5	Sodium__	286	B		P_
7440-28-0	Thallium_	0.53	U		F_
7440-62-2	Vanadium_	13.3		*	P_
7440-66-6	Zinc____	2150			P_
	Cyanide__	1.3	U		C_

Color Before: BROWN____ Clarity Before: _____ Texture: FINE__

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN

7/88

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEKB79

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Matrix (soil/water): SOIL_ Lab Sample ID: MEKB79____

Level (low/med): LOW__ Date Received: 10/19/90

% Solids: _73.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	8420			P_
7440-36-0	Antimony_	3.3	U	N	P_
7440-38-2	Arsenic__	3.2		*	P_
7440-39-3	Barium___	57.2			P_
7440-41-7	Beryllium	0.38	B		P_
7440-43-9	Cadmium__	0.68	B	N	P_
7440-70-2	Calcium__	236	B		P_
7440-47-3	Chromium_	10.9		EN	P_
7440-48-4	Cobalt___	9.6	B		P_
7440-50-8	Copper___	9.4			P_
7439-89-6	Iron____	17100		*	P_
7439-92-1	Lead____	34.9			P_
7439-95-4	Magnesium	1320	B		P_
7439-96-5	Manganese	309		*	P_
7439-97-6	Mercury__	0.12	U		CV
7440-02-0	Nickel___	8.2	B		P_
7440-09-7	Potassium	527	B		P_
7782-49-2	Selenium_	0.54	U	WN	F_
7440-22-4	Silver___	0.82	U	N	P_
7440-23-5	Sodium___	76.8	B		P_
7440-28-0	Thallium_	0.54	U		F_
7440-62-2	Vanadium_	20.1		*	P_
7440-66-6	Zinc____	50.0			P_
	Cyanide__	2.3			C_

Color Before: BROWN____ Clarity Before: _____ Texture: FINE__

Color After: YELLOW___ Clarity After: _____ Artifacts: _____

Comments:

3
BLANKS

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	-64.9	B	-78.1	B	-87.9	B	-92.0	B	-15.440	B	P
Antimony	12.0	U	12.0	U	-12.9	B	12.0	U	2.400	U	P
Arsenic	-9.6	B	-9.1	B	9.0	U	-9.7	B	-1.860	B	P
Barium	7.0	U	7.0	U	7.0	U	7.0	U	1.400	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cadmium	1.1	B	1.0	U	1.0	U	1.0	U	0.200	U	P
Calcium	208.0	U	208.0	U	208.0	U	208.0	U	41.600	U	P
Chromium	3.0	U	3.0	U	3.0	U	3.0	U	0.600	U	P
Cobalt	32.0	U	32.0	U	32.0	U	32.0	U	6.400	U	P
Copper	-11.4	B	-11.1	B	-11.6	B	-11.0	B	-2.260	B	P
Iron	4.0	U	4.0	U	4.0	U	4.0	U	0.800	U	P
Lead	8.0	U	8.0	U					1.600	U	P
Magnesium	131.0	U	131.0	U	131.0	U	131.0	U	26.200	U	P
Manganese	1.0	U	1.0	U	1.0	U			0.200	U	P
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.100	U	CV
Nickel	-6.0	B	-4.5	B	3.0	U	-4.6	B	-0.960	B	P
Potassium	187.0	U	187.0	U	187.0	U	187.0	U	37.400	U	P
Selenium	2.0	U	2.0	U					0.400	U	F
Silver	3.0	U	3.0	U	3.0	U	3.0	U	0.600	U	P
Sodium	179.0	U	-181.7	B	-298.3	B	179.0	U	35.800	U	P
Thallium	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	F
Vanadium	3.0	U	3.0	U	3.0	U	3.0	U	0.600	U	P
Zinc	1.0	U	1.0	U	1.0	U	-1.7	B	-0.260	B	P
Cyanide	20.0	U	20.0	U	20.0	U	20.0	U	1.000	U	C

3
BLANKS

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony	13.2	B	12.0	U	12.0	U	12.0	U			P
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium	1.5	B	1.0	U	-1.9	B	1.0	U			P
Calcium											NR
Chromium	3.0	U	3.0	U	3.0	U	3.0	U			P
Cobalt											NR
Copper											NR
Iron	4.0	U	4.0	U	4.0	U					P
Lead	8.0	U	8.0	U	8.0	U					P
Magnesium											NR
Manganese											NR
Mercury			0.2	U	0.2	U	0.2	U			CV
Nickel											NR
Potassium											NR
Selenium	2.0	U	2.0	U	2.0	U	2.0	U			F
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc	-2.5	B	1.0	U	1.0	U					P
Cyanide									1.000	U	C

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3
BLANKS

028

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide									1.000	U	C

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract:68-D9-0083 MEKB71S

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Matrix: __SOIL_____ Level (low/med): _LOW____

% Solids for Sample: _77.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	62.8016		3.1128	U	129.70	48.4	N	P
Arsenic	75-125	471.2581		7.9896		518.81	89.3		P
Barium	75-125	605.6031		129.2348		518.81	91.8		P
Beryllium	75-125	11.4916		1.0117	B	12.97	80.8		P
Cadmium	75-125	25.8366		18.4176		12.97	57.2	N	P
Calcium									NR
Chromium	75-125	100.9079		75.3307		51.88	49.3	N	P
Cobalt	75-125	121.1933		11.9066	B	129.70	84.3		P
Copper	75-125	161.9455		108.2490		64.85	82.8		P
Iron									NR
Lead		773.9300		791.3359		129.70	-13.4		P
Magnesium									NR
Manganese		2061.2192		2148.0415		129.70	-66.9		P
Mercury	75-125	0.6485		0.1128	U	0.59	109.9		CV
Nickel	75-125	140.3891		33.4112		129.70	82.5		P
Potassium									NR
Selenium	75-125	2.5058		0.7393	B	2.59	68.2	N	F
Silver	75-125	3.8132		0.7782	U	12.97	29.4	N	P
Sodium									NR
Thallium	75-125	11.7380		0.5188	U	12.97	90.5		F
Vanadium	75-125	129.0791		15.6939		129.70	87.4		P
Zinc		3490.1167		3712.2179		129.70	-171.2		P
Cyanide	75-125	6.7767		1.3022	U	6.50	104.3		C

Comments:

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEKB71A

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Matrix: ____SOIL_____ Level (low/med): LOW_____

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Added (SA)	%R	Q	M
Aluminum									NR
Antimony		149.80		12.00	U	120.0	124.8		P
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium		213.80		71.00		140.0	102.0		P
Calcium									NR
Chromium		668.60		290.40		400.0	94.6		P
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

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6
DUPLICATES

EPA SAMPLE NO.

MEKB71D

Lab Name: BETZ LABS THE WOODLANDS Contract: 68-D9-0083

Lab Code: BETZ Case No.: 15113 SAS No.: SDG No : MEKB71

Matrix (water/soil): SOIL Level (low/med): LOW

% Solids for Sample: 77.1 % Solids for Duplicate: 77.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	%RPD	Q	M
Aluminum		9677.6654		10744.2023		10.4		P
Antimony		3.1128	U	3.1128	U			P
Arsenic	2.6	7.9896		12.5292		44.2	*	P
Barium	51.9	129.2348		133.0739		2.9		P
Beryllium		1.0117	B	1.0376	B	2.5		P
Cadmium		18.4176		17.5357		4.9		P
Calcium		31255.1492		33938.4695		8.2		P
Chromium		75.3307		89.1051		16.8		P
Cobalt	13.0	11.9066	B	14.4747		19.5		P
Copper		108.2490		109.7536		1.4		P
Iron		39994.7341		51171.9585		24.5	*	P
Lead		791.3359		719.9481		9.4		P
Magnesium	1297.0	6453.3074		7036.3684		8.6		P
Manganese		2148.0415		2688.5603		22.4	*	P
Mercury		.1128	U	.1179	U			CV
Nickel	10.4	33.4112		37.6135		11.8		P
Potassium	1297.0	1604.7471		1882.9572		16.0		P
Selenium		.7393	B	.7082	B	4.3		F
Silver		.7782	U	.7782	U			P
Sodium		830.6615	B	798.8327	B	3.9		P
Thallium		.5188	U	.5188	U			F
Vanadium	13.0	15.6939		30.3502		63.7	*	P
Zinc		3712.2179		3484.0467		6.3		P
Cyanide		1.3022	U	1.2996	U			C

10

Instrument Detection Limits (Quarterly)

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

ICP ID Number: #1_BAIRD____ Date: 10/15/90

Flame AA ID Number : _____

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.00		200	22.0	P
Antimony	206.83		60	12.0	P
Arsenic	193.76		10	9.0	P
Barium	493.41		200	7.0	P
Beryllium	313.04		5	1.0	P
Cadmium	226.50		5	1.0	P
Calcium	317.93		5000	208.0	P
Chromium	267.71		10	3.0	P
Cobalt	228.62		50	32.0	P
Copper	324.75		25	1.0	P
Iron	259.94		100	4.0	P
Lead	220.35		3	8.0	P
Magnesium	293.68		5000	131.0	P
Manganese	257.61		15	1.0	P
Mercury			0.2		NR
Nickel	231.60		40	3.0	P
Potassium	766.49		5000	187.0	P
Selenium			5		NR
Silver	328.07		10	3.0	P
Sodium	589.59		5000	179.0	P
Thallium			10		NR
Vanadium	292.40		50	3.0	P
Zinc	213.86		20	1.0	P

Comments:

10

Instrument Detection Limits (Quarterly)

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

ICP ID Number: _____ Date: 10/15/90

Flame AA ID Number : AAS6488_____

Furnace AA ID Number : AAS6488_____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury	253.70		0.2	0.2	CV
Nickel			40		NR
Potassium			5000		NR
Selenium	196.00	BZ	5	2.0	F
Silver			10		NR
Sodium			5000		NR
Thallium	276.80	BZ	10	2.0	F
Vanadium			50		NR
Zinc			20		NR

Comments:

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: BETZ LABS THE WOODLANDS Contract: 68-D9-0083

Lab Code: BETZ Case No.: 15113 SAS No.: SDG No.: MEKB71

Initial Calibration Source: EPA-LV

Continuing Calibration Source: BETZ

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	2010.0	1833.30	91.2	20000.0	20069.10	100.3	20135.00	100.7	P
Antimony	978.0	985.00	100.7	2000.0	2002.80	100.1	1993.00	99.6	P
Arsenic	94.8	88.80	93.7	2000.0	1988.30	99.4	1986.30	99.3	P
Barium	1960.0	2033.00	103.7	2000.0	2021.90	101.1	2013.20	100.7	P
Beryllium	483.0	453.20	93.8	400.0	402.50	100.6	400.80	100.2	P
Cadmium	567.8	562.70	99.1	400.0	400.70	100.2	402.40	100.6	P
Calcium	48700.0	47755.70	98.1	20000.0	19957.70	99.8	19976.50	99.9	P
Chromium	510.0	480.70	94.3	2000.0	1964.30	98.2	1976.70	98.8	P
Cobalt	502.0	469.10	93.4	2000.0	2006.20	100.3	2012.30	100.6	P
Copper	515.0	501.30	97.3	2000.0	1997.20	99.9	1992.10	99.6	P
Iron	2040.0	1913.20	93.8	20000.0	20126.30	100.6	20051.50	100.3	P
Lead	4897.5	4818.90	98.4	2000.0	2142.40	107.1			P
Magnesium	24600.0	24123.40	98.1	20000.0	20024.10	100.1	19935.00	99.7	P
Manganese	504.0	454.80	90.2	2000.0	1997.40	99.9	1965.10	98.3	P
Mercury									NR
Nickel	480.0	450.40	93.8	2000.0	1999.90	100.0	2008.90	100.4	P
Potassium	49000.0	50292.90	102.6	20000.0	20101.90	100.5	19979.60	99.9	P
Selenium									NR
Silver	598.6	606.40	101.3	400.0	400.20	100.0	399.50	99.9	P
Sodium	49600.0	49800.10	100.4	20000.0	19936.70	99.7	19662.60	98.3	P
Thallium									NR
Vanadium	488.0	470.10	96.3	2000.0	2005.30	100.3	2011.40	100.6	P
Zinc	3100.0	2834.30	91.4	2000.0	2018.00	100.9	2036.70	101.8	P
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: BETZ LABS THE WOODLANDS Contract: 68-D9-0083

Lab Code: BETZ Case No.: 15113 SAS No.: SDG No.: MEKB71

Initial Calibration Source: EPA-LV

Continuing Calibration Source: BETZ

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum				20000.0	20006.60	100.0			P
Antimony				2000.0	2002.80	100.1			P
Arsenic				2000.0	1959.70	98.0			P
Barium				2000.0	1996.70	99.8			P
Beryllium				400.0	397.80	99.4			P
Cadmium				400.0	400.70	100.2			P
Calcium				20000.0	19892.00	99.5			P
Chromium				2000.0	1980.60	99.0			P
Cobalt				2000.0	2007.70	100.4			P
Copper				2000.0	1978.90	98.9			P
Iron				20000.0	19875.70	99.4			P
Lead	4897.5	4590.50	93.7	2000.0	1995.70	99.8	2002.10	100.1	P
Magnesium				20000.0	19785.60	98.9			P
Manganese									NR
Mercury									NR
Nickel				2000.0	2001.50	100.1			P
Potassium				20000.0	19887.90	99.4			P
Selenium									NR
Silver				400.0	401.70	100.4			P
Sodium				20000.0	19924.10	99.6			P
Thallium									NR
Vanadium				2000.0	2002.80	100.1			P
Zinc				2000.0	2028.10	101.4			P
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Initial Calibration Source: EPA-LV_____

Continuing Calibration Source: BETZ_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony	978.0	1003.50	102.6	2000.0	2024.90	101.2	2014.90	100.7	P
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium	567.8	549.90	96.8	400.0	402.70	100.7	400.90	100.2	P
Calcium									NR
Chromium	510.0	473.60	92.9	2000.0	2020.90	101.0	2024.80	101.2	P
Cobalt									NR
Copper									NR
Iron	2040.0	1931.40	94.7	20000.0	20358.40	101.8	20145.80	100.7	P
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc	3100.0	2840.60	91.6	2000.0	2108.70	105.4	2059.30	103.0	P
Cyanide									NR

(1) Control Limits: Mercury 80-120: Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Initial Calibration Source: EPA-LV_____

Continuing Calibration Source: BETZ_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony				2000.0	2021.30	101.1			P
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium				400.0	397.60	99.4			P
Calcium									NR
Chromium				2000.0	2009.50	100.5			P
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Initial Calibration Source: EPA-LV_____

Continuing Calibration Source: BETZ_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury	5.0	4.80	96.0	5.0	5.08	101.6	5.06	101.2	CV
Nickel									NR
Potassium									NR
Selenium	52.6	54.96	104.5	100.0	93.34	93.3			F
Silver									NR
Sodium									NR
Thallium	97.0	98.40	101.4	100.0	97.49	97.5	96.55	96.6	F
Vanadium									NR
Zinc									NR
Cyanide	94.0	106.40	113.2	200.0	196.23	98.1	196.32	98.2	C

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Initial Calibration Source: EPA-LV_____

Continuing Calibration Source: BETZ_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury				5.0	5.04	100.8	4.92	98.4	CV
Nickel									NR
Potassium									NR
Selenium	52.6	55.26	105.1	100.0	94.02	94.0	99.87	99.9	F
Silver									NR
Sodium									NR
Thallium				100.0	96.97	97.0			F
Vanadium									NR
Zinc									NR
Cyanide				200.0	196.88	98.4			C

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Initial Calibration Source: EPA-LV_____

Continuing Calibration Source: BETZ_____

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury				5.0	5.12	102.4	5.10	102.0	CV
Nickel									NR
Potassium									NR
Selenium				100.0	98.53	98.5			F
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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2B
CRDL STANDARD FOR AA AND ICP

Lab Name: BETZ LABS THE WOODLANDS Contract: 68-D9-0083

Lab Code: BETZ Case No.: 15113 SAS No.: SDG No.: MEKB71

AA CRDL Standard Source: BETZ

ICP CRDL Standard Source: BETZ

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony				120.0	118.20	98.5	118.90	99.1
Arsenic				20.0	11.90	59.5	8.70	43.5
Barium								
Beryllium				10.0	10.20	102.0	9.80	98.0
Cadmium				10.0	11.10	111.0	10.00	100.0
Calcium								
Chromium				20.0	18.70	93.5	17.80	89.0
Cobalt				100.0	102.20	102.2	100.70	100.7
Copper				50.0	40.90	81.8	40.40	80.8
Iron								
Lead								
Magnesium								
Manganese								
Mercury	.2	.21	105.0					
Nickel				80.0	66.10	82.6	64.90	81.1
Potassium								
Selenium	5.0	4.08	81.6					
Silver				20.0	22.50	112.5	21.40	107.0
Sodium								
Thallium	10.0	9.91	99.1					
Vanadium				100.0	100.90	100.9	100.20	100.2
Zinc				40.0	38.10	95.2	37.50	93.8

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2B
CRDL STANDARD FOR AA AND ICP

Lab Name: BETZ LABS THE WOODLANDS Contract: 68-D9-0083

Lab Code: BETZ Case No.: 15113 SAS No.: SDG No.: MEKB71

AA CRDL Standard Source: BETZ

ICP CRDL Standard Source: BETZ

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony				120.0	131.10	109.2	138.70	115.6
Arsenic								
Barium								
Beryllium								
Cadmium				10.0	10.30	103.0	11.50	115.0
Calcium								
Chromium				20.0	18.40	92.0	19.40	97.0
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium	5.0	5.01	100.2					
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

AA CRDL Standard Source: _____

ICP CRDL Standard Source: BETZ_____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc				40.0	40.20	100.5	43.10	107.8

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2B
CRDL STANDARD FOR AA AND ICP

023

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

AA CRDL Standard Source: _____

ICP CRDL Standard Source: BETZ_____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese				30.0	28.90	96.3	28.60	95.3
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

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2B

CRDL STANDARD FOR AA AND ICP

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

AA CRDL Standard Source: _____

ICP CRDL Standard Source: BETZ_____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead				16.0	8.10	50.6	15.80	98.8
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

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2B
CRDL STANDARD FOR AA AND ICP

Lab Name: BETZ LABS THE WOODLANDS Contract: 68-D9-0083

Lab Code: BETZ Case No.: 15113 SAS No.: SDG No.: MEKB71

AA CRDL Standard Source:

ICP CRDL Standard Source: BETZ

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead				16.0	11.00	68.8	11.40	71.2
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No: _____ SDG No.: MEKB71

ICP ID Number: #1 BAIRD____ ICS Source: EPA-LV_____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony	0	0	-26	-30.5		-5	-14.9	
Arsenic	0	0	-359	-343.9		-316	-329.1	
Barium	0	456	6	495.5	108.7	6	495.2	108.6
Beryllium	0	472	1	398.9	84.5	1	394.3	83.5
Cadmium	0	958	-23	827.5	86.4	-23	816.7	85.3
Calcium	448250	445800	460318	460122.9	103.2	454050	450171.9	101.0
Chromium	25	525	-9	451.7	86.0	-12	438.7	83.6
Cobalt	0	494	6	428.1	86.7	4	421.2	85.3
Copper	0	523	27	543.0	103.8	26	543.1	103.8
Iron	182650	178650	202705	202495.0	113.3	201232	199321.8	111.6
Lead								
Magnesium	450900	445200	498881	497115.1	111.7	496934	490498.7	110.2
Manganese								
Mercury								
Nickel	0	940	1	828.6	88.1	-3	815.4	86.7
Potassium	0	0	21	62.2		-83	0.0	
Selenium								
Silver	0	990	-54	940.0	94.9	-57	931.2	94.1
Sodium	0	0	775	987.4		486	1057.9	
Thallium								
Vanadium	0	471	-7	445.8	94.6	-6	440.8	93.6
Zinc	0	1026	16	962.7	93.8	16	963.1	93.9

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No: _____ SDG No.: MEKB71

ICP ID Number: #1 BAIRD____ ICS Source: EPA-LV_____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	481000	469700	496112	499864.2	106.4	504707	504500.0	107.4
Antimony	0	0	-31	-18.7		-17	-9.0	
Arsenic								
Barium								
Beryllium								
Cadmium	0	958	22	896.5	93.6	22	891.8	93.1
Calcium								
Chromium	25	525	-12	456.7	87.0	-12	457.1	87.1
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

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4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No: _____ SDG No.: MEKB71

ICP ID Number: #1 BAIRD____ ICS Source: EPA-LV_____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	%R	Final Found Sol. A	Final Found Sol. AB	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron	182650	178650	200680	200611.6	112.3	199132	198254.3	111.0
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc	0	1026	4	969.8	94.5	5	982.0	95.7

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4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No: _____ SDG No.: MEKB71

ICP ID Number: #1 BAIRD____ ICS Source: EPA-LV_____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese	16	530	50	457.9	86.4	50	451.9	85.3
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No: _____ SDG No.: MEKB71

ICP ID Number: #1 BAIRD____ ICS Source: EPA-LV_____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	0	4700	213	4660.3	99.2	221	4809.2	102.3
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No: _____ SDG No.: MEKB71

ICP ID Number: #1 BAIRD____ ICS Source: EPA-LV_____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	0	4700	212	4420.3	94.0	232	4423.2	94.1
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

038

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Solid LCS Source: EPA-LV_____

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L) True	Aqueous (ug/L) Found	Aqueous (ug/L) %R	Solid (mg/kg) True	Solid (mg/kg) Found	C	Limits		%R
Aluminum				325.0	310.0		225.0	424.0	95.4
Antimony				211.0	219.0		127.0	294.0	103.8
Arsenic				917.0	1038.6		635.0	1199.0	113.3
Barium				4.8	6.5	B	0.0	40.0	135.4
Beryllium				19.4	17.7		16.5	22.3	91.2
Cadmium				45.4	35.8		35.7	55.1	78.9
Calcium				196200.0	187394.7		166800.0	225600.0	95.5
Chromium				99.6	86.8		79.2	120.0	87.1
Cobalt				144.0	138.4		125.0	162.0	96.1
Copper				6910.0	6961.0		6006.0	7820.0	100.7
Iron				22430.0	23342.0		17770.0	27080.0	104.1
Lead				236.0	224.7		188.0	285.0	95.2
Magnesium				118100.0	122646.6		100400.0	129900.0	103.8
Manganese				208.0	194.3		177.0	239.0	93.4
Mercury				12.7	11.4		8.5	17.0	89.8
Nickel				60.9	56.2		49.2	72.6	92.3
Potassium				50.0	51.9	B	0.0	1000.0	103.8
Selenium				39.2	22.7		19.1	59.4	57.9
Silver				22.2	23.7		15.5	29.0	106.8
Sodium				50.0	173.1	B	0.0	1000.0	346.2
Thallium				39.0	34.3		24.6	53.5	87.9
Vanadium				65.8	66.0		51.7	79.9	100.3
Zinc				187.0	202.8		138.0	236.0	108.4
Cyanide				5.6	6.2		4.3	6.9	110.7

U.S. EPA - CLP

039

8
STANDARD ADDITION RESULTS

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract:68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.:_____ SDG No.:MEKB71

Concentration Units: ug/L

EPA Sample No.	An	0 ADD ABS	1 ADD CON	1 ADD ABS	2 ADD CON	2 ADD ABS	3 ADD CON	3 ADD ABS	Final Conc.	r	Q
MEKB72__	SE	0.012	__2.00	0.019	__4.00	0.023	__6.00	0.028	____4.9	0.9934	+
MEKB72__	SE	0.011	__2.00	0.020	__4.00	0.023	__6.00	0.029	____4.3	0.9812	+

U.S. EPA - CLP

9

ICP SERIAL DILUTION

040

EPA SAMPLE NO.

MEKB71L

Lab Name: BETZ_LABS_THE_WOODLANDS__ Contract: 68-D9-0083

Lab Code: BETZ__ Case No.: 15113 SAS No.: _____ SDG No.: MEKB71

Matrix (soil/water): SOIL_ Level (low/med): LOW__

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	37307.40		37488.00		0.5		P
Antimony	12.00	U	60.00	U			P
Arsenic	30.80		45.00	U	100.0		P
Barium	498.20		514.50	B	3.3		P
Beryllium	3.90	B	5.00	U	100.0		P
Cadmium	71.00		76.00		7.0		P
Calcium	120488.60		123901.50		2.8		P
Chromium	290.40		425.50		46.5	E	P
Cobalt	45.90	B	160.00	U	100.0		P
Copper	417.30		393.00		5.8		P
Iron	154179.70		148182.50		3.9		P
Lead	3050.60		2878.50		5.6		P
Magnesium	24877.50		26066.00		4.8		P
Manganese	8280.70		8676.50		4.8		P
Mercury							
Nickel	128.80		473.50		267.6		P
Potassium	6186.30		6013.00	B	2.8		P
Selenium							
Silver	3.00	U	15.00	U			P
Sodium	3202.20	B	2410.00	B	24.7		P
Thallium							
Vanadium	60.50		65.50	B	8.3		P
Zinc	14310.60		15383.00		7.5		P

SAMPLER CHECKLIST

ALL LOW CONCENTRATION SAMPLES

Site Name LAKE ARROWS HOLDING PONDS

All the below procedures have been followed and all coolers properly packaged for shipment.

Sampler Signature _____ Team Leader Signature _____

✓ 1. Is date shipped filled in on the OTR/ITR? NOT ON ITR

✓ 2. Is date and time of sample collection (Letter "F) filled in on the OTR/ITR?

✓ 3. Has either Shipment Complete or Shipment Not Complete been marked on the OTR/ITR?

✓ 4. On the C.O.C. form, is PAN in project no.; TDD/Case/SAS (if applicable) in project name for CLP and site name/case for CRL?

✓ 5. Are all dates and times on the C.O.C. form?

✓ 6. Has either grab or composite sample been marked on the C.O.C.?

✓ 7. Is the matrix filled out on each line of the C.O.C. form? (i.e., Soil, Water, Drinking Water) DO NOT USE ARROWS.

✓ 8. Is the Cooler # written on top of the C.O.C. form?

✓ 9. Is it referenced on the C.O.C.s which cooler # the OTR/ITR or the CRL tracking forms are in?

✓ 10. Are relinquish date, time, and signature on the bottom of the C.O.C.?

✓ 11. Is there one C.O.C. per cooler?

✓ 12. Has the proper paperwork been put in a plastic bag and taped to the inside of the cooler lid?

- o C.O.C. - Send white copy, bring back pink and yellow.
- o OTR/ITR - Send white and yellow copies and bring back blue/green and pink.
- o CRL tracking forms - send all of them.

SA002(04/18/90)

✓ 13. Is sample number, date, and time of collection permanently labeled on each sample bottle?

✓ 14. Are samples packaged in such a way to prevent breakage?

✓ 15. Have photographs been taken of each cooler showing ice, custody seals, and paperwork?

✓ 16. Are the coolers acceptable at Fed Ex?

- o Condition
- o Drain plug taped
- o Correctly labeled with address stickers

✓ 17. Are you sending the coolers to the correct lab? Are you using the correct lab acronym?

✓ 18. Did you call the SMC <u>before 10:00 a.m.</u> on the day after the sample shipment?

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S1

SAMPLING DATE 10/18/90 SAMPLING TIME 0850

ORGANIC TRAFFIC NUMBER EKQ-76

INORGANIC TRAFFIC NUMBER MEKB-71

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz.	METALS / CN^-	134268	0144013
8oz.	EXTRACTABLE	134269-	0144013
2-120ml	VOA	134270-71	W0172013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S2

SAMPLING DATE 10/18/90 SAMPLING TIME 0855

ORGANIC TRAFFIC NUMBER EKQ-77

INORGANIC TRAFFIC NUMBER MEKB-72

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz.	METALS / CN^-	134272	0144013
8oz.	EXTRACTABLE	134273	0144013
2-120mL	VOA	134274-75	W0172013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S3

SAMPLING DATE 10/18/90 SAMPLING TIME 0855

ORGANIC TRAFFIC NUMBER EKQ-

INORGANIC TRAFFIC NUMBER MEKB-

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz	METALS / CN^-	134276	0144013
8oz.	EXTRACTABLE	134277	0144013
2-120ml	VOA	134278-79	W0172013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

recycled paper

ecology and environment

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S4

SAMPLING DATE 10/18/90 SAMPLING TIME 0855

ORGANIC TRAFFIC NUMBER EKQ-79

INORGANIC TRAFFIC NUMBER MEKB-74

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz.	METALS / CN^-	134280	0144013
8oz.	EXTRACTABLE	134281	0144013
2-120ml	VOA	134282-83	W0172013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S5

SAMPLING DATE 10/18/90 SAMPLING TIME 0920

ORGANIC TRAFFIC NUMBER EKQ-80

INORGANIC TRAFFIC NUMBER MEKB-75

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz.	METALS / CN^-	134284	0144013
8oz.	EXTRACTABLE	134285	0144013
2-120mL	VOA	134286-87	W0172013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S6

SAMPLING DATE 10/18/90 SAMPLING TIME 0915

ORGANIC TRAFFIC NUMBER EKQ-81

INORGANIC TRAFFIC NUMBER MEKB-76

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz.	METALS / CN^-	134288	0144013
8oz.	EXTRACTABLE	134289	0144013
2-120ml	VOA	134290-91	W0172013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S7

SAMPLING DATE 10/18/90 SAMPLING TIME 0915

ORGANIC TRAFFIC NUMBER EKQ-82

INORGANIC TRAFFIC NUMBER MEKB-77

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz	METALS / CN^-	134292	0137013
8oz.	EXTRACTABLE	134293	0137013
2-120ml	VOA	134294-95	W0201013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S8

SAMPLING DATE 10/18/90 SAMPLING TIME 0915

ORGANIC TRAFFIC NUMBER EKQ-83

INORGANIC TRAFFIC NUMBER MEKB-78

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz.	METALS / CN^-	134296	0137013
8oz.	EXTRACTABLE	134297	0137013
2-120ml	VOA	134298-99	W0201013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

SAMPLE DESCRIPTION

SITE NAME/TDD# LAKE ABRAMS HOLDING PONDS

CASE NUMBER 15113

SAMPLE #/STATION LOCATION S9

SAMPLING DATE 10/18/90 SAMPLING TIME 0940

ORGANIC TRAFFIC NUMBER EKQ-84

INORGANIC TRAFFIC NUMBER MEKB-79

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
8oz	METALS / CN^-	134300	0137013
8oz.	EXTRACTABLE	134301	0137013
2-120ml	VOA	134302-03	W0201013

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: BLACK LOAM

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT:

BAGS OF ICE OVER SAMPLES

INSTRUMENT READINGS

pH - N/A

CONDUCTIVITY - N/A

TEMPERATURE - N/A

This is your 1st Memo

Lake Abrams Holding Ponds/Nelson

#15113

① on inorganic COC, neither grab or composite is marked

Please submit a typewritten memo for #1

Thanks
Cathy

WELL LOG AND DRILLING REPORT

WL-2

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus 12, Ohio

PLEASE USE PENCIL OR TYPEWRITER DO NOT USE INK.

Nº 288940

County Cuyahoga Township Middleburg ~~Hts.~~ Section of Township

Owner George Leinweber Address 7002 Engle Rd.

Location of property 7002 Engle Rd., Middleburg Hts., Ohio

CONSTRUCTION DETAILS

Casing diameter 5" Length of casing 25'

Type of screen - Length of screen -

Type of pump Jet

Capacity of pump

Depth of pump setting 30''

Date of completion Oct. 24, 1963

BAILING OR PUMPING TEST

Pumping Rate G.P.M. Duration of test hrs.

Drawdown 5 ft. Date Oct. 24, 1963

Static level-depth to water 15 ft.

Quality (clear, cloudy, taste, odor) Clear

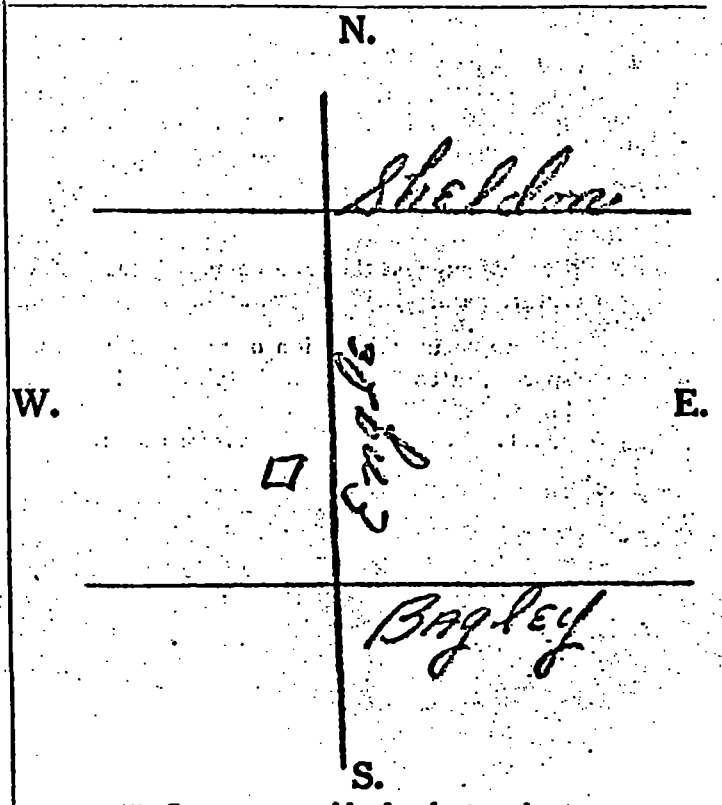
Pump installed by George Depew

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	6 Ft.
Clay & Sand	6	9
Blue Clay	9	22
Sandstone	22	40
Water at 35''		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm George I. Depew Date Oct. 24, 1963

Address 18630 Howe Rd., Strongsville 36, Ohio Signed George I. Depew

WL-3

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio

PLEASE USE PENCIL OR TYPEWRITER. DO NOT USE INK.

No. 253110

County Cuyahoga Township Middleburg Section of Township NW OF TH SE

Owner W. Crumbaker Address 7044 Engle Rd Middleburg Hts Ohio

Location of property 1/4 M. N of Bagley Rd on Engle Rd

CONSTRUCTION DETAILS

Casing diameter 5" Length of casing 32'

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping rate 30 G.P.M. Duration of test hrs.

Drawdown 0 ft. Date 8-17-60

Developed capacity

Static level—depth to water 18 ft.

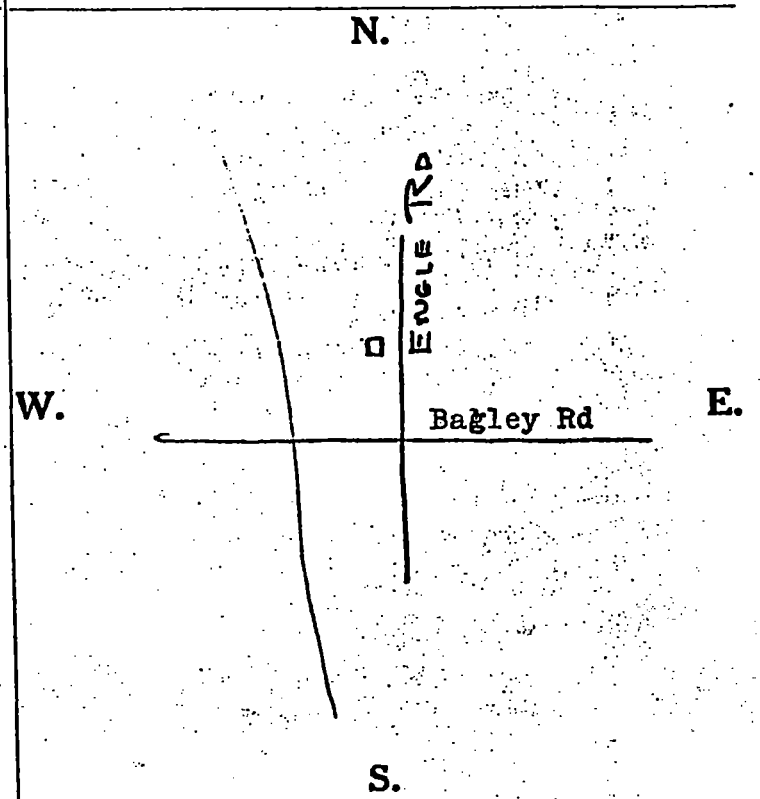
Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Sandy Clay & Gravel	0 Feet	31' Ft.
Sand Stone	31'	39'
Water 36'		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm R E WERSHING
RD # 1 HINCKLEY, OHIO

Address

Date 8-18-60

Signed R E Wershing

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

PLEASE USE PENCIL OR TYPEWRITER
DO NOT USE INK.

No. 209460
WL-4

County Cuyahoga Township Middleburg Section of Township NW of the SE

Owner John Schmidt Address 6860 Fry Rd Middleburg Hts. Ohio

Location of property 6858 Fry Rd 1/4 M N of Bagley Rd

CONSTRUCTION DETAILS

Casing diameter 6" Length of casing 16'

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping Rate 20 G.P.M. Duration of test hrs.

Drawdown 23 ft. Date 3-9-65

Static level-depth to water 6 ft.

Quality (clear, cloudy, taste, odor) clear

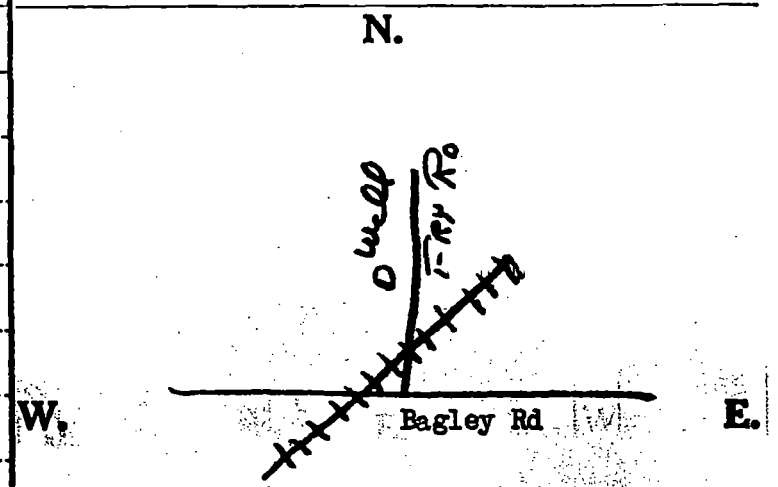
Pump installed by

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Sandy Clay	0 Feet	8 Ft.
Sand Stone	8	50'
Water 43'		
E. W.		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm R E WERSHING Date 3-10-65

Address 2175 HINCKLEY HILLS HINCKLEY, OHIO Signed R E Wershing

*If additional space is needed to complete well log, use next consecutive numbered form.

(135)

WELL LOG AND DRILLING REPORT

WL-5

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

PLEASE USE PENCIL OR TYPEWRITER
DO NOT USE INK.

№ 364952

County Cuyahoga Township Berea Section of Township

Owner St Mary's Catholic Church Address 250 Kraft St., Berea, O.

Location of property Same

CONSTRUCTION DETAILS

Casing diameter 8" Length of casing 18'

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping Rate 15 G.P.M. Duration of test 4 hrs.

Drawdown off bottom ft. Date 7/15/67

Static level-depth to water 20 ft.

Quality (clear, cloudy, taste, odor)

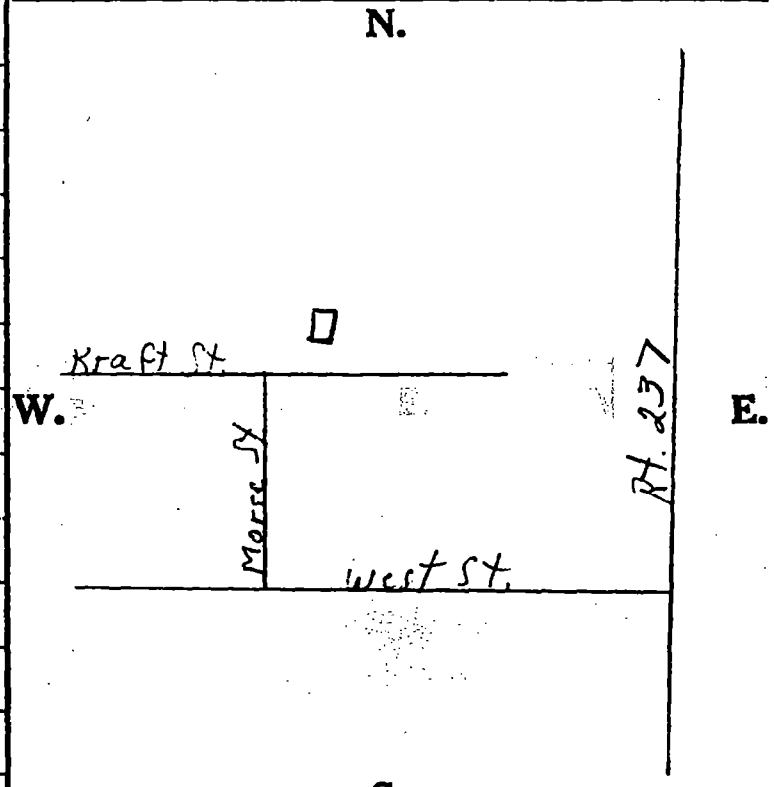
Pump installed by

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Yellow Sandy Clay	0 Feet	17 Ft.
Sandstone	17	103
Red Shale	103	105

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm

Address

Date 7/15/67

Signed Donald Schneider

*If additional space is needed to complete well log, use next consecutive numbered form.

(208)

10/23/90

Lake Abrams — Inorganic
soil sample MEKB 76
(S6) was dropped on laboratory floor.
Crl called to ask if they should
analyze. Mel Kaminsky and
Andrea Davis made the
decision to analyze. The
sample was not thought
to be the background.

A. Davis

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio

PLEASE USE PENCIL OR TYPEWRITER. DO NOT USE INK.

WL-1

No. 258378

County Cuyahoga Township Middleburg Hts Section of Township

Owner Russell Janus Address 4378 W. 150th St., Cleveland, Ohio

Location of property Engle Rd., 1/2 Mile North Bagley Rd.

CONSTRUCTION DETAILS

Casing diameter 5" Length of casing 27'

Type of screen - Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping rate G.P.M. Duration of test hrs.

Drawdown 5 ft. Date Aug. 14, 1961

Developed capacity 10 GPM

Static level—depth to water 15 ft.

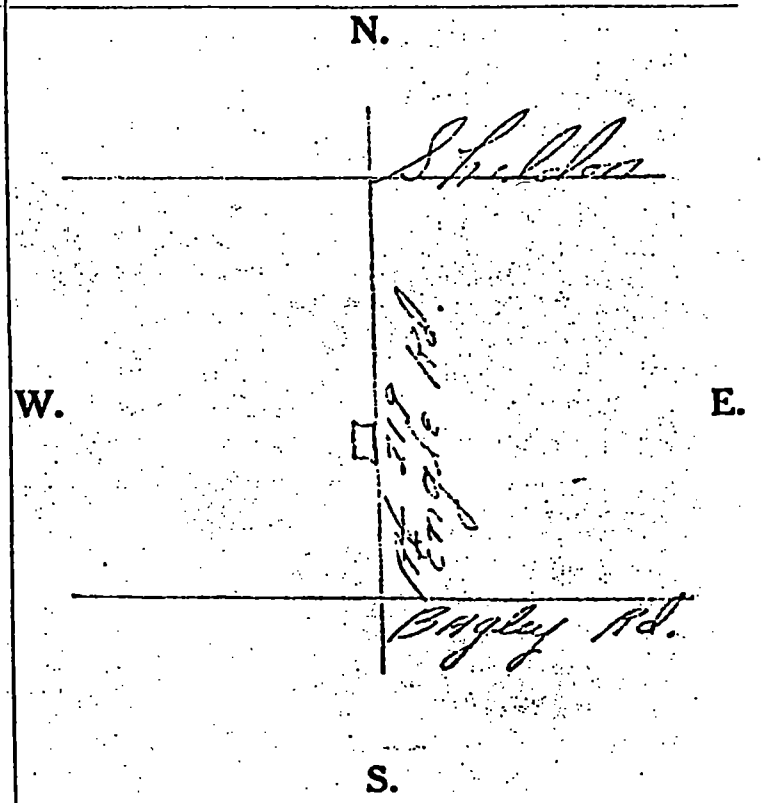
Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	6 Ft.
Clay & Sand	6	11
Blue Clay	11	22
Sandstone	22	40
Water at 33'		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Borough Drilling Co. Date Aug. 14, 1961

Address 18630 Howe Rd., Strongsville 36, Ohio Signed

CK 1/9/91

Table 4- (Cont.)

Physical State*	Waste Characteristics**	Category***	SI Memo	Sample Collection Information and Parameters	Sample Number S 1 MEKB 71	S 2 MEKB 72	S 3 MEKB 73	S 4 MEKB 74	S 5 MEKB 75	S 6 MEKB 76	S 7 MEKB 77	S 8 MEKB 78	S 9 MEKB 79	10	11	12
				Analyte Detected (values in mg/kg or µg/L)												
Solid	A,D	MES	CSC/CWC	aluminum	9680	11100	8870	10400	11300	10800	12600	5890	8420			
Solid	A,D	MES	EM	antimony		6BNJ	3.8BNJ	4.9BNJ		9.6BNJ	5.2BNJ					
Solid	A,D	MES	EM	arsenic	8	10.9	7.7	13.4	7.1	12.5	7.6	4.8	3.2			
Solid	A,D	MES	CSC/CWC	barium	129	172	126	172	177	159	225	70.2	57.2			
Solid	A,D	MES	M	beryllium	1B	1.4B	0.97B	1.3	1.4	1.4B	1.8	0.58B	0.38B			
Solid	A,D	MES	EM	cadmium	18.4NJ	45NJ	27.1NJ	47.6NJ	22.6NJ	60.7NJ	44.3NJ	11.5NJ	0.68BNJ			
Solid	D	MES	CSC/CWC	calcium	31300	34400	25800	29100	52300	25000	44600	13900	236B			
Solid	A,D	MES	EM	chromium	75.3ENJ	181ENJ	112ENJ	169ENJ	119ENJ	185ENJ	186ENJ	63.6ENJ	10.9ENJ			
Solid	A,D	MES	EM	cobalt	11.9B	14B	12.2B	13.6	10.5B	14.3B	12.5B	9B	9.6B			
Solid	A,D	MES	EM	copper	108	211	146	221	135	245	203	67.4	9.4			
Solid	A,D	MES	EM,CSC,CWC	iron	40000	70900	49700	62900	44200	73200	59900	30600	17100			
Solid	A,D	MES	EM	lead	791	1560	1010	1760	868	2060	1570	385	34.9			
Solid	A,D	MES	CSC/CWC	magnesium	6450	5340	5560	5660	6920	5540	7000	2810	1320B			
Solid	A,D	MES	EM	manganese	2150	4480	2990	5040	3220	5750	5650	1440	309			
Liquid	A,D	MES	EM	mercury												
Solid	A,D	MES	EM	nickel	33.4	60.8	47.3	55.3	40.5	56.4	53.7	27.1	8.2B			
Solid	D	MES	CSC,CWC	potassium	1600	2100	1740	2420	1760	3360	2650	967B	527B			
Solid	A,D	MES	M	selenium	0.74BWNJ	1.5B+NJ	1.1BNJ	1.1BNJ	0.77BNJ	1.6NJ	1.7NJ	0.53BNJ				
Solid	A,D	MES	EM	silver	R	R	R	R	R	R	R	R	R			
Solid	D	MES	CSC,CWC	sodium	831B	450B	694B	990B	767B	1950	1460B	286B	76.8B			
Solid	A,D	MES	EM	thallium												
Solid	A,D	MES	EM	vanadium	15.7	23.2	16.5	19.5	15.8	20.7	17.5	13.3	20.1			
Solid	A,D	MES	CWL,CSC,EM	zinc	3710	9970	5500	10100	4750	13200	9230	2150	50			
Solid	A	IOC	IOC	cyanide			2.6	2.8	3.4	3.1	4.6		2.3			

— Not detected.

RESULTS OF CHEMICAL ANALYSIS OF
FIT-COLLECTED _____ SAMPLES

CK 1/9/91

Physical State*	Waste Characteristics*	Category***	SI Memo	Sample Collection Information and Parameters / Compound Detected (values in µg/l or µg/kg)	S 1	S 2	S 3	S 4	S 5	S 6	S 7	S 8	S 9	10	11	12
				Date	10/18/90	10/18/90	10/18/90	10/18/90	10/18/90	10/18/90	10/18/90	10/18/90	10/18/90			
				Time	8:55	8:50	8:55	8:55	9:20	9:15	9:15	9:15	9:40			
				Well Depth (feet)												
				CRL Log Number												
				CLP Organic Traffic Report Number	EHQ 76	EHQ 77	EHQ 78	EHQ 79	EHQ 80	EHQ 81	EHQ 82	EHQ 83	EHQ 84			
				CLP Inorganic Traffic Report Number												
				Temperature (°C)												
				Specific Conductivity (µmhos/cm)												
				pH												
				Volatile Organics												
Gas	A,D,G,I	OCC	HH	chloroethane												
Gas	A,D,G,I	OCC	HH	bromoethane												
Gas	A,D,G,I	OCC	HH	vinyl chloride												
Gas	A,D,G,I	OCC	HH	chloroethane												
Liquid	A,D,H,I	SOL	HH,CLA	methylene chloride	44J	37J	40J	57J	80J	44J	96J	32J	35J			
Liquid	E,H,I,A	SOL	K,CLA	acetone												
Liquid	A,H,I	SOL	SH	carbon disulfide												
Liquid	A,D,G,I	SOL	HH	1,1-dichloroethene												
Liquid	A,D,H,G	SOL	HH	1,1-dichloroethane												
Liquid	A,D,G	SOL	HH	1,2-dichloroethene (total)												
Liquid	A,D	SOL	HH	chloroform												
Liquid	A,D,G	SOL	HH	1,2-dichloroethane												
Liquid	A,E,G	SOL	K,CLA	2-butanone (MEK)												
Liquid	A,D	SOL	HH	1,1,1-trichloroethane												
Liquid	A,D	SOL	HH	carbon tetrachloride												
Liquid	A,D,G	SOL	HYD	vinyl acetate												
Liquid	A,D	OCC	HH	bromodichloromethane												
Liquid	A,D,G	SOL	HH	1,2-dichloropropane												
Liquid	A,D,G	SOL	HH	cis-1,3-dichloropropene												
Liquid	A,D,G,B	SOL	HH	trichloroethene												
Liquid	A,D	OCC	HH	dibromochloromethane												
Liquid	A,D	SOL	HH	1,1,2-trichloroethane												
Liquid	A,G	SOL	A	benzene												
Liquid	A,D,G	SOL	HH	trans-1,3-dichloropropene												
Liquid	A,D	SOL	HH,CLA	bromoform												
Liquid	A,E,G	SOL	K,CLA	4-methyl-2-pentanone												
Liquid	A,E,G	SOL	K	2-hexanone												
Liquid	A,D	SOL	HH	tetrachloroethene												
Liquid	A,G,E	SOL	A,CLA	toluene												
Liquid	A,D,E	SOL	HH	1,1,2,2-tetrachloroethane						10J						
Liquid	A,D,G	SOL	HA	chlorobenzene												
Liquid	A,G	SOL	A	ethylbenzene												
Liquid	A,D,G	OCC	A	styrene												
Liquid	A,G	SOL	A	xylenes (total)												

Table 4- (Cont.)

Physical State*	Waste Characteristics**	Category***	SI Memo	Sample Collection Information and Parameters	Sample Number 1	2	3	4	5	6	7	8	9	10	11	12
				Semivolatile Organics												
S, thick L	A,B,E	OCC	P	phenol	700J	1500	1700	1500	760J	8000	2800					
Liquid	A,D,B	OCC	HH	bis(2-chloroethyl)ether												
Liquid	A,D,B	OCC	P	2-chlorophenol												
Liquid	A,D,H	SOL	HA	1,3-dichlorobenzene												
Solid	A,D,H	OCC	HA	1,4-dichlorobenzene												
Liquid	A,D,H	SOL	A	benzyl alcohol												
Liquid	A,D,H	OCC	HA	1,2-dichlorobenzene												
Liquid	A,B	OCC	P	2-methylphenol						1300	940J					
	A,D	OCC	HH	bis(2-chloroisopropyl)ether												
Liquid	A,B	OCC	P	4-methylphenol						1700	1300					
	A	OCC	H-Amine	n-nitroso-di-n-dipropylamine												
Solid	A,D	OCC	HH	hexachloroethane												
Liquid	A,D	OCC	HA	nitrobenzene												
Liquid	A,D	OCC	H	isophorone												
Solid	A,D	OCC	P	2-nitrophenol												
Solid	A,B	OCC	P	2,4-dimethylphenol						1300	1000					
Solid	A	OCC	A	benzoic acid									5700			
	A,D	OCC	HH	bis(2-chloroethoxy)methane												
Liquid	A,D	OCC	P	2,4-dichlorophenol												
Liquid	A,D	OCC	HA	1,2,4-trichlorobenzene												
Solid	A	OCC	PAH	naphthalene	380J	960	850	1100	470J	1900	1400					
Solid	A,D	OCC	HH	4-chloroaniline												
Liquid	A,D,B	OCC	HH	hexachlorobutadiene												
Solid	A,D	OCC	P	4-chloro-3-methylphenol												
Liquid	A,D	OCC	PAH	2-methylnaphthalene	460J	1400	1000	1500	630J	2500	2100					
Liquid	A,D,B	OCC	HH	hexachlorocyclopentadiene												
Solid	A,D	OCC	P	2,4,6-trichlorophenol												
Solid	A,D	OCC	P	2,4,5-trichlorophenol												
Liquid	A,D	OCC	PAH	2-chloronaphthalene												
Solid	A,D	OCC	HH	2-nitroaniline												
Liquid	A,D	OCC	PH,CLA	dimethylphthalate												
Solid	A,D	OCC	PAH	acenaphthylene												
Solid	A,D	OCC	HA	2,6-dinitrotoluene												
Solid	A,D	OCC	HH	3-nitroaniline												
Solid	A,D	OCC	PAH	acenaphthene												
Solid	A,D,G	OCC	P	2,4-dinitrophenol												
Solid	A,D	OCC	P	4-nitrophenol												
Solid	A,D	OCC	A	dibenzofuran						600J						
Solid	A,D	OCC	HA	2,4-dinitrotoluene												
Liquid	A,D	OCC	PH	diethylphthalate												
	A,D	OCC	HH	4-chlorophenyl-phenylether												
Solid	A,D	OCC	PAH	fluorene				440J		390J						
Solid	A,D,E	OCC	HH	4-nitroaniline												
Solid	A,D	OCC	P	4,6-dinitro-2-methylphenol												
Solid	A,D	OCC	HH	n-nitrosodiphenylamine												
Liquid	A,D	OCC	HH	4-bromophenyl-phenylether												
Solid	A,D	OCC	HA	hexachlorobenzene												
Solid	A,D	OCC	P	pentachlorophenol												
Solid	A,D	OCC	PAH	phenanthrene	2100	910	1700	2500	1600	2100	1700	590J				

Table 4- (Cont.)

Physical State*	Waste Characteristics**	Category***	SI Memo	Sample Collection Information and Parameters	Sample Number 1	2	3	4	5	6	7	8	9	10	11	12
				Semivolatile Organics, Cont.												
Solid	A,D	OCC	PAH	anthracene	280J			510J		330J						
Liquid	A,D	OCC	PH,CLA	di-n-butylphthalate												
Solid	A,D	OCC	PAH	fluoranthene	1900	280J	1100	1600	1500	910J	770J	360J				
Solid	A,D	OCC	PAH	pyrene	2800	570J	2100	2100	2000	1400	1500	510J				
Liquid	A,D	OCC	PH,CLA	butylbenzylphthalate												
	A,D	OCC	HA	3,3'-dichlorobenzidine												
Solid	A,D	OCC	PAH	benzo[a]anthracene	1100	320J	900	950	1000	610J	550J					
Solid	A,D	OCC	PAH	chrysene	1200	480J	1200	1200	1400	920J	820J	350J				
Liquid	A,D	OCC	PH,CLA	bis(2-ethylhexyl)phthalate	3300	5000	7700	5100	2200	8200	8500	1200				
Liquid	A,D	OCC	PH,CLA	di-n-octylphthalate	400J	650J		560J		900J	690J					
Solid	A,D	OCC	PAH	benzo[b]fluoranthene	1600	600J	1100	1500	1300	920J	750J	300J				
Solid	A,D	OCC	PAH	benzo[k]fluoranthene	1100	410J	690J	850J	960	640J	680J	280J				
Solid	A,D,K,L	OCC	PAH	benzo[a]pyrene	1200	430J	780J	890	960	610J	540J	270J				
Solid	A,D	OCC	PAH	indeno[1,2,3-cd]pyrene	1800		1100	1300	1300	590J	350J					
Solid	A,D	OCC	PAH	dibenzo[a,h]anthracene	560J											
Solid	A,D	OCC	PAH	benzo[g,h,i]perylene	1200		960	1100	1100	680J	770J					
				Pesticides/PCBs												
Solid	A,D	PSD	PEST	alpha BHC												
Solid	A,D	PSD	PEST	beta BHC												
Solid	A,D	PSD	PEST	delta BHC												
Solid	A,D	PSD	PEST	gamma BHC (Lindane)												
Solid	A,D	PSD	PEST	Heptachlor												
Solid	A,D	PSD	PEST	Aldrin												
Solid	A,D	PSD	PEST	Heptachlor epoxide												
Solid	A,D	PSD	PEST	Endosulfan I												
Solid	A,D,E	PSD	PEST	Dieldrin												
Solid	A,D	PSD	PEST	4,4'-DDE												
Solid	A,D	PSD	PEST	Endrin												
Solid	A,D	PSD	PEST	Endosulfan II												
Solid	A,D	PSD	PEST	4,4'-DDD												
Solid	A,D	PSD	PEST	Endosulfan sulfate												
Solid	A,D	PSD	PEST	4,4'-DDT												
Solid	A,D	PSD	PEST	Methoxychlor (Marlate)												
Solid	A,D	PSD	PEST	Endrin ketone												
Solid	A,D	PSD	PEST	alpha Chlordane												
Solid	A,D	PSD	PEST	gamma Chlordane												
Solid	A,D	PSD	PEST	Toxaphene												
Liquid	A,D	OCC	PCB	Aroclor 1016												
Liquid	A,D	OCC	PCB	Aroclor 1221												
Liquid	A,D	OCC	PCB	Aroclor 1232												
Liquid	A,D	OCC	PCB	Aroclor 1242					420							
Liquid	A,D	OCC	PCB	Aroclor 1248												
Liquid	A,D	OCC	PCB	Aroclor 1254												
Liquid	A,D	OCC	PCB	Aroclor 1260					390							

COMPOUND QUALIFIERS	DEFINITION	INTERPRETATION
U	Indicates compound was analyzed for but not detected.	Compound was not detected at or above the CRQL.
J	Indicates an estimated value.	Compound value may be semiquantitative.
UJ	Quantitation limit is estimated due to a quality control (QC) protocol.	Compound was not detected if value is at CRQL, e.g., 10U UJ. If a value is reported with a UJ above CRQL and it is <5x blank concentration (10x for common laboratory artifacts), the compound is detected but may be a laboratory artifact and not attributable to the sample.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/µL in the final extract shall be confirmed by GC/MS.	Compound was confirmed by GC/MS and is quantitative. Use pesticide/PCB listed value.
B	This flag is used when the compound is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.	Compound value may be semiquantitative if it is <5x the blank concentration (<10x the blank concentrations for common laboratory artifacts: phthalates, methylene chloride, acetone, toluene, 2-butanone).
E	This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods.	Compound value may be semiquantitative. There should be another analysis with a D qualifier, which is to be used.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.	Alerts data user to a possible change in the CRQL. Data is quantitative.
A	This flag indicates that a TIC is a suspected aldol-condensation product.	Alerts data user of a laboratory artifact in the TICs only.
R	Results are unusable due to a major violation of QC protocol.	Compound value is not usable.

ANALYTE QUALIFIERS		DEFINITION	INTERPRETATION
E	E	Estimated or not reported due to interference. See laboratory narrative.	Analyte or element was not detected, or value may be semiquantitative.
S	S	Analysis by Method of Standard Additions.	Value is quantitative.
R	N	Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semi-quantitative.
*	*	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be quantitative or semiquantitative.
+	+	Correlation coefficient for standard additions is less than 0.995. See review and laboratory narrative.	Data value may be biased.
[ ]	B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
UJ		DL is estimated because of a QC protocol. DL is possibly above or below CRDL.	Compound or element was not detected.
J		Value is above CRDL and is an estimated value because of a QC protocol.	Value may be semiquantitative.
U	U	Compound was analyzed for but not detected.	Compound was not detected at or above the CRDL.
	M	Duplicate injection precision not met.	Value may be semiquantitative.
	W	Post-digestion spike for furnace AA analysis is out of control limits (35-115%), while sample absorbance is <50% of spike absorbance.	Value may be semiquantitative.
	R	Results are unusable due to a major violation of QC protocols.	Analyte value is not usable.

Source: Ecology and Environment, Inc. 1989.