SITE INSPECTION REPORT
FOR
MEDUSA AGGREGATES
KANKAKEE, ILLINOIS
ILD065247116
F05-8704-073

PAN: FIL0394SA

SEPTEMBER 29, 1987

RECEIVED
1987
PLANNING AND CONTRACTS
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ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

International Specialists in the Environment

MEMORANDUM

DATE: September 29, 1987

TO: File

FROM: Kurt Sims K.S.

SUBJECT: Illinois/F05-8704-073/FIL0394SA
Kankakee/Medusa Aggregates
ILD065247116

Medusa Aggregates is an abandoned landfill located approximately 9 miles west of the City of Kankakee, Illinois, (T.30N.,R.10E.,sec.1,NE 1/4,SE 1/4). The landfill had operated from 1930 to 1967. The site is 33 acres in area and is located in an abandoned quarry which is directly north of another abandoned quarry. Vulcan Materials Company has owned the adjacent quarry since 1982. The landfill site was either owned or operated by Medusa Aggregates from approximately 1980 to 1982. Between 1930 and 1980, ownership of the site is not clearly documented. R.R. Sanitary Fill Ltd. and Huber Disposal Company operated or owned the site from 1930 to 1980. Ownership of the site from 1918 to 1929 is unknown, but prior to 1918 Lehigh Stone Quarry Company owned the property. The Cowhey family of Chicago, Illinois currently owns the property. There is no record of hazardous materials being disposed of on-site.

The site was originally identified by the Illinois Environmental Protection Agency (IEPA) in the form of a preliminary assessment submitted to the United States Environmental Protection Agency (U.S. EPA). Complaints were received by U.S. EPA in February 1980 that alleged illegal dumping.

An Ecology and Environment, Inc., Field Investigation Team (E & E-FIT) inspected the site, interviewed representatives, and collected two surface water and five soil samples at the site. The work plan was

recycled paper

followed throughout the inspection. Samples were collected to identify waste characteristics of the fill and to test for contamination of adjacent quarry waters.

The landfill site has a rolling, hilly terrain formed by deposits of trash and refuse and is heavily overgrown with vegetation. No cover material was used, as is evidenced by the numerous holes and subsidence occuring on-site. There is no fencing or restriction to access at the site. Results of the sampling (sample W1) indicate that the quarry water is not contaminated. A surface water pond on-site (sample W2) contained trace amounts of heavy metals. Soil samples indicate polyaromatic hydrocarbons (PAHs), 4,4'-DDT, heavy metals, and mercury are present on-site (refer to analytic data tables).

Most drinking water wells in the area draw from depths of approximately 110 to 150 feet. Many well logs of the site area indicate a clay layer is present. Data from well logs and the fact that limestone was observed at and near the surface in nearby quarries aided in determining that the clay layer is not continuous.

A population determination indicates less than 2,000 people live within a 3-mile radius of the site. Approximately 100 people live within 1 mile of the site.

250:6T

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Environmental Protection
Agency

Remedial Response
Washington, DC 20460

July, 1981

EPA

Potential Hazardous Waste Site

Site Inspection Report

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	065 247 116

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
MEDUSA AGGREGATES	RR #6 BOX 111A

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
KANKAKEE	IL	60901	KANKAKEE	091	

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
--- --- ---.-	--- --- ---.-	☒ A. PRIVATE ☐ B. FEDERAL ____ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
6 18 87 (MONTH DAY YEAR)	☐ ACTIVE ☒ INACTIVE	1930 1966 (BEGINNING YEAR ENDING YEAR) ____ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ☒ B. EPA CONTRACTOR ECOLOGY & ENVIRONMENT / FIT (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR ____ (Name of firm)

☐ E. STATE ☐ F. STATE CONTRACTOR ____ (Name of firm) ☐ G. OTHER ____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO
KURT SIMS	GEOLOGIST	ECOLOGY & ENVIRONMENT	(312) 663-9415
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
BOB HINGTGEN	HYDROLOGIST	"	( ) "
GARY HOCHGRAF	CARTOGRAFER	"	( ) "
KEVIN LYONS	ENVIRONMENTAL SPECIALIST	"	( ) "
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
RON BARRON	SUPERVISOR	VULCAN MATERIALS LEIGH MAIN QUARRY	(815) 933-4481
DENNIS COWHEY	OWNER	5310 W. AINSLIE CHI. IL.	(312) 685-5600
JIM COWHEY	OWNER	"	( ) "
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	10 AM	90° - HUMID - CLEAR - LIGHT WIND VARIABLE

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
DON JOSIF	USEPA - REGION V	(312) 886-6393

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
KURT SIMS	USEPA FIT	ECOLOGY & ENVIRONMENT	312/663-9415	9 30 87 (MONTH DAY YEAR)

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
LD	065247116

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☒ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER _____ (Specify)
- ☐ E. SLURRY
- ☐ F. LIQUID
- ☐ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS UNK

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- ☐ A. TOXIC
- ☐ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☐ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE	UNKNOWN		
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	COPPER	7440-50-8	LAND FILL	2340	Mg/Kg
MES	ZINC	7440-66-6	"	194000	Mg/Kg
MES	LEAD	7439-92-1	"	39800	Mg/Kg
MES	MERCURY	7439-97-6	"	5.2	Mg/Kg
OCC	ANTHRACENE	120-12-7	"	1000	Mg/Kg
OCC	PYRENE	129-00-0	"	5900	Mg/Kg
OCC	INDENO(1,2,3-cd)PYRENE	193-39-5	"	1900	Mg/Kg
MES	CADMIUM	7440-43-9	"	2240	Mg/Kg
MES	ARSENIC	7440-38-2	"	71	Mg/Kg
PSD	4,4-DDT	50-29-3	"	180	Mg/Kg
OCC	PHENANTHRENE	85-01-8	"	4600	Mg/Kg

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

-- ECOLOGY & ENVIRONMENT/FIT FILES
-- SAMPLE LAB DATA SHEETS
-- STATE FILES

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
ILD	065247116

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 1550
04 NARRATIVE DESCRIPTION
SHALLOW AQUIFER WELLS IN RURAL AREA MAY BE AFFECTED BY INFILTRATION OF PRECIPITATION CONTAINING CONTAMINANTS FOUND IN SOILS ON-SITE.

01 [X] B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~100
04 NARRATIVE DESCRIPTION
SURFACE RUNOFF FROM SITE MAY ENTER DITCHES AND PONDS IN NEARBY ABANDONED QUARRY.

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION
NO DATA AVAILABLE. SITE IS HEAVILY VEGETATED. NO BURNING REPORTED.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION
SITE HAS NO HISTORY OF FLAMMABLE OR EXPLOSIVE CONDITIONS.

01 [X] E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~100
04 NARRATIVE DESCRIPTION
NO FENCES OR RESTRICTION TO ACCESS. AREA IS RURAL AND SITE DOES NOT APPEAR TO BE USED FOR RECREATION.

01 [X] F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: 6-18-87) — ☐ POTENTIAL — [X] ALLEGED
03 AREA POTENTIALLY AFFECTED: 33 (acres)
04 NARRATIVE DESCRIPTION
SOILS AT SURFACE OF SITE CONTAIN HEAVY METALS AND POLYAROMATIC HYDROCARBONS.

01 [X] G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~1550
04 NARRATIVE DESCRIPTION
PRIVATE WELLS IN 3-MILE RADIUS DRAW MAINLY FROM SHALLOW AQUIFER. NO BARRIERS TO CONTAMINANT TRANSFERENCE.

01 [X] H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: UNK
04 NARRATIVE DESCRIPTION
AT THE TIME OF OPERATION WORKERS MAY HAVE BEEN EXPOSED. SITE HAS BEEN CLOSED SINCE 1967.

01 [X] I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~1000
04 NARRATIVE DESCRIPTION
THE AREA NEXT TO THE SITE IS OCCASIONALLY USED FOR TARGET SHOOTING AND SWIMMING IN OLD QUARRY.

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
ILD	065247116

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 [X] J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION
LOW AREAS THAT MAY HOLD PONDED WATER HAVE LITTLE OR NO VEGETATION, THE SITE IN GENERAL IS HEAVILY OVERGROWN WITH VEGETATION.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION (include name(s) of species)
NONE NOTED OR DOCUMENTED

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION
NONE NOTED OR DOCUMENTED

01 [X] M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~1000 — 04 NARRATIVE DESCRIPTION
SOME AREAS OF THE SITE ARE UNCOVERED AND WASTES ARE EXPOSED. NO LINERS OR BARRIERS REPORTED.

01 [X] N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION
CONTAMINATION RUNOFF TO ABANDONED QUARRY, ROAD, AND FARM FIELDS MAY OCCUR.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION
NO SEWERS, DRAINS OR WASTE COLLECTION SYSTEMS IN THIS AREA.

01 [X] P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: FEB. 1980) — ☐ POTENTIAL — [X] ALLEGED
04 NARRATIVE DESCRIPTION
ILLEGAL DUMPING REPORTED TO USEPA IN THE FORM OF A COMPLAINT. DUMPED LOADS OF TRASH NOTED DURING F.I.T. INVESTIGATION NEAR NORTHWEST SECTION.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
ANALYSIS OF SOIL SAMPLES INDICATE HEAVY METAL AND ORGANIC CONTAMINATION AT SURFACE OF SITE.

III. TOTAL POPULATION POTENTIALLY AFFECTED: ~1550

IV. COMMENTS

NA

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- E&E/FIT FILES
- STATE FILES
- LAB ANALYSIS OF SAMPLES TAKEN 6-18-87

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
LD	065 247116

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES	NO PERMITS ISSUED			
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☒ F. LANDFILL	UNK.	
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply): NONE
- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER
- ☐ A. BUILDINGS ON SITE: NO

06 AREA OF SITE: ~33 (Acres)

07 COMMENTS

LANDFILL OPERATED FROM 1930 TO 1967, NO PERMITS, NO CONTAINMENT, NO COVER MATERIAL.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☒ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

NO CONTAINMENT EXCEPT A BERM ALONG EAST SIDE OF LANDFILL AT ROAD, THIS WAS INSTALLED SINCE OPERATION ENDED.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

NO FENCES OR GATES, WASTE UNCOVERED IN SOME AREAS.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

- E&E/FIT FILES
- ON-SITE INSPECTION OF 6-18-87 BY E&E/FIT
- STATE FILES

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
PA	065247116

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☐	B. ☐
NON-COMMUNITY	C. ☐	D. ☒

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☐
D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE

A. _____ (mi)
B. ~0.5 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☒ A. ONLY SOURCE FOR DRINKING
☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)
☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available)
☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER ~1550

03 DISTANCE TO NEAREST DRINKING WATER WELL ~0.5 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
6-20 (ft)	NW	45-130 (ft)	UNK (gpd)	☐ YES ☒ NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)

PRIVATE SHALLOW AQUIFER WELLS IN SCATTERED RURAL HOMES.

10 RECHARGE AREA

☒ YES ☐ NO

COMMENTS RECHARGE VIA PRECIPITATION INFILTRATION

11 DISCHARGE AREA

☐ YES ☒ NO

COMMENTS NO RIVERS OR LARGE LAKES WITHIN 3 MILES.

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE
☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
☐ C. COMMERCIAL, INDUSTRIAL
☒ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME	AFFECTED	DISTANCE TO SITE
ABANDONED QUARRY	☐	< 200 FT. (mi)
S. BONFIELD BRANCH	☐	0.25 (mi)
LEHIGH RAYMOND RUN	☐	~0.50 (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE A. ~106 NO. OF PERSONS
TWO (2) MILES OF SITE B. ~410 NO. OF PERSONS
THREE (3) MILES OF SITE C. ~1550 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION ~0.5 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE ~100

04 DISTANCE TO NEAREST OFF-SITE BUILDING ~0.25 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

RURAL FARM AREA, PRODUCTION QUARRY APPROXIMATELY 1.5 MI. SOUTHEAST OF SITE.

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	065247116

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☒ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
0 - 15 (ft)	UNK (ft)	UNK

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
32 - 30 = 2 (in)	2.5 (in)	3 %	NW	0 - 3 %

09 FLOOD POTENTIAL: SITE IS IN NA YEAR FLOODPLAIN

10 NA ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum): A. ESTUARINE NA (mi) B. OTHER > 3 (mi)

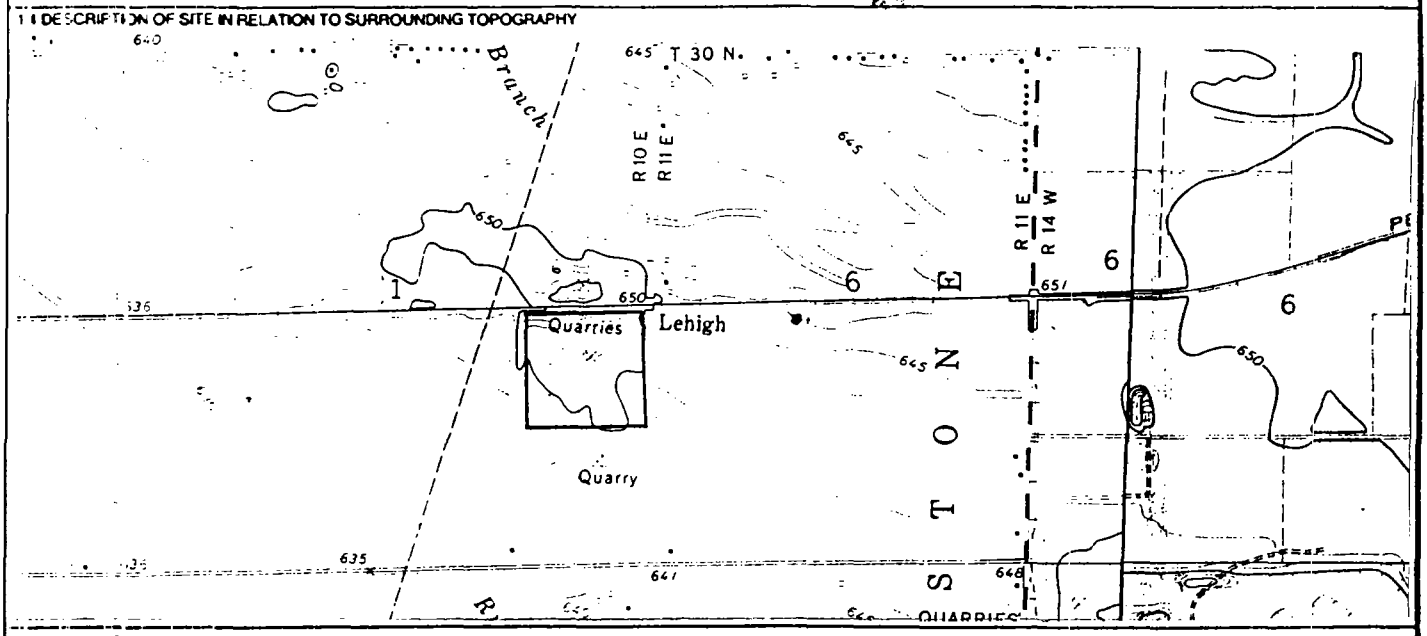
12 DISTANCE TO CRITICAL HABITAT (of endangered species): NA (mi) ENDANGERED SPECIES:

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS, NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. 1.5 (mi)	B. < 1.0 (mi)	C. > 3 (mi)	D. ~0.25 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY



VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- U.S.G.S. TOPOGRAPHIC MAPS - W. KANKAKEE AND HERSCHER 7.5 MIN. SERIES
- EPE-FIT FILES

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
ILD	065 247116

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER		C	
SURFACE WATER	2	CLAYTON & RMAL	SEPT. 1987
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	5	CLAYTON & RMAL	SEPT. 1987
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
OVA	NO READINGS ABOVE BACKGROUND
RAD-MINI	" " " "

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL

02 IN CUSTODY OF ECOLOGY & ENVIRONMENT / FIT (Name of organization or individual)

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS ECOLOGY & ENVIRONMENT / FIT

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

NA

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- E&E-FIT FILES
- STATE FILES

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	065247416

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
CONHEY		5310 W. AINSLIE ST.		CHICAGO	IL	60640

PARENT COMPANY (if applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE
NA						

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
HUBER DISPOSAL CO.		UNKNOWN				
SANITARY FILL LTD.		5310 W. AINSLIE ST.		CHICAGO	IL	60640
MEDUSA AGGREGATES						

IV. REALTY OWNER(S) (if applicable; list most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
NA						

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- STATE FILES
- E&E-FIT FILES

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
ILD	065247116

II. CURRENT OPERATOR (Provide if different from owner)			OPERATOR'S PARENT COMPANY (If applicable)		
01 NAME: ABANDONED	02 D+B NUMBER		10 NAME: NA	11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER				

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)			PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)		
01 NAME: MEDUSA AGGREGATES	02 D+B NUMBER		10 NAME: NA	11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.): UNKNOWN	04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				
01 NAME: SANITARY FILL LTD.	02 D+B NUMBER		10 NAME	11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.): SAME AS OWNER	04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				
01 NAME: HUBER DISPOSAL	02 D+B NUMBER		10 NAME	11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.): UNKNOWN	04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE	14 CITY	15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD				

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- STATE FILES
- E & E-FIT FILES

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
ILD	065247116

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
N A	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
UNKNOWN			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
UNKNOWN			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- STATE FILES
- E.$E-FIT FILES

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
LD	065 247116

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
ILD	065 247116

II. PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
NA

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

STATE FILES

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
ILD	065 247 16

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

NA

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- STATE FILES

EPA FORM 2070-13 (7-81)

Immediate Removal Action Check Sheet

	High	Moderate	Low
Fire and Explosion Hazard			
Flammable Materials NA			
Explosives NA			
Incompatable Chemicals NA			
Direct Contact with Acutely Toxic Chemicals			
Site Security NONE			
Leaking Drums or Tanks NA			
Open Lagoons or pits NO			
Materials on Surface YES			
Proximity of Population 0.5 MILES			
Evidence of Casual Site Use NO			
Contaminated Water Supply			
Exceeds 10 Day Snarl NA			
Gross Taste or Odors NO			
Alternate Water Available NO			
Potential Contamination YES			
Is the site abandoned or active?			

Comments

NA

3

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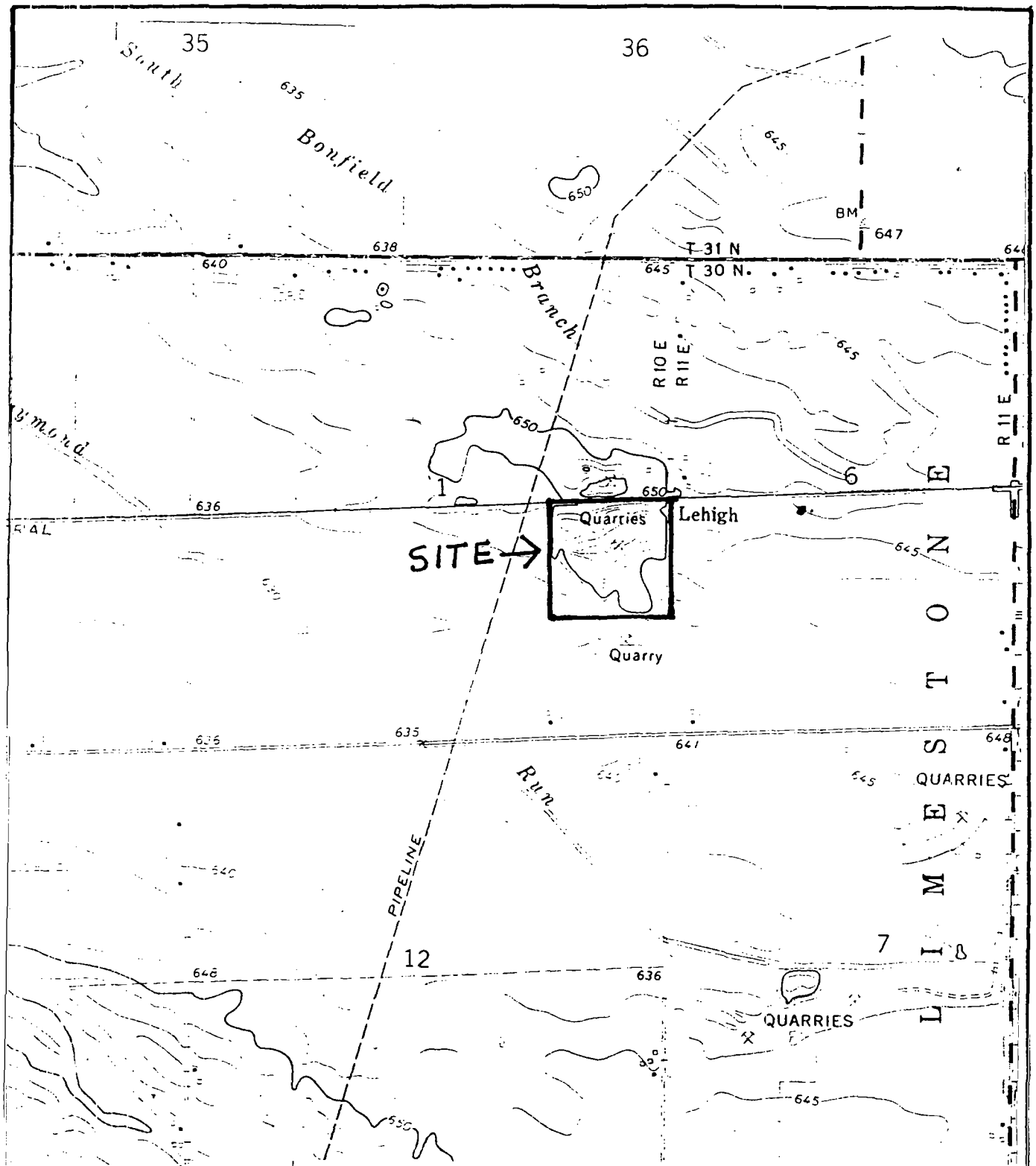
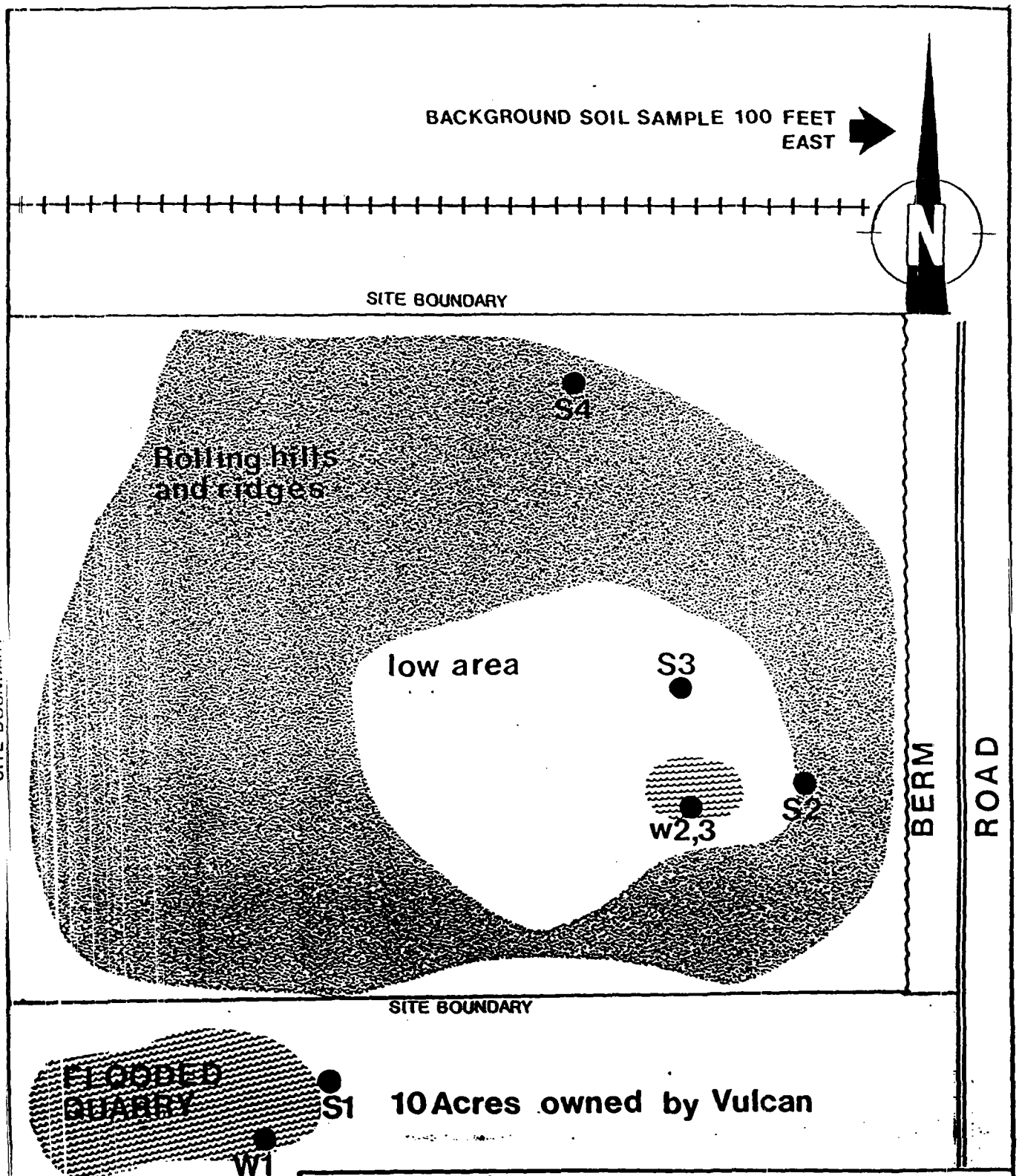


ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

TITLE SITE LOCATION	FIGURE # 1
SITE MEDUSA AGGREGATES	SCALE 1:24000
CITY KANKAKEE CO. STATE ILLINOIS	TDD # F05-8704-073
SOURCE USGS QUAD. HERSCHER, WEST KANKAKEE	DATE 1963 REVISED 1972



ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9416

TITLE SITE SKETCH	FIGURE # 2
SITE MEDUSA AGGREGATES	SCALE NTS
CITY KANKAKEE COUNTY STATE IL	TDD # F05-8704-073
SOURCE SITE INSPECTION	DATE 6-18-87
	REVISED

4

nell

FIELD PHOTOGRAPHY LOG SHEET

PAGE 1

DATE 6-18-87

TIME 11:30 (A.M.) P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW (NW) NNW

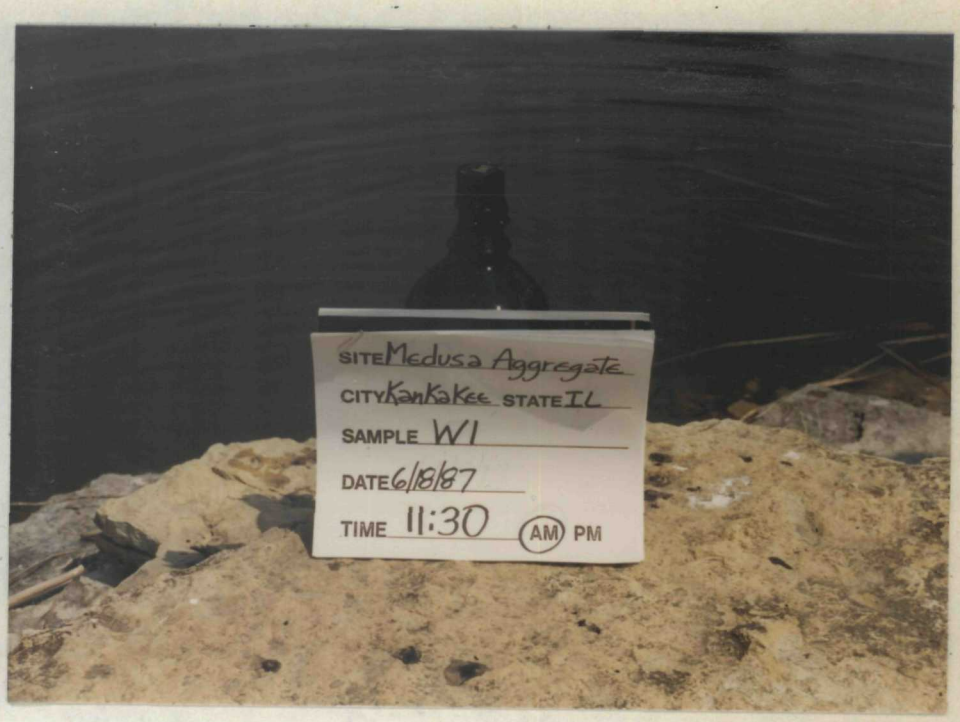
WEATHER Sunny 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) W1



DESCRIPTION: Quarry Water

DATE 6-18-87

TIME 11:30 (A.M.) P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W (WNW) NW NNW

WEATHER Sunny 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) W1

DESCRIPTION: Quarry Water

FIELD PHOTOGRAPHY LOG SHEET

PAGE 2

DATE 6-18-87

TIME 11:10/11:15 (A.M.) P.M.

DIRECTION: (N) NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

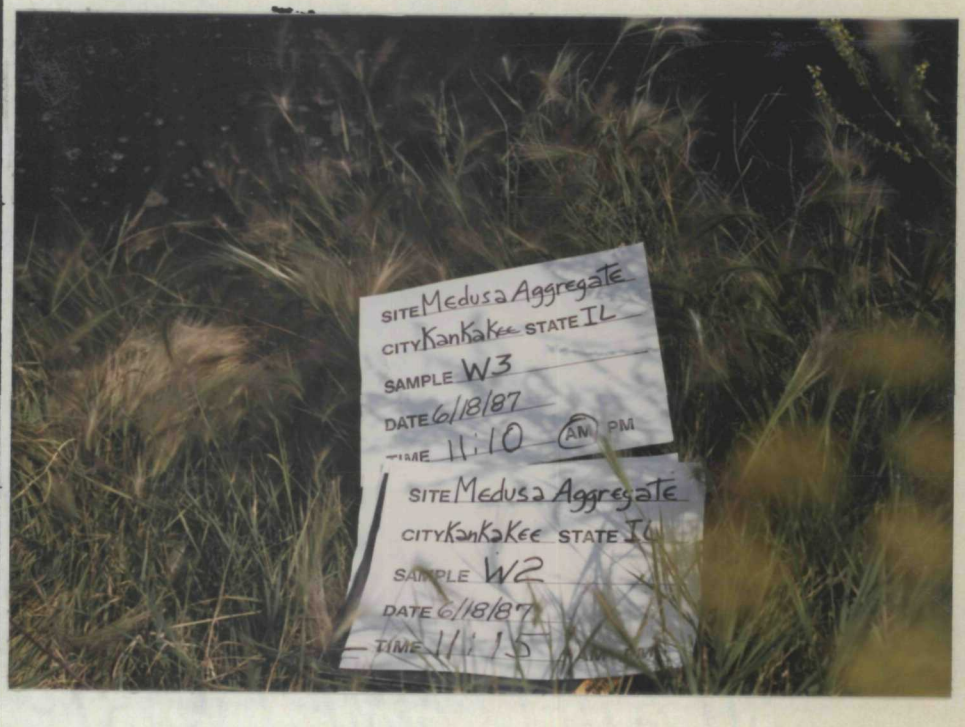
WEATHER SUNNY 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) W2 & W3 (DUP)



DESCRIPTION: Low land, standing water near dumping area

DATE 6-18-87

TIME 11:10 (A.M.) P.M.

DIRECTION: (N) NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

WEATHER SUNNY 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) W2 & W3 (DUP)

DESCRIPTION: Lowland, standing water near dumping area.

FIELD PHOTOGRAPHY LOG SHEET

DATE 6-18-87

TIME 11:30 (A.M.) P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
(W) WNW NW NNW

WEATHER Sunny 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) S1

DESCRIPTION: Edge of quarry

DATE 6-18-87

TIME 11:30 (A.M.) P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
(W) WNW NW NNW

WEATHER Sunny 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) S1

DESCRIPTION: Edge of QUARRY

FIELD PHOTOGRAPHY LOG SHEET

DATE 6-18-87

TIME 11:00 A.M. P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

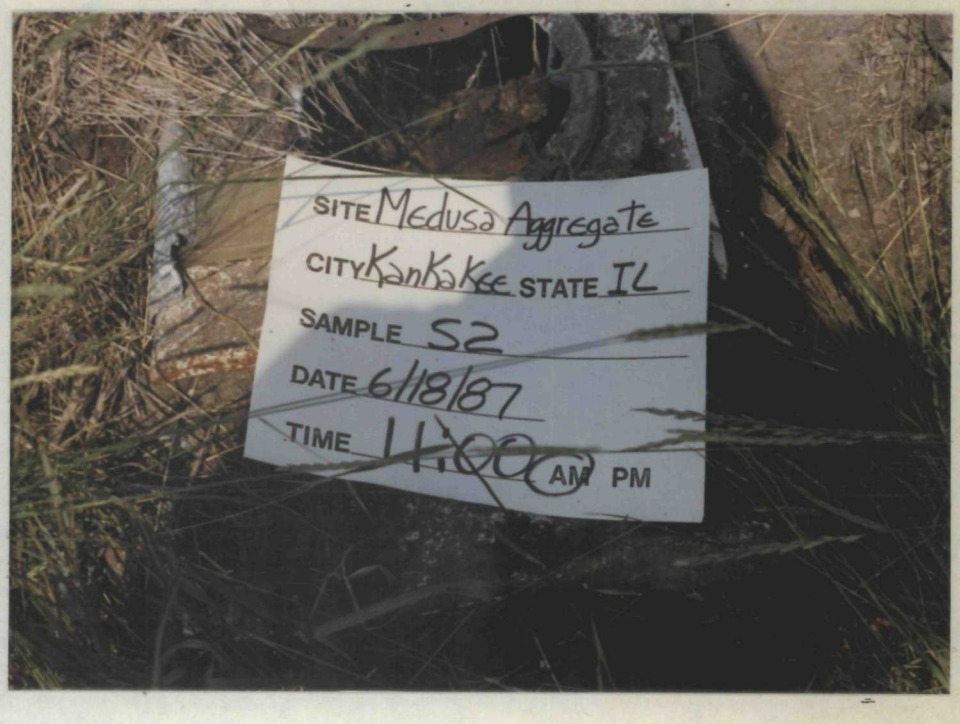
WEATHER Sunny 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) S2



DESCRIPTION: Buried appliance

DATE 6-18-87

TIME 11:00 A.M. P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

WEATHER Sunny 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) S2

DESCRIPTION: Buried appliance

FIELD PHOTOGRAPHY LOG SHEET

DATE 6-18-87

TIME 11:10 (A.M.) P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW (NW) NNW

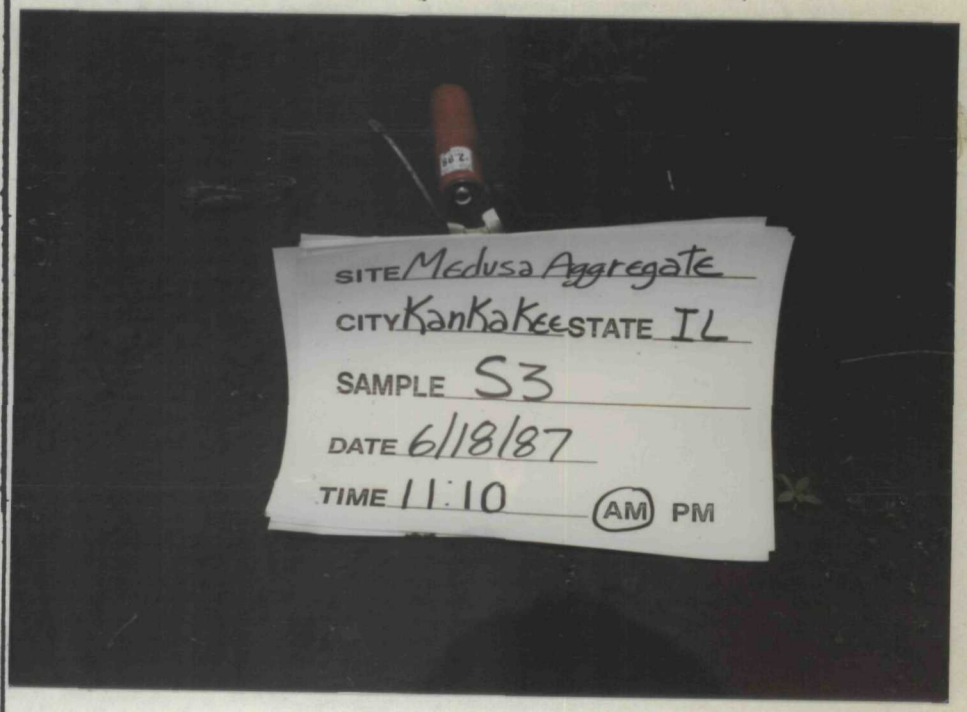
WEATHER Sunny 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) S3



DESCRIPTION: Bare, exposed area within dumping area

DATE 6-18-87

TIME 11:10 (A.M.) P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW (NW) NNW

WEATHER Sunny 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) S3

DESCRIPTION: Bare exposed area within old dumping area.

FIELD PHOTOGRAPHY LOG SHEET

DATE 6-18-87

TIME 11:40 (A.M.) P.M.

DIRECTION: (N) NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

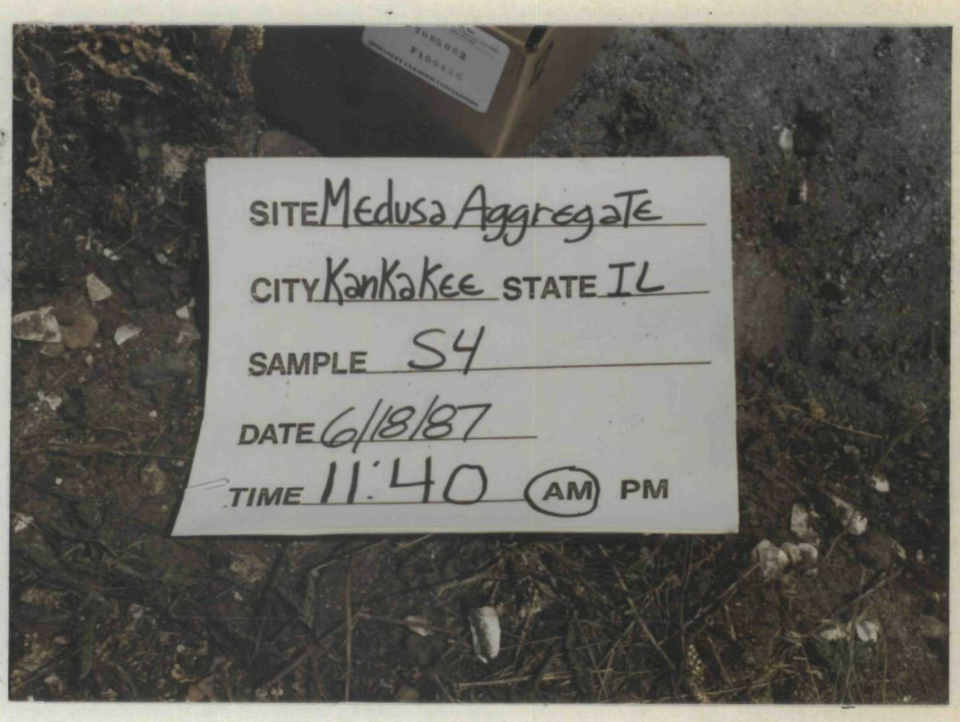
WEATHER Sunny 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) S4



DESCRIPTION: Elevated soil level within old dumping area.

DATE 6-18-87

TIME 11:40 (A.M.) P.M.

DIRECTION: (N) NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

WEATHER Sunny 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) S4

DESCRIPTION: Elevated soil level within old dumping area.

FIELD PHOTOGRAPHY LOG SHEET

DATE 6-18-87

TIME 12:10 A.M. P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

WEATHER Sunny 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) S5

DESCRIPTION: Background soil sample across the street NW from site. AT R.R. TRACKS

DATE 6-18-87

TIME 10:00 A.M. P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

WEATHER Sunny 90°F

SITE Medusa Aggregate

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) N/A

DESCRIPTION: QUARRY used for swimming by LOCALS

FIELD PHOTOGRAPHY LOG SHEET

DATE 6-18-87

TIME 10:15 A.M. P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

WEATHER Sunny 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) N/A

DESCRIPTION: Quarry used for swimming by locals, adjacent to dump.

DATE 6-18-87

TIME 10:30 A.M. P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

WEATHER Sunny 90°F

SITE Medusa Aggregates

TDD# F05-8704-073

PHOTOGRAPHED BY: Kevin Lyons

SAMPLE ID# (if applicable) N/A

DESCRIPTION: Quarry used for swimming by locals, adjacent to dump, farm in background.

	TIC	MEM181	MEM182	MEM183	MEN598	MEN599	MEN600	MEM051	MEM052			
	DTC	EM414	EM415	EM416	EM524	EM525	EM526	EM527	EM528			
	SAMPLE	W1	W2	(2 DUP) W3	mg/Kg S1	mg/Kg S2	mg/Kg S3	mg/Kg S4	mg/Kg S5			
COMPOUND												
pentachlorophenol												
phenanthrene						4600 ug/Kg						
anthracene						1000 ug/Kg						
di-n-butylphthalate												
fluoranthene						5400 ug/Kg			1000 ug/Kg			
benzidine												
pyrene						6900 ug/Kg		1200 ug/Kg				
butylbenzylphthalate												
3,3'-dichlorobenzidine												
benzo(a)anthracene						4300 ug/Kg						
bis(2-ethylhexyl)phthalate												
chrysene						5400 ug/Kg			1000 ug/Kg			
di-n-octyl phthalate												
benzo(b&k)fluoranthene						3100/790 ug/Kg			1200 ug/Kg			
benzo(a)pyrene						3400 ug/Kg			710 ug/Kg			
indeno(1,2,3-cd)pyrene						1900 ug/Kg						
dibenzo(a,h)anthracene												
benzo(g,h,i)perylene						1200 ug/Kg						
alpha-BHC												
beta-BHC												
delta-BHC												
gamma-BHC(lindane)												
heptachlor												
aldrin												
heptachlor epoxide												
endosulfan I												
dieldrin												
4,4'-DDE												
endrin												
endosulfan II												
4,4'-DDD												
endrin aldehyde												
endosulfan sulfate												
4,4'-DDT						180 ug/Kg						
methoxychlor												
endrin ketone												
chlordane												
toxaphene												
Aroclor-1016												
Aroclor-1221												
Aroclor-1232												
Aroclor-1242												
Aroclor-1248												
Aroclor-1254												
Aroclor-1260												
CLIENT												
aluminum												
antimony												
arsenic							71					
barium								230	109			
beryllium												
cadmium						3.4	2240	14				
calcium												
chromium						28	1170	489	7.6			
cobalt						38						
copper		33 ug/l				39	2340	6510	25			
iron												
lead		34 ug/l	37 ug/l	309			39800	2260	53			
magnesium												
manganese												
mercury						0.22	5.2	0.68				
nickel						56	396	321				
potassium												
selenium												
silver							86					
sodium												
thallium												
tin							445	92				
vanadium												
zinc		51 ug/l	32 ug/l	26		475	194000	5700	209			
cyanide (CHECK IF ANALYZED ( )												
TENTATIVELY IDENTIFIED ORGANICS												

STATE ILLINOIS SITE MEDUSA AGGREGATES TDD F05-8704-073 PAGE 2 OF 2, SET # ____

COMPOUND											
	MEM181	MEM182	MEM183	MEN598	MEN599	MEN600	MEM051	MEM052			
	EM414	EM415	EM416	EM524	EM525	EM526	EM527	EM528			
	W1	W2	W3	mg/Kg S1	mg/Kg S2	mg/Kg S3	mg/Kg S4	mg/Kg S5			
chloromethane											
bromomethane											
vinyl chloride											
chloroethane											
methylene chloride											
acetone											
carbon disulfide											
1,1-dichloroethene											
1,1-dichloroethane											
trans-1,2-dichloroethene											
chloroform											
1,2-dichloroethane											
2-butanone											
1,1,1-trichloroethane											
carbon tetrachloride											
vinyl acetate											
bromodichloromethane											
1,1,2,2-tetrachloroethane											
1,2-dichloropropane											
trans-1,3-dichloropropene											
trichloroethene											
dibromochloromethane											
1,1,2-trichloroethane											
benzene											
cis-1,3-dichloropropene											
2-chloroethylvinylether											
bromoform											
2-hexanone											
4-methyl-2-pentanone											
tetrachloroethene											
toluene					17 ug/Kg	13 ug/Kg	40 ug/Kg	24 ug/Kg			
chlorobenzene											
ethylbenzene											
styrene											
total xylenes											
N-nitrosodimethylamine											
phenol											
aniline											
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											
dimethylphthalate											
acenaphthylene											
3-nitroaniline											
acenaphthene											
2,4-dinitrophenol											
4-nitrophenol											
dibenzofuran											
2,4-dinitrotoluene											
2,6-dinitrotoluene											
diethylphthalate											
4-chlorophenyl-phenyl ether											
fluorene											
4-nitroaniline											
4,6-dinitro-2-methylphenol											
N-nitrosodiphenylamine											
4-bromophenyl-phenylether											
hexachlorobenzene											

STATE Illinois SITE Medusa Aggregates TDD F05-8704-073 PAGE 1 OF 2, SET # ____

INTRODUCTION TO DATA TABLES

A SUMMARY OF THE ANALYTICAL RESULTS FOR SAMPLES WHICH WERE TAKEN DURING FIELD ACTIVITIES CAN BE FOUND IN THE FOLLOWING TABLES. ONLY DETECTABLE CONCENTRATIONS ARE REPORTED, HOWEVER, IF THE COMPOUND HAS A FOOTNOTE FOLLOWING THE VALUE, CONSULT THE DEFINITION OF THE FOOTNOTE PROVIDED BELOW. ADDITIONAL QA/QC INFORMATION IS PROVIDED IN THE ATTACHED DATA SHEETS.

I) REPORTING UNITS
- A) ORGANICS
  - 1) Water Samples - ug/l or ppb (parts per billion)
  - 2) Soils or Sediments - ug/kg or ppb (parts per billion)
- B) METALS
  - 1) Water Samples - ug/l or ppb
  - 2) Soils or sediments - mg/kg or ppm

II) DEFINITION OF FOOTNOTES TO ANALYTICAL DATA

A) ORGANICS

Footnote	Definition	Interpretation
UJ	Detection Limit (D.L.) is estimated because of a Quality Control (QC) protocol. D.L. is possibly above or below Contract Required Detection Limit (CRDL).	Compound was not detected
UB	Compound found in laboratory blank. No Value above CRDL.	Compound was not detected
UJB	Compound found in laboratory blank, but not detected in sample. CRDL is estimated because of a QC protocol.	Compound was not detected
B	Compound found in blank. Two interpretations are possible:	
	a) If sample value is equivalent to D.L. to 5x blank concentration	Compound value is semi-quantitative.
	b) If sample value is greater than 5x the blank concentration	Compound value is quantitative
JB	Compound found in blank, value is estimated because of QC protocol.	Compound value is semi-quantitative
R	Do Not Use Value. Major Violation of QC Protocol	Compound value is not usable.
C	Value adjusted for blank (an unacceptable procedure)	Compound value is semi-quantitative
J	Value is above CRDL and is an estimated value because of a QC protocol	Compound value is semi-quantitative
Q	No Analytical Result	Compound was not detected
N	Presumptive evidence for the presence of a compound as used for a Tentatively Identified Compound (TIC)	Compound value is semi-quantitative

B) METALS

FOOTNOTE	DEFINITION	INTERPRETATION
E	Estimated or not reported due to interference. See laboratory narrative.	Compound or element was not detected or value is semi-quantitative
s	Analysis by Method of Standard Additions (Look for a "+" Footnote)	Value is quantative
R	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 semiquantitative
*	Duplicate value outside QC protocols which indicates a possible matrix problem	Value is semiquantitative
+	Correlation coefficient for standard additions is less than 0.995. See review and laboratory narrative.	Data value is biased
[ ]	Value is real, but is above instrument D.L. and below CRDL	Value may be quantitative or semiquantitative
UJ	D.L. is estimated because of a QC protocol. D.L. 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 is semiquantitative

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International Specialists in the Environment

Date Received for Review 23 Aug 87 Date Review Completed 23 Aug 1987

To: Kurt Sims

From: Brenda R. Jones

Subject: Medusa Aggregates

PAN: IL 0394 Case # 7468

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
#	Low Soil	# 5	Low Soil
	Low Water	4	Low Water
	Drinking Water		Drinking Water
	Other		Other

Project Data Status _____ Completed!!

✓✓ Incomplete, awaiting: _____

FI Data Review Findings:

(1) See attached memo regarding the use of Lead data in waters for HRS purposes

(2) See attached memo regarding the use of Arsenic and Tin data in sols for HRS purposes

✓✓ Compounds were detected in sample(s); see enclosed Chemical Evaluation Form.

Book No. 0 Page No. 174

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CHICAGO, ILLINOIS

CHEMICAL EVALUATION FORM

SITE NAME: Medusa Aggregates PAN# _____ DATE: 23 Aug 1987

CASE #: 7468 UNITS: ug/l REVIEWER: BRJ

TOXIFERS	COMPOUND	CRDL	3-5xCRDL	MEM 181	182	183	053			
	ALUMINUM									
	ANTIMONY									
	ARSENIC									
	BARIUM									
	BERYLLIUM									
	CADMIUM									
	CHROMIUM	10			4.8	5.2				
	COBALT	50			7.2					
	COPPER	25		14	33	22	18			
	LEAD	5			34	37				
	MERCURY									
	NICKEL	40			33	31				
	SELENIUM									
	SILVER									
	THALLIUM									
	TIN									
	VANADIUM									
	ZINC									
	CYANIDE									

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CHICAGO, ILLINOIS

CHEMICAL EVALUATION FORM

SITE NAME: Medusa Aggregates PAN# DATE: 23 Aug 87

CASE # 7468 UNITS: mg/kg REVIEWER: BRS

TOX/PERS	COMPOUND	CRDL	3-5xCRDL	MEN 600	051	052	598	599		
	ALUMINUM									
	ANTIMONY									
	ARSENIC	2		71	37	10				
	BARIUM									
	BERYLLIUM	1			2	0.76	~~0.88~~	0.58		
	CADMIUM	1		2240	14		~~3.4~~	3.4		
	CHROMIUM	2		1170	489	7.6		28		
	COBALT	10			6.8	3.4		35		
	COPPER	5 ~~20~~		2340	6510	25	5.2	39		
	LEAD	1		39800	2250	53	309	1810		
	MERCURY	.008		5.2	0.58			0.22		
	NICKEL	8		396	321	7.9		56		
	SELENIUM									
	SILVER	2		86	3.1					
	THALLIUM									
	TIN	8			92					
	VANADIUM	10		99	20	12		14		
	ZINC									
	CYANIDE									

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International Specialists in the Environment

MEMORANDUM

DATE: 8/24/87
TO: File
FROM: Brenda Robbins Jones BRJ
SUBJECT: Medisa Aggregates
PAN #: ILC314 CASE #: 7468

The reviewer of this inorganic/~~organic~~ data package correctly notes that spike recoveries for the ~~compounds~~/elements listed below are all biased low and should be considered estimated (i.e. qualified with a J). However, the data, at worst, underestimates the actual concentrations found in the sample.

It is my opinion that this data is usable for HRS purposes.

99N:5X

Waters

Element	Spike Recovery
Lead	35%

Soils

Element	Spike Recovery
Arsenic	50%
Tin	38%

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 8/19/87

SUBJECT: Review of Region V CLP Data
Received for Review on 7-29-87

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

TO: Data User: FIT

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

SITE NAME: MEDUSA AGGREGATES SMO case No. 7468

EPA Data Set No. SF 4132 No. of Samples: 9 D.U./Activity Numbers Y905/ C72100

CRL No. 87FS11S04 - S10, R01 D10

SMO Traffic No. MEN 598 - 600, MEM 051 - 053 181 - 183

CLP Laboratory: RMAL Hrs. Required for Review: 1

Following are our findings: This review covers 5 so
samples and 4 low water samples
analyzed for metals.
For water samples with QC report 457025
spike recoveries for Pb (35%), Tl (0%) are shown
above. All Tl data are unusable (R). Al
Pb data are estimated.
For soil samples with QC report #457024
spike recoveries for As (50%), Se (0%), Sn (58%)
are shown above. All Se data are unusa
All Sn, As data are estimated.
All other QC audits are acceptable

Nita Lear
8.19.87

( ) 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.

cc: Duane Geuder, Quality Assurance Officer, EPA Support Services
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

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Date 7-24-87

COVER PAGE
INORGANIC ANALYSIS DATA PACKAGE

Lab Name ROCKY MOUNTAIN ANALYTICAL
SOW No. 784

Case No. 7468
QC Report No. 57025

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
MEM181			
MEM181D			
MEM182			
MEM182S			
MEM183			
MEM053			
[MEM999]			

Comments: 4 LOW WATERS FOR TOTAL METALS ANALYSIS
SERIAL DILUTION OF SAMPLE MEM181 IS IDENTIFIED AS [MEM999]

ICP Interelement and background corrections applied? Yes X No ___.
If yes, corrections applied before X or after ___ generation of raw data.

Footnotes:

NR - not required by contract at this time
Form I:
Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract required detection limit, report the value in brackets (i.e., [10]). Indicate the method used with P (for ICP/Flame AA) or F (for furnace).
U - Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 10U).
E - Indicates a value estimated or not reported due to the presence of Interference. Explanatory note included on cover page.
S - Indicates value determined by Method of Standard Addition.
R - Indicates spike sample recovery is not within control limits.
* - Indicates duplicate analysis is not within control limits.
+ - Indicates the correlation coefficient for method of standard addition is Less than 0.995
CV - Indicates Cold Vapor
AS - Indicates Automated Spectrophotometric

Form I RECEIVED AUG 21 1987 000002

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EPA Sample No.
MEM181

Date 7-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SDW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 7468
QC REPORT NO. 57025

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water X Soil ____ Sludge ____ Other ____

UG/L

1.	ALUMINUM	[62]	P	13.	MAGNESIUM	34300	P
2.	ANTIMONY	21U	P	14.	MANGANESE	[13]	P
3.	ARSENIC	10U	F	15.	MERCURY	0.2U	CV
4.	BARIUM	[36]	P	16.	NICKEL	8U	P
5.	BERYLLIUM	1U	P	17.	POTASSIUM	39500	P
6.	CADMIUM	5U	P	18.	SELENIUM	5U	F
7.	CALCIUM	17600	P	19.	SILVER	4U	P
8.	CHROMIUM	4U	P	20.	SODIUM	393000	P
9.	COBALT	5U	P	21.	THALLIUM	10U	F R
10.	COPPER	[14]	P	22.	TIN	16U	P
11.	IRON	[56]	P	23.	VANADIUM	4U	P
12.	LEAD	5U	F R	24.	ZINC	[18]	P

Cyanide NR Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager

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EPA Sample No.
MEM182

Date 7-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 7468
QC REPORT NO. 57025

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water X Soil ____ Sludge ____ Other ____

UG/L

1.	ALUMINUM	[165]	P	13.	MAGNESIUM	53500	P
2.	ANTIMONY	21U	P	14.	MANGANESE	219	P
3.	ARSENIC	10U	F	15.	MERCURY	0.2U	CV
4.	BARIUM	[140]	P	16.	NICKEL	[33]	P
5.	BERYLLIUM	1U	P	17.	POTASSIUM	80500	P
6.	CADMIUM	5U	P	18.	SELENIUM	50U	F
7.	CALCIUM	41100	P	19.	SILVER	4U	P
8.	CHROMIUM	[4.8]	P	20.	SODIUM	224000	P
9.	COBALT	[7.2]	P	21.	THALLIUM	10U	F R
10.	COPPER	33	P	22.	TIN	16U	P
11.	IRON	2380	P	23.	VANADIUM	4U	P
12.	LEAD	34	FS R	24.	ZINC	51	P

Cyanide NR Percent Solids (%)

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Lead value determined by MSA
Selenium value reported at a 10x dilution

000004

Form I

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EPA Sample No.
MEM183

Date 7-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 7468
QC REPORT NO. 57025

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water X Soil ____ Sludge ____ Other ____

UG/L

1.	ALUMINUM	[82]	P	13.	MAGNESIUM	52800	P
2.	ANTIMONY	21U	P	14.	MANGANESE	185	P
3.	ARSENIC	10U	F	15.	MERCURY	0.2U	CV
4.	BARIUM	[125]	P	16.	NICKEL	[31]	P
5.	BERYLLIUM	1U	P	17.	POTASSIUM	79600	P
6.	CADMIUM	5U	P	18.	SELENIUM	50U	F
7.	CALCIUM	38800	P	19.	SILVER	4U	P
8.	CHROMIUM	[5.2]	P	20.	SODIUM	222000	P
9.	COBALT	5U	P	21.	THALLIUM	10U	F R
10.	COPPER	[22]	P	22.	TIN	16U	P
11.	IRON	1830	P	23.	VANADIUM	4U	P
12.	LEAD	37	FS R	24.	ZINC	32	P

Cyanide NR Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Lead value determined by MSA
Selenium value reported at a 10x dilution

Form I

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703/557-2490 FTS: 8-557-2490

EPA Sample No.
MEM053

Date 7-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 7468
QC REPORT NO. 57025

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water X Soil ____ Sludge ____ Other ____

UG/L

1.	ALUMINUM	[37]	P	13.	MAGNESIUM	[67]	P
2.	ANTIMONY	21U	P	14.	MANGANESE	5U	P
3.	ARSENIC	10U	F	15.	MERCURY	0.2U	CV
4.	BARIUM	2U	P	16.	NICKEL	8U	P
5.	BERYLLIUM	1U	P	17.	POTASSIUM	[158]	P
6.	CADMIUM	5U	P	18.	SELENIUM	5U	F
7.	CALCIUM	[129]	P	19.	SILVER	4U	P
8.	CHROMIUM	4U	P	20.	SODIUM	[1200]	P
9.	COBALT	5U	P	21.	THALLIUM	10U	F R R
10.	COPPER	[18]	P	22.	TIN	16U	P
11.	IRON	20U	P	23.	VANADIUM	4U	P
12.	LEAD	5U	F R	24.	ZINC	[14]	P

Cyanide NR Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Sample is a blank

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00001

Date 7-28-87

COVER PAGE
INORGANIC ANALYSIS DATA PACKAGE

Lab Name ROCKY MOUNTAIN ANALYTICAL
SOW No. 784

Case No. 7468
QC Report No. 57024

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
MEN600D			
MEN600			
MEN600S			
MEN051			
MEN052			
MEN598			
MEN599			
[MEN999]			

Comments: 5 LOW SOILS FOR TOTAL METALS ANALYSIS
SERIAL DILUTION OF SAMPLE MEN599 IS IDENTIFIED AS [MEN999]

ICP Interelement and background corrections applied? Yes X No ___
If yes, corrections applied before X or after ___ generation of raw data.

Footnotes:

NR - not required by contract at this time
Form I:
Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract required detection limit, report the value in brackets (i.e., [10]). Indicate the method used with P (for ICP/Flame AA) or F (for furnace).
U - Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 10U).
E - Indicates a value estimated or not reported due to the presence of Interference. Explanatory note included on cover page.
S - Indicates value determined by Method of Standard Addition.
R - Indicates spike sample recovery is not within control limits.
X - Indicates duplicate analysis is not within control limits.
+ - Indicates the correlation coefficient for method of standard addition is Less than 0.995
CV - Indicates Cold Vapor
AS - Indicates Automated Spectrophotometric

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Narrative

RMA QC # 57024

Case # 7468

Comments: original matrix spike sample not spiked during ICP preparation. Sample and matrix spike reprepped.

Lab Manager

Form I

00003

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EPA Sample No.
MEN600

Date 7-28-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 7468
QC REPORT NO. 57024

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water ____ Soil X Sludge ____ Other ____

mg/kg dry weight

1.	ALUMINUM	1990	P	13.	MAGNESIUM	[20900]	P
2.	ANTIMONY	[145]	P	14.	MANGANESE	50600	P
3.	ARSENIC	71	F R	15.	MERCURY	5.2	CV
4.	BARIUM	[190]	P	16.	NICKEL	396	P
5.	BERYLLIUM	5.9U	P	17.	POTASSIUM	888U	P
6.	CADMIUM	2240	P	18.	SELENIUM	29U	F R
7.	CALCIUM	56600	P	19.	SILVER	86	P
8.	CHROMIUM	1170	P	20.	SODIUM	[7690]	P
9.	COBALT	29U	P	21.	THALLIUM	5.9U	F
10.	COPPER	2340	P	22.	TIN	445	P R
11.	IRON	282000	P	23.	VANADIUM	[99]	P
12.	LEAD	39800 ~~40000~~	FS	24.	ZINC	194000	P

Cyanide NR Percent Solids (%) 85

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: ICP REPORTED AT 10X DILUTIONS DUE TO HIGH ZINC VALUE
ARSENIC SELENIUM & MERCURY VALUES REPORTED AT ADDITIONAL 10X DILUTIONS
LEAD VALUE DETERMINED BY MSA; REPORTED AT ADDITIONAL 2000X DILUTION

Lab Manager

Form I

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EPA Sample No.
MEM051

Date 7-28-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 7468
QC REPORT NO. 57024

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water ____ Soil X Sludge ____ Other ____

mg/kg dry weight

1.	ALUMINUM	113000	P	13.	MAGNESIUM	6220	P
2.	ANTIMONY	12U	P	14.	MANGANESE	872	P
3.	ARSENIC	SDK ~~94~~ 37	FS R	15.	MERCURY	0.58	CV
4.	BARIUM	230	P	16.	NICKEL	321	P
5.	BERYLLIUM	[2]	P	17.	POTASSIUM	[704]	P
6.	CADMIUM	14	P	18.	SELENIUM	2.8U	F R
7.	CALCIUM	22600	P	19.	SILVER	[3.1]	P
8.	CHROMIUM	489	P	20.	SODIUM	505U	P
9.	COBALT	[6.8]	P	21.	THALLIUM	5.6U	F
10.	COPPER	6510	P	22.	TIN	92	P R
11.	IRON	37000	P	23.	VANADIUM	[20]	P
12.	LEAD	2250	F	24.	ZINC	5700	P

Cyanide NR Percent Solids (%) 89

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: ARSENIC VALUE DETERMINED BY MSA
LEAD VALUE REPORTED AT AN ADDITIONAL 50X DILUTION

Lab Manager

Form I

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00005

U.S. EPA Contract Laboratory Program
Sample Management Office
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703/557-2490 FTS: 8-557-2490

EPA Sample No.
MEM052

Date 7-28-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 7468
QC REPORT NO. 57024

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water ____ Soil X Sludge ____ Other ____

mg/kg dry weight

1.	ALUMINUM	4300	P	13.	MAGNESIUM	3630	P
2.	ANTIMONY	11U	P	14.	MANGANESE	416	P
3.	ARSENIC	10	F R	15.	MERCURY	0.11U	CV
4.	BARIUM	109	P	16.	NICKEL	[7.9]	P
5.	BERYLLIUM	[0.76]	P	17.	POTASSIUM	[604]	P
6.	CADMIUM	2.7U	P	18.	SELENIUM	2.7U	F R
7.	CALCIUM	7840	P	19.	SILVER	2.2U	P
8.	CHROMIUM	7.6	P	20.	SODIUM	488U	P
9.	COBALT	[3.4]	P	21.	THALLIUM	5.4U	F
10.	COPPER	25	P	22.	TIN	8.7U	P R
11.	IRON	15500	P	23.	VANADIUM	[12]	P
12.	LEAD	53	FS	24.	ZINC	209	P

Cyanide NR

Percent Solids (%) 92

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: LEAD VALUE DETERMINED BY MSA; AT AN ADDITIONAL 4X DILUTION

Lab Manager [signature]

Form I

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00006

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Sample Management Office
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703/557-2490 FTS: 8-557-2490

EPA Sample No.
MEN598

Date 7-28-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 7468
QC REPORT NO. 57024

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water ____ Soil X Sludge ____ Other ____

mg/kg dry weight

1.	ALUMINUM	693	P	13.	MAGNESIUM	63100	P
2.	ANTIMONY	15U	P	14.	MANGANESE	286	P
3.	ARSENIC	7.4U	F R J	15.	MERCURY	0.15U	CV
4.	BARIUM	[12]	P	16.	NICKEL	5.9U	P
5.	BERYLLIUM	0.74U	P	17.	POTASSIUM	[324]	P
6.	CADMIUM	3.7U	P	18.	SELENIUM	3.7U	F R R
7.	CALCIUM	109000	P	19.	SILVER	2.9U	P
8.	CHROMIUM	2.9U	P	20.	SODIUM	660U	P
9.	COBALT	3.7U	P	21.	THALLIUM	7.4U	F
10.	COPPER	[5.2]	P	22.	TIN	12U	P R J
11.	IRON	4940	P	23.	VANADIUM	2.9U	P
12.	LEAD	309	F	24.	ZINC	26	P

Cyanide NR

Percent Solids (%) 68

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: LEAD VALUE REPORTED AT AN ADDITIONAL 20X DILUTION

Lab Manager [signature]

Form I

RECEIVED AUG 21 1987

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MEN599

Date 7-28-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME ROCKY MOUNTAIN ANALYTICAL
SOW NO. 784
LAB SAMPLE ID. NO. -

CASE NO. 7468
QC REPORT NO. 57024

Elements Identified and Measured

Concentration: Low X Medium ____
Matrix: Water ____ Soil X Sludge ____ Other ____

mg/kg dry weight

1.	ALUMINUM	6220	P	13.	MAGNESIUM	16700	P
2.	ANTIMONY	11U	P	14.	MANGANESE	575	P
3.	ARSENIC	5.4U	F R	15.	MERCURY	0.22	CV
4.	BARIUM	807	P	16.	NICKEL	56	P
5.	BERYLLIUM	[0.88]	P	17.	POTASSIUM	[1310]	P
6.	CADMIUM	3.4	P	18.	SELENIUM	2.7U	F R
7.	CALCIUM	36400	P	19.	SILVER	2.2U	P
8.	CHROMIUM	28	P	20.	SODIUM	483U	P
9.	COBALT	35	P	21.	THALLIUM	5.4U	F
10.	COPPER	39	P	22.	TIN	8.6U	P R
11.	IRON	18500	P	23.	VANADIUM	[14]	P
12.	LEAD	~~1830~~ 1810 SOW	FS	24.	ZINC	475	P

Cyanide NR

Percent Solids (%) 93

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: LEAD VALUE DETERMINED BY MSA; AT AN ADDITIONAL 200X DILUTION

Lab Manager [signature]

QC EXCEPTION SUMMARY REPORT

7468
SET # 4132
Q.C.#
: 8.19.87

SITE Hardison Copper
LAB RMAL
REVIEWED BY [illegible]

MATRIX: SOIL
CONC. :

WATER SAMPLE SPK. MK M182
WATER SAMPLE DUP.
SOIL SAMPLE SPK. MEN600
SOIL SAMPLE DUP. MENKPC

	OVERALL CASE QC									MATRIX SPECIFIC QC						SAMPLE SPECIFIC QC		FIELD QC			REGIONAL QC			OTHER/ COMMENTS
	Holding Time	Cal Blanks	Init Calibr	Contin Calibr	Prep Blk AQ	Prep Blk SOL	ICS %R	ICS %R AQ	ICS %R SOL	Sol Dup RPD	Sol Spk. %R	AQ Dup RPD	AQ Spk. %R	Ser Dilu AQ	Ser Dilu SOL	GFAA Dup	GFAA Spike	Blank	Dup RPD	Spike %R	Blind Blank	Blind Spike %R	Split Sample RPD	
											50													
													35											
											0													
													0											
											38													

RECEIVED AUG 21 1987

Form III

1/3

000010

Q.C. Report No. 57025

BLANKS

RECEIVED AUG 2 1 1987

LAB NAME ROCKY MOUNTAIN ANALYTICAL

CASE NO. 7468

DATE 7-24-87

UNITS ug/L

Matrix WATER

Preparation Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank 1	2
Metals:							
1. ALUMINUM		24u					
2. ANTIMONY		21u					
3. ARSENIC							
4. BARIUM		2u					
5. BERYLLIUM		[1.0]					
6. CADMIUM		5u					
7. CALCIUM		69u					
8. CHROMIUM		4u					
9. COBALT		5u					
10. COPPER		4u					
11. IRON		20u					
12. LEAD							
13. MAGNESIUM		51u					
14. MANGANESE		5u					
15. MERCURY							
16. NICKEL		8u					
17. POTASSIUM		151u					
18. SELENIUM							
19. SILVER		4u					
20. SODIUM		895u					
21. THALLIUM							
22. TIN		16u					
23. VANADIUM		4u					
24. ZINC		3u					
Other:							
Cyanide							

Form III

Q.C. Report No. 57025

BLANKS

RECEIVED AUG 21 1987

LAB NAME ROCKY MOUNTAIN ANALYTICAL CASE NO. 7468

DATE 7-24-87 UNITS ug/L

Matrix WATER

Preparation Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank 1	2
Metals:							
1. ALUMINUM	24U	24U				[26]	
2. ANTIMONY	21U	21U				21U	
3. ARSENIC	10u	10u	10u			10u	
4. BARIUM	2U	2U				2U	
5. BERYLLIUM	1U	1U				1U	
6. CADMIUM	5U	5U				5U	
7. CALCIUM	69U	69U				[75]	
8. CHROMIUM	4U	4U				4U	
9. COBALT	5U	5U				5U	
10. COPPER	4U	4U				[19]	
11. IRON	20U	20U				20U	
12. LEAD	5u	5u	5u	5u		5u	
13. MAGNESIUM	51U	51U				51U	
14. MANGANESE	5U	5U				5U	
15. MERCURY	0.2u	0.2u				0.2u	
16. NICKEL	8U	8U				8U	
17. POTASSIUM	151U	151U				151U	
18. SELENIUM	5u	5u	5u	5u		5u	
19. SILVER	4U	4U				4U	
20. SODIUM	898U	898U				898U	
21. THALLIUM	10u	10u	10u			10u	
22. TIN	16U	16U				16U	
23. VANADIUM	4U	4U				4U	
24. ZINC	3U	3U				[19]	
Other:							
Cyanide							

Form III

3/3

Q.C. Report No. 51025

000012

BLANKS

RECEIVED AUG 21 1987

LAB NAME ROCKY MOUNTAIN ANALYTICAL

CASE NO. 7468

DATE 7-24-87

UNITS ug/L

Matrix WATER

Preparation Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank 1	2
Metals:							
1. ALUMINUM							
2. ANTIMONY							
3. ARSENIC							
4. BARIUM							
5. BERYLLIUM							
6. CADMIUM							
7. CALCIUM							
8. CHROMIUM							
9. COBALT							
10. COPPER							
11. IRON							
12. LEAD	5u	5u					
13. MAGNESIUM							
14. MANGANESE							
15. MERCURY							
16. NICKEL							
17. POTASSIUM							
18. SELENIUM							
19. SILVER							
20. SODIUM							
21. THALLIUM							
22. TIN							
23. VANADIUM							
24. ZINC							
Other:							
Cyanide							

000014

Form V

Q.C. Report No. 57025

SPIKE SAMPLE RECOVERY

RECEIVED AUG 2 1 1987

LAB NAME ROCKY MOUNTAIN ANALYTICAL

CASE NO. 7468
EPA Sample No. MEM182
Lab Sample ID No. -
Units UG/L

DATE 7-24-87

MATRIX WATER

Compound	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)	Spike Added (SA)	%R[1]
Metals:					
1. ALUMINUM	75-125	2120	[165]	2000	98
2. ANTIMONY	75-125	505	21U	500	101
3. ARSENIC	75-125	24 S	10U	20	120
4. BARIUM	75-125	1930	[140]	2000	90
5. BERYLLIUM	75-125	47	1U	50	94
6. CADMIUM	75-125	44	5U	50	88
7. CALCIUM	75-125	139000	41100	100000	98
8. CHROMIUM	75-125	180	[4.8]	200	88
9. COBALT	75-125	461	[7.2]	500	91
10. COPPER	75-125	276	33	250	97
11. IRON	75-125	3180	2380	1000	80
12. LEAD	75-125	41 S	34 S	~~200~~ 20	~~3.5~~ 35
13. MAGNESIUM	75-125	99300	53500	50000	92
14. MANGANESE	75-125	392	219	200	86
15. MERCURY	75-125	1.0	0.2U	1.0	100
16. NICKEL	75-125	398	[33]	400	91
17. POTASSIUM	75-125	128000	80500	50000	95
18. SELENIUM	75-125	9.8 S	50U	10	98
19. SILVER	75-125	49	4U	50	98
20. SODIUM	75-125	313000	224000	100000	89
21. THALLIUM	75-125	100U	10U	50	0
22. TIN	75-125	365	16U	400	91
23. VANADIUM	75-125	478	4U	500	96
24. ZINC	75-125	257	51	200	103
Other:					
Cyanide	75-125				

[1] %R = [(SSR - SR)/SA] x 100

"R"- out of control

Comments: Arsenic matrix spike Result determined by MSA
Lead matrix spiked sample Results determined by MSA
Selenium matrix spike Result determined by MSA & Sample Result reported data for dilution

Form VI

Q.C. Report No. 57025

DUPLICATES

RECEIVED AUG 2 1 1987

LAB NAME ROCKY MOUNTAIN ANALYTICAL

CASE NO. 7468
EPA Sample No. MEM181
Lab Sample ID No. -
Units UG/L

DATE 7-24-87

Matrix WATER

Compound	Control Limit[1]	Sample(S)	Duplicate(D)	RPD[2]
Metals:				
1. ALUMINUM		[62]	[63]	NC
2. ANTIMONY		21U	21U	NC
3. ARSENIC		10U	10U	NC
4. BARIUM		[36]	[36]	NC
5. BERYLLIUM		1U	1U	NC
6. CADMIUM		5U	5U	NC
7. CALCIUM		17600	17900	1.7
8. CHROMIUM		4U	4U	NC
9. COBALT		5U	5U	NC
10. COPPER		[14]	[23]	NC
11. IRON		[56]	[73]	NC
12. LEAD		5U	5U	NC
13. MAGNESIUM		34300	34700	1.2
14. MANGANESE		[13]	16	NC
15. MERCURY		0.2U	0.2U	NC
16. NICKEL		8U	8U	NC
17. POTASSIUM		39500	39900	1
18. SELENIUM		5U	5U	NC
19. SILVER		4U	4U	NC
20. SODIUM		393000	397000	1
21. THALLIUM		10U	10U	NC
22. TIN		16U	16U	NC
23. VANADIUM		4U	4U	NC
24. ZINC		[18]	[17]	NC
Other:				
Cyanide				

X Out of Control

[1] To be added at a later date.

[2] RPD = [|S-D|/((S+D)/2)] x 100

NC - Non calculable RPD due to value(s) less than CRDL

Form VII

Q.C. Report No. 57025
INSTRUMENT DETECTION LIMITS AND
LABORATORY CONTROL SAMPLE

RECEIVED AUG 2 1 1987

LAB NAME ROCKY MOUNTAIN ANALYTICAL
DATE 7-24-87

CASE NO 7468
UNITS ug/L

Compound	Required Detection Limits (CRDL)-ug/l	Instrument Detection Limits (IDL)-ug/l ICP/AA	Furnace	Lab Control Sample True	Found	%R
Metals:						
1. ALUMINUM	200	24		1980	2040	103
2. ANTIMONY	60	21		1090	1130	103
3. ARSENIC	10	35	1	49	46	94
4. BARIUM	200	2		1980	1920	97
5. BERYLLIUM	5	1		481	477	99
6. CADMIUM	5	5		489	514	105
7. CALCIUM	5000	69		49800	51300	103
8. CHROMIUM	10	4		506	454	90
9. COBALT	50	5		474	484	102
10. COPPER	25	4		542	556	103
11. IRON	100	20		1990	1850	93
12. LEAD	5	28	1	98	96	98
13. MAGNESIUM	5000	51		25000	25500	102
14. MANGANESE	15	5		513	497	97
15. MERCURY	0.2		0.2CV	1.0	1.0	100
16. NICKEL	40	8		496	479	97
17. POTASSIUM	5000	151		50200	51700	103
18. SELENIUM	5		2	98	84	86
19. SILVER	10	4		509	512	101
20. SODIUM	5000	898		50700	51800	102
21. THALLIUM	10		1	97	88	91
22. TIN	40	16		2000	1860	93
23. VANADIUM	50	4		511	511	100
24. ZINC	20	3		3100	3070	99
Other:						
Cyanide	10		10AS	58		

CV - Cold Vapor
AS - Automated Spectrophotometric

Form III

2|4

Q.C. Report No. 57024

RECEIVED AUG 21 1987

BLANKS

LAB NAME ROCKY MOUNTAIN ANALYTICAL CASE NO. 7468

DATE 7-28-87 UNITS ug/L

Matrix SOIL

Preparation Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank 1	2
Metals:							
1. ALUMINUM	[80]	24U	24u			24U	24u
2. ANTIMONY	21U	21U	21u			21U	21u
3. ARSENIC	10u	10u	10u	10u		10u	
4. BARIUM	2U	2U	2u			2U	2u
5. BERYLLIUM	1U	1U	1u			1U	1u
6. CADMIUM	5U	5U	5u			5U	5u
7. CALCIUM	69U	69U	69u			69U	69u
8. CHROMIUM	4U	4U	4u			4U	4u
9. COBALT	5U	5U	5u			5U	5u
10. COPPER	4U	4U	4u			4U	4u
11. IRON	[45]	20U	[44]			[31]	20u
12. LEAD	5u	5u	5u			5u	
13. MAGNESIUM	51U	51U	51u			51U	51u
14. MANGANESE	5U	5U	5u			5U	5u
15. MERCURY	0.2u	0.2u				0.2u	
16. NICKEL	8U	8U	8u			8U	8u
17. POTASSIUM	151U	151U	151u			151U	151u
18. SELENIUM	5u	5u	5u	5u		5u	
19. SILVER	4U	4U	4u			4U	4u
20. SODIUM	898U	898U	898u			898U	898u
21. THALLIUM	10u	10u	10u			10u	
22. TIN	16U	16U	16u			16U	16u
23. VANADIUM	4U	4U	4u			4U	4u
24. ZINC	3U	[4.4]	3u			[4.7]	[3.8]
Other:							
Cyanide							

Form III

Q.C. Report No. 57024

BLANKS

RECEIVED AUG 2 1 1987

LAB NAME ROCKY MOUNTAIN ANALYTICAL CASE NO. 7468

DATE 7-28-87 UNITS ug/L

Matrix Soil

Preparation Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank 1	2
Metals:							
1. ALUMINUM		24u					
2. ANTIMONY		21u					
3. ARSENIC							
4. BARIUM		2u					
5. BERYLLIUM		1u					
6. CADMIUM		5u					
7. CALCIUM		69u					
8. CHROMIUM		4u					
9. COBALT		5u					
10. COPPER		4u					
11. IRON		[57]					
12. LEAD							
13. MAGNESIUM		51u					
14. MANGANESE		5u					
15. MERCURY							
16. NICKEL		8u					
17. POTASSIUM		151u					
18. SELENIUM							
19. SILVER		4u					
20. SODIUM		898u					
21. THALLIUM							
22. TIN		16u					
23. VANADIUM		4u					
24. ZINC		3u					
Other:							
Cyanide							

3|4

Form III

Q.C. Report No. 57024

RECEIVED AUG 21 1987 00015

BLANKS

LAB NAME ROCKY MOUNTAIN ANALYTICAL CASE NO. 7468

DATE 7-28-87 UNITS ug/L

Matrix SOIL

Preparation Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank 1	2
Metals:							
1. ALUMINUM							
2. ANTIMONY							
3. ARSENIC							
4. BARIUM							
5. BERYLLIUM							
6. CADMIUM							
7. CALCIUM							
8. CHROMIUM							
9. COBALT							
10. COPPER							
11. IRON							
12. LEAD	5u	5u	5u	5u	5u		
13. MAGNESIUM							
14. MANGANESE							
15. MERCURY	0.2u	0.2u	0.2u			0.2u	
16. NICKEL							
17. POTASSIUM							
18. SELENIUM							
19. SILVER							
20. SODIUM							
21. THALLIUM							
22. TIN							
23. VANADIUM							
24. ZINC							
Other:							
Cyanide							

Form III

4/4

Q.C. Report No. 57024

BLANKS

RECEIVED AUG 2 1 1987

00016

LAB NAME ROCKY MOUNTAIN ANALYTICAL

CASE NO. 7468

DATE 7-28-87

UNITS ug/L

Matrix Soil

Preparation Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank 1	2
Metals:							
1. ALUMINUM							
2. ANTIMONY							
3. ARSENIC							
4. BARIUM							
5. BERYLLIUM							
6. CADMIUM							
7. CALCIUM							
8. CHROMIUM							
9. COBALT							
10. COPPER							
11. IRON							
12. LEAD		5lb					
13. MAGNESIUM							
14. MANGANESE							
15. MERCURY							
16. NICKEL							
17. POTASSIUM							
18. SELENIUM							
19. SILVER							
20. SODIUM							
21. THALLIUM							
22. TIN							
23. VANADIUM							
24. ZINC							
Other:							
Cyanide							

Form V

00016

Q.C. Report No. 57024

SPIKE SAMPLE RECOVERY

RECEIVED AUG 2 1 1987

LAB NAME ROCKY MOUNTAIN ANALYTICAL

CASE NO. 7468

EPA Sample No. MEN600

DATE 7-28-87

Lab Sample ID No. -

Units mg/kg

MATRIX SOIL

Compound	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)	Spike Added (SA)	%R[1]
Metals:					
1. ALUMINUM	75-125	2080	1690	NR	
2. ANTIMONY	75-125	394	[123]	250	108
3. ARSENIC	75-125	70	60	20	50
4. BARIUM	75-125	1200	[161]	1000	104
5. BERYLLIUM	75-125	27	5U	25	108
6. CADMIUM	75-125	2170	1900	25	1080
7. CALCIUM	75-125	52600	48100	NR	
8. CHROMIUM	75-125	1140	995	100	145
9. COBALT	75-125	[248]	25U	250	99
10. COPPER	75-125	2210	1990	125	176
11. IRON	75-125	255000	240000	NR	
12. LEAD	75-125	~~26000~~ 26288 S	~~34000~~ 33288 S	10	~~800~~ 705
13. MAGNESIUM	75-125	[19000]	[17800]	NR	
14. MANGANESE	75-125	45800	43000	250	1120
15. MERCURY	75-125	5.0	4.4	0.5	120
16. NICKEL	75-125	563	337	250	90
17. POTASSIUM	75-125	755U	755U	NR	
18. SELENIUM	75-125	25U	25U	5	0
19. SILVER	75-125	97	73	25	96
20. SODIUM	75-125	[10000]	[6530]	NR	
21. THALLIUM	75-125	[25] S	5U	25	100
22. TIN	75-125	473	379	250	38
23. VANADIUM	75-125	349	[84]	250	106
24. ZINC	75-125	172000	165000	250	2800
Other					
Cyanide	75-125				

[1] %R = [(SSR - SR)/SA] x 100

"R" - out of control

Comments: 10x for matrix spike & sample results reported at additional 10x dilution due to high Zinc value. AS, SE, & HG matrix spiked sample results reported at additional 10x dilutions. TL matrix spike & PB matrix spike & sample results determined by MSA

The following elements reported unflagged due to sample concentration greater than 4 times the Spike Added value:

CADMIUM, CHROMIUM, COPPER, IRON

Form VI

RECEIVED AUG 21 1987

00013

Q.C. Report No. 57024

DUPLICATES

LAB NAME ROCKY MOUNTAIN ANALYTICAL

DATE 7-28-87

CASE NO. 7468
EPA Sample No. MEN600
Lab Sample ID No. -
Units mg/kg

Matrix SOIL

Compound	Control Limit[1]	Sample(S)	Duplicate(D)	RPD[2]
Metals:				
1. ALUMINUM		1690	1710	1.2
2. ANTIMONY		[123]	[139]	NC
3. ARSENIC		60	65	8
4. BARIUM		[161]	[175]	NC
5. BERYLLIUM		5U	5U	NC
6. CADMIUM		1900	1910	0.52
7. CALCIUM		48100	49700	3.3
8. CHROMIUM		995	986	0.91
9. COBALT		25U	25U	NC
10. COPPER		1990	2040	2.5
11. IRON		240000	240000	0
12. LEAD		33800 ~~340000~~ S	37800 ~~40000~~ S	16
13. MAGNESIUM		[17800]	[18300]	NC
14. MANGANESE		43000	45300	5.2
15. MERCURY		4.4	4.4	0.0
16. NICKEL		337	280	18
17. POTASSIUM		755U	755U	NC
18. SELENIUM		25U	25U	NC
19. SILVER		73	58	23
20. SODIUM		[6530]	[7990]	NC
21. THALLIUM		5U	5U	NC
22. TIN		379	365	3.8
23. VANADIUM		[84]	[85]	NC
24. ZINC		165000	172000	4.2
Other:				
Cyanide				

* Out of Control
[1] To be added at a later date. [2] RPD = [|S-D|/((S+D)/2)] x 100
NC - Non calculable RPD due to value(s) less than CRDL

The following elements reported unflagged due to sample and/or duplicate concentration less than 5 times the CRDL and +/- CRDL:
SILVER

RECEIVED AUG 2 1 1987

1/2

00020

Form VII

Q.C. Report No. 57024
INSTRUMENT DETECTION LIMITS AND
LABORATORY CONTROL SAMPLE

LAB NAME ROCKY MOUNTAIN ANALYTICAL
DATE 7-28-87

CASE NO 7468
UNITS ug/L

Compound	Required Detection Limits (CRDL)-ug/l	Instrument Detection Limits (IDL)-ug/l ICP/AA	Furnace	Lab Control Sample True	Found	%R
Metals:						
1. ALUMINUM	200	24		1980	1990	100
2. ANTIMONY	60	21		1090	1000	92
3. ARSENIC	10	35	1	49	46	94
4. BARIUM	200	2		1980	1960	99
5. BERYLLIUM	5	1		481	462	96
6. CADMIUM	5	5		489	506	103
7. CALCIUM	5000	69		49800	48900	98
8. CHROMIUM	10	4		506	444	88
9. COBALT	50	5		474	456	96
10. COPPER	25	4		542	563	104
11. IRON	100	20		1990	2000	101
12. LEAD	5	28	1	98	100	102
13. MAGNESIUM	5000	51		25000	26300	105
14. MANGANESE	15	5		513	487	95
15. MERCURY	0.2		0.2CV	1.0	1.01	101
16. NICKEL	40	8		496	479	97
17. POTASSIUM	5000	151		50200	48600	97
18. SELENIUM	5		2	98	106	108
19. SILVER	10	4		509	463	91
20. SODIUM	5000	898		50700	49200	97
21. THALLIUM	10		1	97	88	91
22. TIN	40	16		2000	1820	91
23. VANADIUM	50	4		511	498	97
24. ZINC	20	3		3100	3020	97
Other:						
Cyanide	10		10AS	58		

CV - Cold Vapor
AS - Automated Spectrophotometric

Form VII

2/2

Q.C. Report No. 57024 RECEIVED AUG 20 1987
INSTRUMENT DETECTION LIMITS AND
LABORATORY CONTROL SAMPLE

LAB NAME ROCKY MOUNTAIN ANALYTICAL CASE NO 7468
DATE 7-28-87 UNITS ug/L

Compound	Required Detection Limits (CRDL)-ug/l	Instrument Detection Limits (IDL)-ug/l ICP/AA	Furnace	Lab Control Sample True	Found	%R
Metals:						
1. ALUMINUM	200	24		1980	1970	99
2. ANTIMONY	60	21		1090	1110	102
3. ARSENIC	10	35	1	49		
4. BARIUM	200	2		1980	1950	98
5. BERYLLIUM	5	1		481	472	98
6. CADMIUM	5	5		489	521	107
7. CALCIUM	5000	69		49800	51300	103
8. CHROMIUM	10	4		506	456	90
9. COBALT	50	5		474	487	103
10. COPPER	25	4		542	536	99
11. IRON	100	20		1990	1940	97
12. LEAD	5	28	1	98		
13. MAGNESIUM	5000	51		25000	25500	102
14. MANGANESE	15	5		513	505	98
15. MERCURY	.2		0.2CV	1.0	1.05	105
16. NICKEL	40	8		496	476	96
17. POTASSIUM	5000	151		50200	50100	100
18. SELENIUM	5		2	98		
19. SILVER	10	4		509	495	97
20. SODIUM	5000	898		50700	50600	100
21. THALLIUM	10		1	97		
22. TIN	40	16		2000	2050	102
23. VANADIUM	50	4		511	500	98
24. ZINC	20	3		3100	3150	102
Other:						
Cyanide	10		10AS			

CV - Cold Vapor
AS - Automated Spectrophotometric

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

COPY

Date Received for Review 9/2 Date Review Completed 9/8/87

To: Kurt Sims

From: Zena Gold-Kaufman

Subject: Medina Aggregates

PAN: IL0394 Case # 7468

Sample Description

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

Project Data Status _____ Completed!!

_____ Incomplete, awaiting: _____

FIT Data Review Findings:

Toluene detected in some samples; PAHs found above and below CRDL.
Blank had 1,1,1TCEthane below CRDL.

✓ Compounds were detected in sample(s); see enclosed Chemical Evaluation Form.

Book No. _____ Page No. 174

6/18

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

RECEIVED SEP 1987

DATE: 8/31/87

SUBJECT: Review of Region V CLP Data
Received for Review on 7/16/87

FROM: Curtis Ross, Director (5SCRL) Patrick J. Ulanille for
Central Regional Laboratory

TO: Date User: FIT

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

SITE NAME Medusa Aggregate SMO Case No. 7468

EPA DATA SET NO. SF4132 No. OF SAMPLES 9 D.U./ACTIVITY NUMBERS Y905/C72100

CRL No.: 87F11S04-87FS11010
SMO
Traffic No. EM524 - EM416

CLP Laboratory: Clayton Hrs. Required for Review: 12 hours
PAN# IL0394

Following are our findings.

See attached review
reviewed by Zena Gold-Kaufman
8/27/87

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

cc: Duane Geuder, Quality Assurance Officer, EPA Support Services.
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

Medusa Aggregates

RECEIVED SEP 2 1981

This case consists of 4 low waters and 5 low soils for full organic analysis. The water blank was sample EM529. Sample EM416 was a duplicate of EM415

A. Holding Times: Acceptable. All holding times for extractions and/or analyses were met.

B. Surrogates: Acceptable for waters.
All fractions are fully in compliance.
Acceptable for soils.
Volatiles and pesticides are fully in compliance.
Semivolatiles - 3 out of 48; outside of QC limits.

C. MS/MSD: Water - Acceptable.
Recovery - All fractions are fully in compliance.
RPD - All fractions except VOA are inside QC limits.
VOAs - 1 out of 5; outside QC limits
Soil - Acceptable.
Recovery
VOA and Pesticides are all inside QC limits
B/N 4 out of 12; outside QC limits.
Acid 4 out of 10; outside QC limits.
RPD
All fractions except VOAs are inside QC limits.
VOAs R out of 5; outside QC limits.

D. Method Blank: Waters - Acceptable.
VOAs - common lab artifacts.
SVS - Several compounds detected below CRDL.
The only SV compound detected above CRDL is Bis(2-ethylhexyl) phthalate (BEHP) No pesticides/PCBs were detected.

ZGK 8/27/87

RECEIVED SEP 2 1987

Soils - Acceptable.

4 compounds were detected in the VOA fraction; two of these four below the CRDL. Methylene Chloride was detected at 9 ug/kg (CRDL = 5 ug/kg); acetone was detected at 32 ug/kg (CRDL = 10 ug/kg). 8 SV TICs were detected in the blank along with BEHP and Toluene. No pesticides/PCBs were detected at or above CRDL.

E. Calibrations: Acceptable.
For the semivolatile initial calibration dated 6/26/87 time 11:07, 4-Nitroaniline and 4,6-Dinitro-2-Methylphenol were not detectable at 20 ng. Detection limits should be elevated accordingly.

Some compounds were outside QC limits with respect to response factor, %RSD, and or %D. These compounds are so noted on the Calibration Outlier Form.

F. Tuning: Acceptable.
All ions meet ion abundance criteria. All calculations are acceptable. All samples run within 12 hrs. of tune.

G. Pesticides: On the evaluation check for linearity standards for 4,4-DDT and DBC were outside QC criteria. Pesticide hits were detected in samples associated with these standards. However, this occurred in the capillary column which is used solely for confirmation. It is the opinion of this reviewer that the data is not invalidated.

Linearity is acceptable except as noted above.
DBC Shift - acceptable.
DDT retention times are greater than 12 min. - acceptable.

BoL 8/27/87

USER INFORMATION SHEET

Medusa Aggregates

Case #7468

RECEIVED SEP 2 1987

Sample	TCL Compound	TICs
EM414	Common lab artifacts	None detected
EM415	No VOAs or Pest/PCBs Isophorone 1J ug/l	No VOA TICs 6 SV TICs
EM416	Toluene 1J ug/l No SV or pest/PCBs	No VOA TICs 4 SV TICs
EM529 (Blank)	1,1,1-Trichloroethane 2J ug/l No SV or Pest/PCBs	None detected
EM524	Common lab artifacts	1 VOA TICs 22 SV TICs
EM525	1,1,1-Trichloroethane 2J ug/kg Toluene 17 ug/kg See attached listing for SV and Pest/PCB hits	1 VOA TICs 23 SV TICs
EM526	See attached listing	1 VOA TIC 13 SV TICs
EM527	See attached listing	1 VOA TICs 23 SV TICs
EM528	See attached listing	1 VOA TIC 16 SV TICs

See attached sheet for compounds detected. Check OACs forms for errors in transcription. Toluene detected in some samples; PAHs found above and below CRDL.

ZGK 8/27/87

MEDUSA AGGREGATES	SAMPLE	DET. LIMIT	EM 525	EM 526	EM 527	EM 528				
chloromethane										
bromomethane										
vinyl chloride										
chloroethane										
methylene chloride										
acetone										
carbon disulfide										
1,1-dichloroethene										
1,1-dichloroethane										
trans-1,2,-dichloroethene										
chloroform										
1,2-dichloroethane										
2-butanone										
1,1,1-trichloroethane										
carbon tetrachloride										
vinyl acetate										
bromodichloromethane										
1,1,2,2-tetrachloroethene										
1,2-dichloropropane										
trans-1,3-dichloropropene										
trichloroethene										
dibromochloromethane										
1,1,2-trichloroethane										
benzene										
cis-1,3-dichloropropene										
2-chloroethylvinylether										
bromoform										
2-hexanone										
4-methyl-2-pentanone					10 J					
tetrachloroethene										
toluene			17	13	40	24				
chlorobenzene										
ethylbenzene										
styrene										
total xylenes										
N-nitrosodimethylamine										
phenol										
aniline										
bis(2-chloroethyl)ether			120 J							
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										
isophrone										
2-nitrophenol										
2,4-dimethylphenol										
benzoic acid										
bis(2-chloroethoxy)methane										
2,4-dichlorophenol										
1,2,4-trichlorobenzene										
naphthalene			170 J		260 J					
4-chloroaniline										
hexachlorobutadiene										
4-chloro-3-methylphenol										
2-methylnapthalene			88 J		510 J	68 J				
hexachlorocyclopentadiene										
2,4,6-trichlorophenol										

V O A

B

S

RECEIVED SEP 2 198

Case #7468

MEDUSA AGGREGATES

	COMPOUND	SAMPLE DET. LIMIT	EM 525	EM 526	EM 527	EM 528
V	dimethyl phthalate					
	acenaphthylene					
	3-nitroaniline					
	acenaphthene		260 J			
	2,4-dinitrophenol					
	4-nitrophenol					
	dibenzofuran		200 J		150 J	
	2,4-dinitrotoluene					
S	2,6-dinitrotoluene					
	diethylphthalate					
	4-chlorophenyl-phenylether					
V	fluorene		280 J			
	4-nitroaniline					
	4,6-dinitro-2-methylphenol					
	N-nitrosodiphenylamine					
	4-bromophenyl-phenylether					
	hexachlorobenzene					
	pentachlorophenol					
	phenanthrene		4600		550 J	350 J
	anthracene		1000			
	di-n-butylphthalate		460 J			
	fluoranthene		5400		390 J	1000
	benzidine					
	pyrene		5900	110 J	1200	450 J
	butylbenzylphthalate		40 J		150 J	
	3,3'-dichlorobenzidine					
	benzo(a)anthracene		4300		320 J	660 J
	bis(2-ethylhexyl)phthalate					
	chrysene		5400	540 J	570 J	1000
	di-n-octylphthalate					
	benzo(b&k)fluoranthene b/K		5100/790	240 J	640 J	1200 / 160 J
	benzo(a)pyrene		3400		310 J	710
	indeno(1,2,3-cd)pyrene		1900	360 J	170 J	530 J
	dibenzo(a,h)anthracene		410 J			83 J
↑	benzo(g,h,i)perylene		1200	420 J	180 J	46 J
↓	alpha-BHC					
	beta-BHC					
	delta-BHC					
	gamma-BHC(lindane)					
P	heptachlor					
	aldrin					
E	heptachlor epoxide					
	endosulfan I					
S	dieldrin					
T	4,4'-DDE					
	endrin					
	endosulfan II					
	4,4'-DDD					
	endrin aldehyde					
	endosulfan sulfate					
	4,4'-DDT		180			
	methoxychlor					
	endrin ketone					
	chlordane					
	toxaphene					
P	Aroclor-1016					
	Aroclor-1221					
C	Aroclor-1232					
B	Aroclor-1242					
	Aroclor-1248					
	Aroclor-1254			620 A	720 A	
	Aroclor-1260					

RECEIVED SEP 2 1987

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE# 7468 CONTRACTOR Clayton

RECEIVED SEP 2 198

DATE/TIME:	Init. Cal. 6/17 1157			Cont. Cal. 6/20 1107			Cont. Cal. 6/23 2346			Cont. Cal. 6/24 437			Cont. Cal. 6/25 1551		
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane					23.6	J					27	J		32	J
Bromomethane															
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone															
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene					26	J									
Chloroform															
2-Butanone	.03		J/R				.04		J/R				.04		J/R
1,2-Dichloroethane											34.8	J			
1,1,1-Trichloroethane															
Carbon Tetrachloride											80.9	J			
Vinyl Acetate											32.3	J			
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene											95.8	J			
cis-1,3-Dichloropropene															
2-Chloroethylvinylether					28	J		26	J						
Bromoform															
4-Methyl-2-Pentanone															
2-Hexanone															
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

all samples	MBIK	MBIK	MBIK
	EM-414	EM 524	EM 526
	EM 414 MS		EM 525
	EM 414 MSD		EM 526 MSD
	EM 415		EM 528
	EM 416		
	EM 529		

EM 527
EM 526 MS

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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V

CALIBRATION OUTLIERS

SEMIVOLATILE HSL COMPOUNDS

(Page 1)

6/26/87
1833

CASE# 7463 CONTRACTOR Clayton

RECEIVED

	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	6/26			6/27	352		6/29								
	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								25.7	J						
1,2-Dichlorobenzene															
2-Methylphenol															
bis(2-chloroisopropyl)Ether															
4-Methylphenol					27.5	J									
N-Nitroso-Di-n-Propylamine															
Hexachloroethane								25	J						
Nitrobenzene															
Isophorone															
2-Nitrophenol															
2,4-Dimethylphenol															
Benzoic Acid								33.5	J						
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								25	J						
Acenaphthene															
2,4-Dinitrophenol					26.9	J									
4-Nitrophenol								33.5	J						
Dibenzofuran															

AFFECTED SAMPLES:

	EM 526	EM 523
	EM 527	EM 525
All samples	EM 526 MS	EM 524
	EM 526 MSD	

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

6/26/87
1833

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
Page 2

RECEIVED SEP

CASE# 7468 CONTRACTOR Clayton

	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	6/21/87														
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
2,4-Dinitrotoluene															
2,6-Dinitrotoluene															
Diethylphthalate															
4-Chlorophenyl-phenylether															
Fluorene															
4-Nitroaniline *								[illegible]	J						
4,6-Dinitro-2-Methylphenol *		43.5	J		25.7	J		29	J						
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															

* not detected at 20 ng

SEE PAGE 1 FOR AFFECTED SAMPLES.

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

6/12/87

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
(Page 1)

RECEIVED SEP 2 198

CASE # 7468 CONTRACTOR Clayton

	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	6/12			6/23 1215											
	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		45.2	J		145	J									
1,2-Dichlorobenzene															
2-Methylphenol															
bis(2-chloroisopropyl)Ether					31	J									
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				~~170~~	176	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															
Acenaphthene															
2,4-Dinitrophenol															
4-Nitrophenol					60	J									
Dibenzofuran															

AFFECTED SAMPLES:

all samples

EM 520
EM 414
EM 414 MS
EM 414 MSD
EM 416
EM 415

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

6/23/87

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V

RECEIVED SEP 1987

CALIBRATION OUTLIERS

SEMIVOLATILE HSL COMPOUNDS

CASE# 7468 CONTRACTOR Clayton

	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	6/12			6/23 1037											
	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					38	J									
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.

7468 • 5-021-01

Clayton Environmental Consultants, Inc.

22345 Roethel Drive • Novi, Michigan 48050 • (313) 344-1770

RECEIVED SEP 2 1987

CASE NARRATIVE

Case No.: 7468, Region V
SMO Nos.: EM 414-416; EM 524-529
Contract No.: 68-01-7100

Case Summary

Case 7468 was received on June 19, 1987, and consisted of four (4) low-level water samples and five (5) low-level soil samples for full organic analyses.

Gel permeation chromatography cleanup (GPC) was performed on the BNA and pesticide fractions of all low-level soil samples. This procedure resulted in a dilution factor of two, since only one-half of the extract was prepared.

In the matrix spike and the matrix spike duplicate (MS/MSD) of soil sample EM 526, Aroclor 1254 co-eluted with dieldrin, endrin, and 4,4-DDT. Therefore, these compounds were quantitated as a single component pesticide peak for purposes of calculating the MS/MSD recoveries from a 0.15 dilution.

Aroclor 1254 was detected at low concentration in sample EM 526. This compound was not detected in the MS or the MSD fraction of this sample, because of the 0.15 dilution.

The pesticide fraction of soil samples EM 525, 526, and 527 contained pesticide/PCB compounds and are reported on Form X. These compounds were below the GC/MS instrument detection limit, and therefore were not confirmed by GC/MS.

The internal standards Chrysene-D_{12} and Perylene-D_{12} were outside the quality control (QC) window in the first analysis of the BNA fraction of soil samples EM 525, 526, 526 MS/MSD and 527. These six samples were rerun with new internal standards added to another portion of the extract with similar results. These problems are attributed to a matrix effect and only the results of the original analyses are reported.

The Hewlett Packard GC/MS data system used by Clayton has a combined NBS/WILEY library. The data system prints the mass spectra for all tentatively identified compounds (TIC's) and the top three library matches. When no library matches are found, the data system prints "NO DATA BASE ENTRIES RETRIEVED".

The number labeled "dilution factor" on the quantitation reports for the VOA and BNA analyses is a calculation factor which takes into account, based on the sample matrix: percent moisture, sample size, unit conversions, and dilutions, to derive the final concentration.

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Standards

The instrument was tuned to meet the abundance criteria for BFB and DFTPP before any standards, blanks, or samples were analyzed. Initial and continuing calibration data of the SPCC and CCC for VOA's and BNA's are within the contract-required QC limits.

Percent-difference and retention time shifts for all pesticide compounds were within contract-required criteria for the primary run which was used for quantitation.

Pesticide Linearity and Degradation

Linearity and degradation criteria are within the contract-required QC limits for the packed column which was used for quantitation.

Surrogate Recoveries

Surrogate recoveries are within QC limits for all blanks and samples except for the following:

	Compound	% Rec	QC Range
BNA (L/S)			
EM 526	terphenyl-D_{14}	139	18-137
EM 527	terphenyl-D_{14}	190	18-137
EM 526MS	terphenyl-D_{14}	150	18-137

Matrix Spike/Matrix Spike Duplicate

Matrix spike and matrix spike duplicate recovery data are within QC limits except for the following compounds.

	Compound	RPD	QC Limit
VOA (L/S)			
EM 526	1,1-dicholorethene	48	22
	trichloroethene	26	24

	Compound	% Rec	QC Range
BNA (L/S)			
EM 526MS	2,4 dinitrotoluene	95	28-80
	pyrene	194	35-142
	pentachlorophenol	7.3	17-109
	phenol	92	26-90
EM 526MSD	2,4 dinitrotoluene	97	28-80
	pyrene	148	35-142
	pentachlorophenol	11	17-109
	phenol	99	26-90

Case 7468

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Blanks

Blank results are recorded on the Method Blank Summary form for all compounds; the following HSL compounds were detected above the contract-required detection limit (CRDL).

	Compound	Concentration (ug/Kg)	CRDL (ug/Kg)
VOA			
MBlank II (L/S)	acetone	32	10
MBlank III(L/S)	acetone	32	10
	methylene chloride	9	5

	Compound	Concentration (ug/L)	CRDL (ug/L)
BNA			
MBlank I(L/W)	bis(2-ethyl hexyl) phthalate	18	10

Additional Flags

The following are laboratory flags which are used in addition to those identified by the EPA:

N= Instrument detection limit exceeded the CRDL, therefore instrument detection limit was used

M= Matrix spike compound.

A= Indicates a pesticide value less than the dilution-corrected limit of detection but greater than the CRDL.

Daryl Strandbergh
Project Manager, CLP

Date: 7/15/87

WATER SURROGATE PERCENT RECOVERY SUMMARY

Case No. 7468 Contract Laboratory Clayton Environmental Contract No. 68-01-7100

	VOLATILE			SEMI-VOLATILE								PESTICIDE	
SMO TRAFFIC NO.	TOLUENE-D8 (88-110)	BFB (86-115)	1,2 DICHLORO-ETHANE-D4 (76-114)	NITRO-BENZENE-D5 (35-114)	2-FLUORO-BIPHENYL (43-116)	TERPHENYL-D14 (33-141)			PHENOL-D5 (10-94)	2-FLUORO PHENOL (21-100)	2,4,6 TRIBROMO PHENOL (10-123)	DIBUTYL-CHLORENDATE (24-154)	
EM-414	104 ✓	103 ✓	92 ✓	69	68	66			23	37	55	63	
EM-415	105 ✓	103 ✓	111 ✓	85	82	121			28	40	67	74	
EM-416	103 ✓	104 ✓	105 ✓	60	64	95			27	37	76	76	
EM-529	105 ✓	102 ✓	105 ✓	73	72	69			26	42	46	87	
MBLK1(4ml)	103 ✓	102 ✓	96 ✓	72	65	98			25	41	89	89	
EM-414MS	103 ✓	100 ✓	87 ✓	73	73	67			23	34	63	73	(0.4dil)
EM-414MSD	105 ✓	103 ✓	108 ✓	72	75	65			19	35	80	64	(0.4dil)

* VALUES ARE OUTSIDE OF CONTRACT REQUIRED QC LIMITS

** ADVISORY LIMITS ONLY

Volatiles: 0 out of 27 ; outside of QC limits

Semi-Volatiles: 0 out of 42 ; outside of QC limits

Pesticides: 0 out of 7 ; outside of QC limits

Comments: Evaluation std mix C, Run #1458, was used to calculate dibutylchlorendate

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7468.5022-01

SOIL SURROGATE PERCENT RECOVERY SUMMARY

Lab No. 7468 Contract Laboratory Clayton Environmental Contract No 68-01-1100

Medium ✓

	VOLATILE			SEMI-VOLATILE								PESTICIDE
Sample No.	TOLUENE-D8 (81-117)	BFB (74-121)	1,2 DICHLORO ETHANE-D4 (70-121)	NITRO BENZENE-D5 (23-120)	2-FLUORO-BIPHENYL (30-115)	TERPHENYL-D14 (18-137)			PHENOL-D5 (24-113)	2-FLUORO PHENOL (25-121)	2,4,6 TRIBROMO PHENOL (19-122)	DIBUTYL CHLORENDATE (20-150)
524	102 ✓	100 ✓	84 ✓	85	81	81			67	63	79	56
525	105 ✓	95 ✓	85 ✓	84	104	81			72	74	47	74
526	106 ✓	95 ✓	77 ✓	79	70	139 *			59	54	39	47
527	108 ✓	94 ✓	98 ✓	88	77	190 *			72	69	46	4353 WB 7/11/87
528	105 ✓	91 ✓	86 ✓	83	82	92			72	71	99	61
~~[illegible]~~(HS)	103 ✓	112 ✓	87 ✓	94	84	101			68	71	92	50
~~[illegible]~~(LS)	101 ✓	101 ✓	81 ✓	NR	NR	NR			NR	NR	NR	NR
~~[illegible]~~(LS)	104 ✓	102 ✓	93 ✓	NR	NR	NR			NR	NR	NR	NR
26MS	102 ✓	96 ✓	100 ✓	75	68	150 *			59	50	26	52
26MSD	103 ✓	94 ✓	79 ✓	77	67	117			62	54	36	51

VALUES ARE OUTSIDE OF CONTRACT REQUIRED QC LIMITS ✓

ADVISORY LIMITS ONLY

Volatiles: 0 out of 30 ; outside of QC limits

Semi-Volatiles: 3 out of 48 ; outside of QC limits

Pesticides: 0 out of 8 ; outside of QC limits

7/86

Comments: Evaluation std. C Run # 1458 was used for calculating dibutyl chlorendate

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7488.5-022-02

WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Case No. 7468 Contractor Clayton Environmental Contract No. 68 01- 1100

FRACTION	COMPOUND	CONC. SPIKE ADDED (ug/L)	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	QC LIMITS* RPD	QC LIMITS* RECOVERY
VOA SMO SAMPLE NO. EM-414	1,1-Dichloroethene	50	0	53	106	61	122	14	14	61-145
	Trichloroethene	50	0	42	84	45	90	6.9	14	71-120
	Chlorobenzene	50	0	51	102	55	110	7.5	13	75-130
	Toluene	50	0	54	108	57	114	5.4	13	76-125
	Benzene	50	0	46	92	54	108	16*	11	76-127
B/N SMO SAMPLE NO. EM-414	1,2,4-Trichlorobenzene	100	0	81	81	80	80	1.2	28	39-98
	Acenaphthene	100	0	84	84	85	85	1.2	31	46-118
	2,4 Dinitrotoluene	100	0	83	83	78	78	6.2	38	24-96
	Pyrene	100	0	67	67	67	67	0	31	26-127
	N-Nitroso-Di-n-Propylamine	100	0	79	79	75	75	5.2	38	41-116
	1,4-Dichlorobenzene	100	0	73	73	71	71	2.8	28	36-97
ACID SMO SAMPLE NO. EM-414	Pentachlorophenol	200	0	140	70	85	42	49	50	9-103
	Phenol	200	0	67	34	59	30	13	42	12-89
	2-Chlorophenol	200	0	130	65	160	80	21	40	27-123
	4-Chloro-3-Methylphenol	200	0	140	70	170	85	19	42	23-97
	4-Nitrophenol	200	0	68	34	42	21	47	50	10-80
PEST SMO SAMPLE NO. EM 414	Lindane	0.2	0.00	0.16	80	0.16	80	0.0	15	56-123
	Heptachlor	0.2	0.00	0.15	75	0.15	75	0.0	20	40-131
	Aldrin	0.2	0.00	0.15	75	0.13	65	14.	22	40-120
	Dieldrin	0.5	0.00	0.45	90	0.46	92	2.2	18	52-126
	Endrin	0.5	0.00	0.48	96	0.46+	92	4.3	21	56-121
	4,4'-DDT	0.5	0.00	0.56	112	0.49+	98	13	27	38-127

*ASTERISKED VALUES ARE OUTSIDE QC LIMITS.

RPD: VOAs 1 out of 5 : outside QC limits
B/N 0 out of 6 : outside QC limits
ACID 0 out of 5 : outside QC limits
PEST 0 out of 6 : outside QC limits

RECOVERY: VOAs 0 out of 10 : outside QC limits
B/N 0 out of 12 : outside QC limits
ACID 0 out of 10 : outside QC limits
PEST 0 out of 12 : outside QC limits

Comments: + calculated using Area/Height ratio

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SOIL MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Case No. 7468 Contractor Clayton Environmental Contract No. 68-01-7100

Low Level ✓ Medium Level

FRACTION	COMPOUND	CONC. SPIKE ADDED (ug/Kg)	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	RPD	QC LIMITS* RPD	QC LIMITS* RECOVERY
VOA SMO SAMPLE NO. EM-526	1,1-Dichloroethene	55	0	35	64	57	104	48*	22	59-172
	Trichloroethene	55	0	40	73	52	95	26*	24	62-137
	Chlorobenzene	55	0	49	89	57	104	15	21	60-133
	Toluene	55	13	63	91	72	107	13	21	59-139
	Benzene	55	0	45	82	50	91	11	21	66-142
B/N SMO SAMPLE NO. EM526	1,2,4-Trichlorobenzene	3700	0	3300	89	3400	92	3.0	23	38-107
	Acenaphthene	3700	0	3500	95	3400	92	2.9	19	31-137
	2,4 Dinitrotoluene	3700	0	3500	95*	3600	97*	2.8	47	28-89
	Pyrene	3700	110	7300	194*	5600	148*	26	36	35-142
	N-Nitrosodi-n-Propylamine	3700	0	3500	95	3500	95	0	38	41-126
	1,4-Dichlorobenzene	3700	0	3100	84	3200	86	3.2	27	28-104
ACID SMO SAMPLE NO. EM526	Pentachlorophenol	7400	0	540	7.3*	840	11*	43	47	17-109
	Phenol	7400	0	6800	92*	7300	99*	7.1	35	26-90
	2-Chlorophenol	7400	0	5900	80	6400	86	8.1	50	25-102
	4-Chloro-3-Methylphenol	7400	0	6500	88	7000	95	7.4	33	26-103
	4-Nitrophenol	7400	0	3400	46	5100	69	40	50	11-114
PEST SMO SAMPLE NO. EM526	Lindane	59	0.00	40	68	43	73	7.2	50	46-127
	Heptachlor	59	0.00	57	97	62	105	8.4	31	35-130
	Aldrin	59	0.00	53	90	53	90	0.0	43	34-132
	Dieldrin	150	44 †	170	84	240	131	34	38	31-134
	Endrin	150	89 †	100	67	200	74	5.1	45	42-139
	4,4'-DDT	150	210 †	400	127	380	113	5.1	50	23-134

*ASTERISKED VALUES ARE OUTSIDE QC LIMITS.

RPD: VOAs 2 out of 5 outside QC limits
B/N 0 out of 6 outside QC limits
ACID 0 out of 5 outside QC limits
PEST 0 out of 6 outside QC limits

RECOVERY: VOAs 0 out of 10 outside QC limits
B/N 4 out of 12 outside QC limits
ACID 4 out of 10 outside QC limits
PEST 0 out of 12 outside QC limits

Comments: †Co-eluting A-1254 peak quantitated as single component pesticide peak for purposes of calculating MS/MSD recoveries from 0.15 dilution

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7468.5-023-02

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METHOD BLANK SUMMARY

Case No. 7468 Region IV Contractor Clayton Environmental ~~Contract No.~~ 68-01-7100

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	CONC. LEVEL	INST. ID	CAS NUMBER	COMPOUND (VOA, TIC OR UNKNOWN)	CONC.	UNITS	CRQL
B8413 MBIKI	6/30/87	VOA	WATER	LOW	2B	75092	METHYLENE CHLORIDE	1 J	ug/L	5
B8413 MBIKI	6/30/87	VOA	WATER	LOW	2B	67641	ACETONE	6 J	ug/L	10
B8413 MBIKI	6/30/87	VOA	WATER	LOW	2B	78933	2-BUTANONE	5 J	ug/L	10
A9083 M-BIKI	6/29/87	BNA	WATER	LOW	1A	65850	BENZOIC ACID	17 J	ug/L	50
A9083 M-BIKI	6/29/87	BNA	WATER	LOW	1A	120821	1,2,4-TRICHLOROBENZENE	1 J	ug/L	10
A9083 M-BIKI	6/29/87	BNA	WATER	LOW	1A	117817	BIS(2-ETHYLHEXYL) PHTHALATE	18	ug/L	10
A9083 M-BIKI	6/29/87	BNA	WATER	LOW	1A	117840	DI-N-OCTYL PHTHALATE	2 J	ug/L	10
A9083 M-BIKI	6/29/87	BNA	WATER	LOW	1A	108883	TOLUENE	200 J	ug/L	—
A9083 M-BIKI	6/29/87	BNA	WATER	LOW	1A	123864	ACETIC ACID, BUTYL ESTER	40 J	ug/L	—
A9083 M-BIKI	6/29/87	BNA	WATER	LOW	1A	123422	4-HYDROXY-4-METHYL-2-PENTANONE *	9 J	ug/L	—
A9083 M-BIKI	6/29/87	BNA	WATER	LOW	1A	108383	M-XYLENE	30 J	ug/L	—
A9083 M-BIKI	6/29/87	BNA	WATER	LOW	1A	—	O+P-XYLENE	10 J	ug/L	—
# Run 1469 MBIKI	6/24/87	Pest	Water	LOW	HP-5733	—	No pest/PCB detected at or above CRDL	-	-	-

Comments: * possible aldol condensation product

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METHOD BLANK SUMMARY

Case No. 7468 Region V Contractor Clayton Environmental Contract No. 68-01-7100

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	CONC. LEVEL	MOD. ID	CAS NUMBER	COMPOUND (INCL. TIC OR UNKNOWN)	CONC.	UNITS	CRQL
B8466MBIKI	6/24/87	VOA	SOIL	LOW	2B	75092	METHYLENE CHLORIDE	9	ug/kg	5
B8466M-BIKI	6/24/87	VOA	SOIL	LOW	2B	67641	ACETONE	9 J	ug/kg	10
B8474M-BIKII	6/24/87	VOA	SOIL	LOW	2B	75092	METHYLENE CHLORIDE	2 J	ug/kg	5
B8474M-BIKII	6/24/87	VOA	SOIL	LOW	2B	67641	ACETONE	32	ug/kg	10
B8474M-BIKII	6/24/87	VOA	SOIL	LOW	2B	78933	2-BUTANONE	8 J	ug/kg	10
8/26/87 ~~B84~~ B8507 M-BIKIII	6/25/87	VOA	SOIL	LOW	2B	75092	METHYLENE CHLORIDE	4 J	ug/kg	5
B8507M-BIKIII	6/25/87	VOA	SOIL	LOW	2B	67641	ACETONE	32	ug/kg	10
B8507M-BIKIII	6/25/87	VOA	SOIL	LOW	2B	78933	2-BUTANONE	6 J	ug/kg	10
B8507M-BIKIII	6/25/87	VOA	SOIL	LOW	2B	67630	2-PROPANOL	7 J	ug/kg	—
A9084MBIKI	6/29/87	BNA	SOIL	LOW	1A	117817	BIS(2-ETHYLHEXYL)PATHALATE	100 J	ug/kg	670
A9084MBIKI	6/29/87	BNA	SOIL	LOW	1A	108883	TOLUENE	1000 J	ug/kg	-
A9084MBIKI	6/29/87	BNA	SOIL	LOW	1A	—	2-METHYL-3-HEPTENE	300 J	ug/kg	-
A9084M-BIKI	6/29/87	BNA	SOIL	LOW	1A	—	UNKNOWN COMPOUND	2000 J	ug/kg	-
A9084M-BIKI	6/29/87	BNA	SOIL	LOW	1A	123422	4-HYDROXY-4-METHYL-2-PENTANONE *	40000 J	ug/kg	-
A9084M-BIKI	6/29/87	BNA	SOIL	LOW	1A	110123	5-METHYL-2-HEXANONE	3000 J	ug/kg	-
A9084M-BIKI	6/29/87	BNA	SOIL	LOW	1A	2216344	4-METHYLOCTANE	1000 J	ug/kg	-
A9084M-BIKI	6/29/87	BNA	SOIL	LOW	1A	2216333	3-METHYLOCTANE	2000 J	ug/kg	-
A9084M-BIKI	6/29/87	BNA	SOIL	LOW	1A	3744073	4-METHYL-4-PENTEN-2-ONE	400 J	ug/kg	-
A9084M-BIKI	6/29/87	BNA	SOIL	LOW	1A	102829	N,N-DIBUTYL-1-BUTANAMINE	400 J	ug/kg	-
Run# 1480 M-BIKI	6/25/87	Pest	soil	Low	HP5733	—	No pest/PCB detected at or above CRDL	—	ug/kg	-

Comments: * possible aldol condensation product.

AMC 7/7/87

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LABORATORY GENERATED INSTRUMENT LIMIT OF DETECTION

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7 4 6 8 5 -0 3 3 -0

Organics Analysis Data Sheet
(Page 1)

Instrument #2B

Laboratory Name: Clayton Environmental

Case No:

Lab Sample ID No:

QC Report No:

Sample Matrix:

Contract No:

Data Release Authorized By:

Date Sample Received:

Volatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared:

Date Analyzed: 03/10/87

Conc/Dil Factor: pH

Percent Moisture: (Not Decanted)

CAS Number		* ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	6
74-83-9	Bromomethane	5
75-01-4	Vinyl Chloride	9
75-00-3	Chloroethane	8
75-09-2	Methylene Chloride	3
67-64-1	Acetone	5
75-15-0	Carbon Disulfide	5
75-35-4	1, 1-Dichloroethene	4
75-34-3	1, 1-Dichloroethane	2
156-60-5	Trans-1, 2-Dichloroethene	2
67-66-3	Chloroform	1
107-06-2	1, 2-Dichloroethane	4
78-93-3	2-Butanone	7
71-55-6	1, 1, 1-Trichloroethane	3
56-23-5	Carbon Tetrachloride	4
108-05-4	Vinyl Acetate	5
75-27-4	Bromodichloromethane	4

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

* Total (ng) instrument limits are 5X the (ug limits.

Data Reporting Qualifiers

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

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

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

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

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

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

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

M Matrix spike compound

N Instrument limit of detection was used because it was higher than the CRQL

B Indicates a value less than the

Laboratory Name CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

Case No. _____

LABORATORY GENERATED INSTRUMENT LIMIT OF DETECTION

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Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Instrument 1A

Concentration: Low Medium (Circle One)

Date Extracted/Prepared _____

Date Analyzed 5-21-86

Conc/Dil Factor: _____

Percent Moisture (Decanted) _____

GPC Cleanup ☐Yes ☐No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		* ug/l or ug/Kg (Circle One)
108-95-2	Phenol	7
111-44-4	bis(-2-Chloroethyl)Ether	5
95-57-8	2-Chlorophenol	4
541-73-1	1 3-Dichlorobenzene	6
106-46-7	1 4-Dichlorobenzene	6
100-51-6	Benzyl Alcohol	3
95-50-1	1 2-Dichlorobenzene	8
95-48-7	2-Methylphenol	3
39638-32-9	bis(2-chloroisopropyl)Ether	7
106-44-5	4-Methylpheno	2
621-64-7	N-Nitroso-Di-n-Propylamine	4
67-72-1	Hexachloroethane	2
98-95-3	Nitrobenzene	9
78-59-1	Isophorone	7
88-75-5	2-Nitrophenol	2
105-67-9	2. 4-Dimethylphenol	8
65-85-0	Benzoic Acid	9
111-91-1	bis(-2-Chloroethoxy)Methane	5
120-83-2	2 4-Dichlorophenol	5
120-82-1	1 2. 4-Trichlorobenzene	3
91-20-3	Naphthalene	6
106-47-8	4-Chloroaniline	3
87-68-3	Hexachlorobutadiene	5
59-50-7	4-Chloro-3-Methylphenol	6
91-57-6	2-Methylnaphthalene	6
77-47-4	Hexachlorocyclopentadiene	8
88-06-2	2. 4 6-Trichlorophenol	8
95-95-4	2 4 5-Trichlorophenol	13
91-58-7	2-Chloronaphthalene	9
88-74-4	2-Nitroaniline	3
131-11-3	Dimethyl Phthalate	6
208-96-8	Acenaphthylene	5
99-09-2	3-Nitroaniline	13

CAS Number		* ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	6
51-28-5	2. 4-Dinitrophenol	18
100-02-7	4-Nitrophenol	14
132-64-9	Dibenzofuran	5
121-14-2	2 4-Dinitrotoluene	6
606-20-2	2 6-Dinitrotoluene	6
84-66-2	Diethylphthalate	4
7005-72-3	4-Chlorophenyl-phenylether	3
86-73-7	Fluorene	5
100-01-6	4-Nitroaniline	7
534-52-1	4 6-Dinitro-2-Methylphenol	19
86-30-6	N-Nitrosodiphenylamine (1)	3
101-55-3	4-Bromophenyl-phenylether	3
118-74-1	Hexachlorobenzene	3
87-86-5	Pentachlorophenol	14
85-01-8	Phenanthrene	3
120-12-7	Anthracene	4
84-74-2	Di-n-Butylphthalate	5
206-44-0	Fluoranthene	8
129-00-0	Pyrene	10
85-68-7	Butylbenzylphthalate	6
91-94-1	3 3 -Dichlorobenzidine	28 N
56-55-3	Benzo(a)Anthracene	5
117-81-7	bis(2-Ethylhexyl)Phthalate	8
218-01-9	Chrysene	4
117-84-0	Di-n-Octyl Phthalate	6
205-99-2	Benzo(b)Fluoranthene	11 N
207-08-9	Benzo(k)Fluoranthene	9
50-32-8	Benzo(a)Pyrene	3
193-39-5	Indeno(1 2. 3-cd)Pyrene	13 N
53-70-3	Dibenzo(a h)Anthracene	16 N
191-24-2	Benzo(g h i)Perylene	17 N

(1)-Cannot be separated from diphenylamine

* 1g injected is equivalent to 1.4 L for low level water

Laboratory Name: Clayton Environmental

Case No: _____

7488 · 5

LABORATORY CHEMISTRY DETECTION LIMITS OF REACTIVITY

HP-5733A PACKED COLUMN

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: _____

Date Analyzed: 4-21-87

Conc/Dil Factor: _____

Percent Moisture (decanted) _____

GPC Cleanup ☐Yes ☐No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.0019
319-85-7	Beta-BHC	0.0022
319-86-8	Delta-BHC	0.0030
58-89-9	Gamma-BHC (Lindane)	0.0015
76-44-8	Heptachlor	0.00067
309-00-2	Aldrin	0.0014
1024-57-3	Heptachlor Epoxide	0.0026
959-98-8	Endosulfan I	0.0036
60-57-1	Dieldrin	0.0053
72-55-9	4, 4'-DDE	0.0048
72-20-8	Endrin	0.0034
33213-65-9	Endosulfan II	0.0060
72-54-8	4, 4'-DDD	0.0066
1031-07-8	Endosulfan Sulfate	0.0048
50-29-3	4, 4'-DDT	0.013
72-43-5	Methoxychlor	0.044
53494-70-5	Endrin Ketone	0.0069
57-74-9	Chlordane	0.0061
8001-35-2	Toxaphene	0.092
12674-11-2	Aroclor-1016	0.0030
11104-28-2	Aroclor-1221	0.0070
11141-16-5	Aroclor-1232	0.0030
53469-21-9	Aroclor-1242	0.0082
12672-29-6	Aroclor-1248	0.0062
11097-69-1	Aroclor-1254	0.010
11096-82-5	Aroclor-1260	0.035

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s _____ V_t _____ V_i _____

Laboratory Name CLAYTON ENVIRONMENTAL

Case No

7468 · 5-038-04

LABORATORY GENERATED INSTRUMENT LIMIT OF DETECTION

5890A CAPILLARY COLUMN

REVIEWED SEP 2 1987

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration Low Medium (Circle One)

Date Extracted/Prepared

Date Analyzed 2-5-87

Conc/Dil Factor

Percent Moisture (decanted)

GPC Cleanup ☐Yes ☐No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.0042
319-85-7	Beta-BHC	0.0051
319-86-8	Delta-BHC	0.015
58-89-9	Gamma-BHC (Lindane)	0.0032
76-44-8	Heptachlor	0.0032
309-00-2	Aldrin	0.0034
1024-57-3	Heptachlor Epoxide	0.0083
959-98-8	Endosulfan I	0.012
60-57-1	Dieldrin	0.017
72-55-9	4,4'-DDE	0.034
72-20-8	Endrin	0.022
33213-65-9	Endosulfan II	0.025
72-54-8	4,4'-DDD	0.018
1031-07-8	Endosulfan Sulfate	0.024
50-29-3	4,4'-DDT	0.046
72-43-5	Methoxychlor	0.085
53494-70-5	Endrin Ketone	0.040
57-74-9	Chlordane	0.015
8001-35-2	Toxaphene	0.24
12674-11-2	Aroclor-1016	0.046
11104-28-2	Aroclor-1221	0.051
11141-16-5	Aroclor-1232	0.033
53469-21-9	Aroclor-1242	0.053
12672-29-6	Aroclor-1248	0.12
11097-69-1	Aroclor-1254	0.078
11096-82-5	Aroclor-1260	0.094

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

* ug/l equivalent to 10 x total ug inject

V_s _____ or W_s _____ V_t _____ V_i _____

7468 • 5-028-01

Sample Number
E-414

RECEIVED SEP 1987

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Clayton Environmental
Case No: 7468
Lab Sample ID No: B8414 (552957)
QC Report No: N/A
Sample Matrix: WATER
Contract No: 68-01-7100
Data Release Authorized By: [signature]
Date Sample Received: 06/19/87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 6-20-87
Date Analyzed: 6-20-87
Cond/Dil Factor: 1 pH 9.0
Percent Moisture: (Not Decanted) NA

CAS Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	10	U J
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	~~8~~ J
67-64-1	Acetone	8	J ~~B~~ UJ
75-15-0	Carbon Disulfide	5	U
75-35-4	1, 1-Dichloroethene	5	U
75-34-3	1, 1-Dichloroethane	5	U
156-60-5	Trans-1, 2-Dichloroethene	5	U J
67-66-3	Chloroform	5	U
107-06-2	1, 2-Dichloroethane	5	U J
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

CAS Number		ug/l or ug/Kg (Circle One)	
78-87-5	1, 2-Dichloropropane	5	U
10061-02-6	Trans-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
10061-01-5	cis-1, 3-Dichloropropene	5	U
110-75-8	2-Chloroethylvinylether	10	U J
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
	Total Xylenes	5	U

J UJ - ZGK

Data Reporting Qualifiers

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

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

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

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

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

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

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

M Matrix spike compound

N Instrument limit of detection was used because it was higher than the CRQL

7468 - 5 - 028-02

Laboratory Name: Clayton Environmental

Case No: 7468

Sample Number: EM-4

RECEIVED SEP 1988

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 6/19/87

Date Analyzed: 6/23/87 (179018)

Conc/Dil Factor: 1

Percent Moisture (Decanted): NA

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	10 u
111-44-4	bis-2-Chloroethyl Ether	10 u
95-57-8	2-Chlorophenol	10 u
541-73-1	1,3-Dichlorobenzene	10 u
106-46-7	1,4-Dichlorobenzene	10 u
100-51-6	Benzyl Alcohol	10 u J
95-50-1	1,2-Dichlorobenzene	10 u
95-48-7	2-Methylphenol	10 u
39638-32-9	bis(2-chloroisopropyl)Ether	10 u J
106-44-5	4-Methylphenol	10 u
621-64-7	N-Nitroso-Di-n-Propylamine	10 u
67-72-1	Hexachloroethane	10 u
98-95-3	Nitrobenzene	10 u
78-59-1	Isophorone	10 u
88-75-5	2-Nitrophenol	10 u
105-67-9	2,4-Dimethylphenol	10 u
65-85-0	Benzoic Acid	50 u
111-91-1	bis-2-Chloroethoxy Methane	10 u
120-83-2	2,4-Dichlorophenol	10 u
120-82-1	1,2,4-Trichlorobenzene	10 u
91-20-3	Naphthalene	10 u
106-47-8	4-Chloroaniline	10 u J
87-68-3	Hexachlorobutadiene	10 u
59-50-7	4-Chloro-3-Methylphenol	10 u
91-57-6	2-Methylnaphthalene	10 u
77-47-4	Hexachlorocyclopentadiene	10 u
88-06-2	2,4,6-Trichlorophenol	10 u
95-95-4	2,4,5-Trichlorophenol	50 u
91-58-7	2-Chloronaphthalene	10 u
88-74-4	2-Nitroaniline	50 u
131-11-3	Dimethyl Phthalate	10 u
208-96-8	Acenaphthylene	10 u
99-09-2	3-Nitroaniline	50 u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	10 u
51-28-5	2,4-Dinitrophenol	50 u
100-02-7	4-Nitrophenol	50 u J
132-64-9	Dibenzofuran	10 u
121-14-2	2,4-Dinitrotoluene	10 u
606-20-2	2,6-Dinitrotoluene	10 u
84-66-2	Diethylphthalate	10 u
7005-72-3	4-Chlorophenyl-phenylether	10 u
86-73-7	Fluorene	10 u
100-01-6	4-Nitroaniline	50 u
534-52-1	4,6-Dinitro-2-Methylphenol	50 u
86-30-6	N-Nitrosodiphenylamine (1)	10 u
101-55-3	4-Bromophenyl-phenylether	10 u
118-74-1	Hexachlorobenzene	10 u
87-86-5	Pentachlorophenol	50 u
85-01-8	Phenanthrene	10 u
120-12-7	Anthracene	10 u
84-74-2	Di-n-Butylphthalate	10 u
206-44-0	Fluoranthene	10 u
129-00-0	Pyrene	10 u
85-68-7	Butylbenzylphthalate	10 u
91-94-1	3,3'-Dichlorobenzidine	~~28 N~~
56-55-3	Benzo(a)Anthracene	10 u
117-81-7	bis(2-Ethylhexyl)Phthalate	10 u
218-01-9	Chrysene	10 u
117-84-0	Di-n-Octyl Phthalate	10 u
205-99-2	Benzo(b)Fluoranthene	11 N
207-08-9	Benzo(k)Fluoranthene	10 u
50-32-8	Benzo(a)Pyrene	10 u
193-39-5	Indeno(1,2,3-cd)Pyrene	13 N
53-70-3	Dibenzo(a,h)Anthracene	14 N
191-24-2	Benzo(g,h,i)Perylene	17 N

(1)-Cannot be separated from diphenylamine

7468 • 5-028-

Laboratory Name Clayton

Case No 7468

Sample Number EM414

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Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 19 June 1987

Date Analyzed 24 June 1987

Conc (Dil Factor) 1

Percent Moisture (decanted) –

GPC Cleanup ☐Yes ☑No

Separatory Funnel Extraction ☑Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l or ug/Kg) (Circle One)
319-84-6	Alpha-BHC	0.05 u
319-85-7	Beta-BHC	0.05 u
319-86-8	Delta-BHC	0.05 u
58-89-9	Gamma-BHC (Lindane)	0.05 u
76-44-8	Heptachlor	0.05 u
309-00-2	Aldrin	0.05 u
1024-57-3	Heptachlor Epoxide	0.05 u
959-98-8	Endosulfan I	0.05 u
60-57-1	Dieldrin	0.10 u
72-55-9	4,4'-DDE	0.10 u
72-20-8	Endrin	0.10 u
33213-65-9	Endosulfan II	0.10 u
72-54-8	4,4'-DDD	0.10 u
1031-07-8	Endosulfan Sulfate	0.10 u
50-29-3	4,4'-DDT	0.10 u
72-43-5	Methoxychlor	0.5 u
53494-70-5	Endrin Ketone	0.10 u
57-74-9	Chlordane	0.5 u
8001-35-2	Toxaphene	1.0 u
12674-11-2	Aroclor-1016	0.5 u
11104-28-2	Aroclor-1221	0.5 u
11141-16-5	Aroclor-1232	0.5 u
53469-21-9	Aroclor-1242	0.5 u
12672-29-6	Aroclor-1248	0.5 u
11097-69-1	Aroclor-1254	1.0 u
11096-82-5	Aroclor-1260	1.0 u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 ml or W_s – V_t 10000 ul V_i 1 ul

R. Tlesler 6/30/87

TO 7-1-87

7468 · 5-029-01

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Laboratory Name Clayton Environmental

Case No 7468

Sample Number EM-414SEQ

1987

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. —	NO VOLATILE COMPOUNDS DETECTED	VOA	—	—
2. —	NO SEMI-VOLATILE COMPOUNDS DETECTED	BNA	—	—
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
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15.				
16.				
17.				
18.				
19.				
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21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

7468 • 5-028-0

Sample Number
E2-415

RECEIVED SEP 10 1987

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Clayton Environmental
Case No: 7468
Lab Sample ID No: B8417 (552961)
QC Report No: N/A
Sample Matrix: WATER
Contract No: 68-01-7100
Data Release Authorized By:
Date Sample Received: 06/19/87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 6-20-87
Date Analyzed: 6-20-87
Conc/Dil Factor: 1 pH 8.5
Percent Moisture: (Not Decanted) NA

CAS Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	10	U J
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3 ~~J B~~	U J
67-64-1	Acetone	7 ~~J B~~	U J
75-15-0	Carbon Disulfide	5	U
75-35-4	1, 1-Dichloroethene	5	U
75-34-3	1, 1-Dichloroethane	5	U
156-60-5	Trans-1, 2-Dichloroethene	5	U J
67-66-3	Chloroform	5	U
107-06-2	1, 2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U J
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

UJ, J EGK

CAS Number		ug/l or ug/Kg (Circle One)	
78-87-5	1, 2-Dichloropropane	5	U
10061-02-6	Trans-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
10061-01-5	cis-1, 3-Dichloropropene	5	U
110-75-8	2-Chloroethylvinylether	10	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
	Total Xylenes	5	U

Data Reporting Qualifiers

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

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

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

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification [illegible] the specified detection limit but

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

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

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

M Matrix spiked compound

N Instrument limit of detection was used because it was higher [illegible]

7468 • 5-028-05

Laboratory Name: Clayton Environmental

Case No: 7468

Sample Number: EM-415

RECEIVED

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 6/19/87

Date Analyzed: 6/23/87 (A 9024)

Dilution Factor: 1

Percent Moisture (Decanted) NA

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)	
108-95-2	Phenol	10 u	
111-44-4	bis(2-Chloroethyl)Ether	10 u	
95-57-8	2-Chlorophenol	10 u	
541-73-1	1,3-Dichlorobenzene	10 u	
106-46-7	1,4-Dichlorobenzene	10 u	
100-51-6	Benzyl Alcohol	10 u	J
95-50-1	1,2-Dichlorobenzene	10 u	
95-48-7	2-Methylphenol	10 u	
39638-32-9	bis(2-chloroisopropyl)Ether	10 u	J
106-44-5	4-Methylphenol	10 u	
621-64-7	N-Nitroso-Di-n-Propylamine	10 u	
67-72-1	Hexachloroethane	10 u	
98-95-3	Nitrobenzene	10 u	
78-59-1	Isophorone	11 J	
88-75-5	2-Nitrophenol	10 u	
105-67-9	2,4-Dimethylphenol	10 u	
65-85-0	Benzoic Acid	50 u	
111-91-1	bis(2-Chloroethoxy)Methane	10 u	
120-83-2	2,4-Dichlorophenol	10 u	
120-82-1	1,2,4-Trichlorobenzene	10 u	
91-20-3	Naphthalene	10 u	
106-47-8	4-Chloroaniline	10 u	J
87-68-3	Hexachlorobutadiene	10 u	
59-50-7	4-Chloro-3-Methylphenol	10 u	
91-57-6	2-Methylnaphthalene	10 u	
77-47-4	Hexachlorocyclopentadiene	10 u	
88-06-2	2,4,6-Trichlorophenol	10 u	
95-95-4	2,4,5-Trichlorophenol	50 u	
91-58-7	2-Chloronaphthalene	10 u	
88-74-4	2-Nitroaniline	50 u	
131-11-3	Dimethyl Phthalate	10 u	
208-96-8	Acenaphthylene	10 u	
99-09-2	3-Nitroaniline	50 u	

CAS Number		ug/l or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10 u	
51-28-5	2,4-Dinitrophenol	50 u	
100-02-7	4-Nitrophenol	50 u	J
132-64-9	Dibenzofuran	10 u	
121-14-2	2,4-Dinitrotoluene	10 u	
606-20-2	2,6-Dinitrotoluene	10 u	
84-66-2	Diethylphthalate	10 u	
7005-72-3	4-Chlorophenyl-phenylether	10 u	
86-73-7	Fluorene	10 u	
100-01-6	4-Nitroaniline	50 u	
534-52-1	4,6-Dinitro-2-Methylphenol	50 u	
86-30-6	N-Nitrosodiphenylamine (1)	10 u	
101-55-3	4-Bromophenyl-phenylether	10 u	
118-74-1	Hexachlorobenzene	10 u	
87-86-5	Pentachlorophenol	50 u	
85-01-8	Phenanthrene	10 u	
120-12-7	Anthracene	10 u	
84-74-2	Di-n-Butylphthalate	10 u	
206-44-0	Fluoranthene	10 u	
129-00-0	Pyrene	10 u	
85-68-7	Butylbenzylphthalate	10 u	
91-94-1	3,3'-Dichlorobenzidine	28 N	
56-55-3	Benzo(a)Anthracene	10 u	
117-81-7	bis(2-Ethylhexyl)Phthalate	10 u	
218-01-9	Chrysene	10 u	
117-84-0	Di-n-Octyl Phthalate	10 u	
205-99-2	Benzo(b)Fluoranthene	11 N	
207-08-9	Benzo(k)Fluoranthene	10 u	
50-32-8	Benzo(a)Pyrene	10 u	
193-39-5	Indeno(1,2,3-cd)Pyrene	13 N	
53-70-3	Dibenz(a,h)Anthracene	16 N	
191-24-2	Benzo(g,h,i)Perylene	17 N	

(1)-Cannot be separated from diphenylamine

J-2 ok

Laboratory Name Clayton

Case No 7468

7468-5-028-06

Sample Number

RE - 415

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Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted Prepared 19 June 1987

Date Analyzed 25 June 1987

Conc Dil Factor 1

Percent Moisture (decanted) —

GPC Cleanup ☐Yes ☑No

Separatory Funnel Extraction ☑Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l or ug/Kg) (Circle One)
319-84-6	Alpha-BHC	0.05 u
319-85-7	Beta-BHC	0.05 u
319-86-8	Delta-BHC	0.05 u
58-89-9	Gamma-BHC (Lindane)	0.05 u
76-44-8	Heptachlor	0.05 u
309-00-2	Aldrin	0.05 u
1024-57-3	Heptachlor Epoxide	0.05 u
959-98-8	Endosulfan I	0.05 u
60-57-1	Dieldrin	0.10 u
72-55-9	4,4'-DDE	0.10 u
72-20-8	Endrin	0.10 u
33213-65-9	Endosulfan II	0.10 u
72-54-8	4,4'-DDD	0.10 u
1031-07-8	Endosulfan Sulfate	0.10 u
50-29-3	4,4'-DDT	0.10 u
72-43-5	Methoxychlor	0.5 u
53494-70-5	Endrin Ketone	0.10 u
57-74-9	Chlordane	0.5 u
8001-35-2	Toxaphene	1.0 u
12674-11-2	Aroclor-1016	0.5 u
11104-28-2	Aroclor-1221	0.5 u
11141-16-5	Aroclor-1232	0.5 u
53469-21-9	Aroclor-1242	0.5 u
12672-29-6	Aroclor-1248	0.5 u
11097-69-1	Aroclor-1254	1.0 u
11096-82-5	Aroclor-1260	1.0 u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000ml or W_s — V_t 10000 ul V_i 1 ul

R. Fleeler 6/30/87

SO 7-1-87

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7468 • 5-029-03

Laboratory Name Clayton Environmental

Case No 7468

Sample Number
EMV415

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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. —	NO VOLATILE COMPOUNDS DETECTED	VOA	—	—
2. —	UNKNOWN COMPOUND	BNA	6.21	9 J
3. 6765395	1-HEPTADECENE	BNA	21.67	10 J
4. —	UNKNOWN COMPOUND	BNA	34.72	40 J
5. 2599011	TETRADECANOIC ACID, HEXADECYL ESTER	BNA	37.96	20 J
6. —	UNKNOWN COMPOUND	BNA	39.24	9 J
7. 540103	HEXADECANOIC ACID, HEXADECYL ESTER	BNA	40.77	40 J
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7468 • 5-028-07

Sample Number
EM-416

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Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Clayton Environmental
Case No: 7468
Lab Sample ID No: 138418 (553963)
QC Report No: N/A
Sample Matrix: WATER
Contract No: 68-01-7100
Data Release Authorized By: [signature]
Date Sample Received: 06/19/87

Volatile Compounds

Concentration: (Low) Medium (Circle One)
Date Extracted/Prepared: 6-20-87
Date Analyzed: 6-20-87
Conc/Dil Factor: 1 pH 8.1
Percent Moisture: (Not Decanted) NA

CAS Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	10	U J
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3 ~~JB~~	UJ
67-64-1	Acetone	6 ~~JB~~	UJ
75-15-0	Carbon Disulfide	5	U
75-35-4	1, 1-Dichloroethene	5	U
75-34-3	1, 1-Dichloroethane	5	U
156-60-5	Trans-1, 2-Dichloroethene	5	U J
67-66-3	Chloroform	5	U
107-06-2	1, 2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U J
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

CAS Number		ug/l or ug/Kg (Circle One)	
78-87-5	1, 2-Dichloropropane	5	U
10061-02-6	Trans-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
10061-01-5	cis-1, 3-Dichloropropene	5	U
110-75-8	2-Chloroethylvinylether	10	U J
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	1	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
	Total Xylenes	5	U

J - ~~CGK~~

Data Reporting Qualifiers

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

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

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

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10J). If limit of detection is 10 µg/l and a concentration of 7 µg/l is calculated, report as 7J

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

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

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

M Matrix spike compound

N Instrument limit of detection was used because it was higher than the CRQL

7468 : 5-028-03

Laboratory Name: Clayton Environmental

Case No: 7468

Sample Number: EM-A16

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Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 6/19/87

Date Analyzed: 6/23/87 (A9022)

Conc/Dil Factor: 1

Percent Moisture (Decanted): NA

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or ug/Kg (Circle One)	
108-95-2	Phenol	10 u	
111-44-4	bis(2-Chloroethyl)Ether	10 u	
95-57-8	2-Chlorophenol	10 u	
541-73-1	1,3-Dichlorobenzene	10 u	
106-46-7	1,4-Dichlorobenzene	10 u	
100-51-6	Benzyl Alcohol	10 u	J
95-50-1	1,2-Dichlorobenzene	10 u	
95-48-7	2-Methylphenol	10 u	
39638-32-9	bis(2-chloroisopropyl)Ether	10 u	J
106-44-5	4-Methylphenol	10 u	
621-64-7	N-Nitroso-Di-n-Propylamine	10 u	
67-72-1	Hexachloroethane	10 u	
98-95-3	Nitrobenzene	10 u	
78-59-1	Isophorone	10 u	
88-75-5	2-Nitrophenol	10 u	
105-67-9	2,4-Dimethylphenol	10 u	
65-85-0	Benzoic Acid	50 u	
111-91-1	bis(2-Chloroethoxy)Methane	10 u	
120-83-2	2,4-Dichlorophenol	10 u	
120-82-1	1,2,4-Trichlorobenzene	10 u	
91-20-3	Naphthalene	10 u	
106-47-8	4-Chloroaniline	10 u	J
87-68-3	Hexachlorobutadiene	10 u	
59-50-7	4-Chloro-3-Methylphenol	10 u	
91-57-6	2-Methylnaphthalene	10 u	
77-47-4	Hexachlorocyclopentadiene	10 u	
88-06-2	2,4,6-Trichlorophenol	10 u	
95-95-4	2,4,5-Trichlorophenol	50 u	
91-58-7	2-Chloronaphthalene	10 u	
88-74-4	2-Nitroaniline	50 u	
131-11-3	Dimethyl Phthalate	10 u	
208-96-8	Acenaphthylene	10 u	
99-09-2	3-Nitroaniline	50 u	

CAS Number		ug/l or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10 u	
51-28-5	2,4-Dinitrophenol	50 u	
100-02-7	4-Nitrophenol	50 u	J
132-64-9	Dibenzofuran	10 u	
121-14-2	2,4-Dinitrotoluene	10 u	
606-20-2	2,6-Dinitrotoluene	10 u	
84-66-2	Diethylphthalate	10 u	
7005-72-3	4-Chlorophenyl-phenylether	10 u	
86-73-7	Fluorene	10 u	
100-01-6	4-Nitroaniline	50 u	
534-52-1	4,6-Dinitro-2-Methylphenol	50 u	
86-30-6	N-Nitrosodiphenylamine (1)	10 u	
101-55-3	4-Bromophenyl-phenylether	10 u	
118-74-1	Hexachlorobenzene	10 u	
87-86-5	Pentachlorophenol	50 u	
85-01-8	Phenanthrene	10 u	
120-12-7	Anthracene	10 u	
84-74-2	Di-n-Butylphthalate	10 u	
206-44-0	Fluoranthene	10 u	
129-00-0	Pyrene	10 u	J
85-68-7	Butylbenzylphthalate	10 u	
91-94-1	3,3'-Dichlorobenzidine	28 N	
56-55-3	Benzo(a)Anthracene	10 u	
117-81-7	bis(2-Ethylhexyl)Phthalate	3 JB	J
218-01-9	Chrysene	10 u	
117-84-0	Di-n-Octyl Phthalate	10 u	
205-99-2	Benzo(b)Fluoranthene	11 N	
207-08-9	Benzo(k)Fluoranthene	10 u	
50-32-8	Benzo(a)Pyrene	10 u	
193-39-5	Indeno(1,2,3-cd)Pyrene	13 N	
53-70-3	Dibenzo(a,h)Anthracene	16 N	
191-24-2	Benzo(g,h,i)Perylene	17 N	

(1)-Cannot be separated from diphenylamine

J-ZK

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7468 • 5-028-09

Sample Number
EM - 41

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Laboratory Name Clayton

Case No 7468

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 19 June 1987

Date Analyzed 25 June 1987

Conc/Dil Factor 1

Percent Moisture (decanted) –

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l) or ug/Kg (Circle One)
319-84-6	Alpha-BHC	0.05 u
319-85-7	Beta-BHC	0.05 u
319-86-8	Delta-BHC	0.05 u
58-89-9	Gamma-BHC (Lindane)	0.05 u
76-44-8	Heptachlor	0.05 u
309-00-2	Aldrin	0.05 u
1024-57-3	Heptachlor Epoxide	0.05 u
959-98-8	Endosulfan I	0.05 u
60-57-1	Dieldrin	0.10 u
72-55-9	4,4'-DDE	0.10 u
72-20-8	Endrin	0.10 u
33213-65-9	Endosulfan II	0.10 u
72-54-8	4,4'-DDD	0.10 u
1031-07-8	Endosulfan Sulfate	0.10 u
50-29-3	4,4'-DDT	0.10 u
72-43-5	Methoxychlor	0.5 u
53494-70-5	Endrin Ketone	0.10 u
57-74-9	Chlordane	0.5 u
8001-35-2	Toxaphene	1.0 u
12674-11-2	Aroclor-1016	0.5 u
11104-28-2	Aroclor-1221	0.5 u
11141-16-5	Aroclor-1232	0.5 u
53469-21-9	Aroclor-1242	0.5 u
12672-29-6	Aroclor-1248	0.5 u
11097-69-1	Aroclor-1254	1.0 u
11096-82-5	Aroclor-1260	1.0 u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000 ml or W_s _____ V_t 10000 ul V_i 1 ul

R. Klesler 6/30/87
7-1-87

7468 · 5-029-03

Laboratory Name Clayton Environmental

Case No 7468

Sample Number EM-416

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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. —	NO VOLATILE COMPOUNDS DETECTED	VOA	—	—
2. —	UNKNOWN COMPOUND	BNA	34.73	40 J
3. 3549011	TETRADECANOIC ACID, HEXADECYL ESTER	BNA	37.96	30 J
4. —	UNKNOWN COMPOUND	BNA	39.26	20 J
5. —	POSSIBLE HEXADECANOIC ACID, HEXADECYL ESTER	BNA	40.60-40.78	50 J
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7468 • 5-028-25

Sample Number
EM529

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Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Clayton Environmental
Case No: 7468
Lab Sample ID No: B8419 (552965)
QC Report No: N/A
Sample Matrix: WATER
Contract No: 68-01-7100
Data Release Authorized By: [signature]
Date Sample Received: 06/19/87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 6-20-87
Date Analyzed: 6-20-87
Conc/Dil Factor: 1 pH 8.2
Percent Moisture: (Not Decanted) NA

CAS Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	10	U J
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	~~2 J~~	J
67-64-1	Acetone	11	8 J
75-15-0	Carbon Disulfide	5	U
75-35-4	1, 1-Dichloroethene	5	U
75-34-3	1, 1-Dichloroethane	5	U
156-60-5	Trans-1, 2-Dichloroethene	5	U J
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	2 J	
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U

J, UJ, 3X

CAS Number		ug/l or ug/Kg (Circle One)	
78-87-5	1, 2-Dichloropropane	5	U
10061-02-6	Trans-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
10061-01-5	cis-1, 3-Dichloropropene	5	U
110-75-8	2-Chloroethylvinylether	10	U J
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
	Total Xylenes	5	U

Data Reporting Qualifiers

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

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

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

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

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

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

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

M Matrix spike compound

N Instrument limit of detection was used because it was higher than the CRQL

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7468 · 5-028-26

Laboratory Name: Clayton Environmental

Case No: 7468

Sample Number
EP-529

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Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 6/19/87

Date Analyzed: 6/23/87 (A9017)

Conc/(Dil Factor): 1

Percent Moisture (Decanted) NA

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☒Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l) or ug/Kg (Circle One)	
108-95-2	Phenol	10 u	
111-44-4	bis(2-Chloroethyl)Ether	10 u	
95-57-8	2-Chlorophenol	10 u	
541-73-1	1,3-Dichlorobenzene	10 u	
106-46-7	1,4-Dichlorobenzene	10 u	
100-51-6	Benzyl Alcohol	10 u	J
95-50-1	1,2-Dichlorobenzene	10 u	
95-48-7	2-Methylphenol	10 u	
39638-32-9	bis(2-chloroisopropyl)Ether	10 u	
106-44-5	4-Methylphenol	10 u	
621-64-7	N-Nitroso-Di-n-Propylamine	10 u	
67-72-1	Hexachloroethane	10 u	
98-95-3	Nitrobenzene	10 u	
78-59-1	Isophorone	10 u	
88-75-5	2-Nitrophenol	10 u	
105-67-9	2,4-Dimethylphenol	10 u	
65-85-0	Benzoic Acid	50 u	
111-91-1	bis(2-Chloroethoxy)Methane	10 u	
120-83-2	2,4-Dichlorophenol	10 u	
120-82-1	1,2,4-Trichlorobenzene	10 u	
91-20-3	Naphthalene	10 u	
106-47-8	4-Chloroaniline	10 u	J
87-68-3	Hexachlorobutadiene	10 u	
59-50-7	4-Chloro-3-Methylphenol	10 u	
91-57-6	2-Methylnaphthalene	10 u	
77-47-4	Hexachlorocyclopentadiene	10 u	
88-06-2	2,4,6-Trichlorophenol	10 u	
95-95-4	2,4,5-Trichlorophenol	50 u	
91-58-7	2-Chloronaphthalene	10 u	
88-74-4	2-Nitroaniline	50 u	
131-11-3	Dimethyl Phthalate	10 u	
208-96-8	Acenaphthylene	10 u	
99-09-2	3-Nitroaniline	50 u	

CAS Number		(ug/l) or ug/Kg (Circle One)	
83-32-9	Acenaphthene	10 u	
51-28-5	2,4-Dinitrophenol	50 u	
100-02-7	4-Nitrophenol	50 u	J
132-64-9	Dibenzofuran	10 u	
121-14-2	2,4-Dinitrotoluene	10 u	
606-20-2	2,6-Dinitrotoluene	10 u	
84-66-2	Diethylphthalate	10 u	
7005-72-3	4-Chlorophenyl-phenylether	10 u	
86-73-7	Fluorene	10 u	
100-01-6	4-Nitroaniline	50 u	
534-52-1	4,6-Dinitro-2-Methylphenol	50 u	
86-30-6	N-Nitrosodiphenylamine (1)	10 u	
101-55-3	4-Bromophenyl-phenylether	10 u	
118-74-1	Hexachlorobenzene	10 u	
87-86-5	Pentachlorophenol	50 u	
85-01-8	Phenanthrene	10 u	
120-12-7	Anthracene	10 u	
84-74-2	Di-n-Butylphthalate	10 u	
206-44-0	Fluoranthene	10 u	
129-00-0	Pyrene	10 u	J
85-68-7	Butylbenzylphthalate	10 u	
91-94-1	3,3'-Dichlorobenzidine	28 N	
56-55-3	Benzo(a)Anthracene	10 u	
117-81-7	bis(2-Ethylhexyl)Phthalate	10 u	
218-01-9	Chrysene	10 u	
117-84-0	Di-n-Octyl Phthalate	10 u	
205-99-2	Benzo(b)Fluoranthene	11 N	
207-08-9	Benzo(k)Fluoranthene	10 u	
50-32-8	Benzo(a)Pyrene	10 u	
193-39-5	Indeno(1,2,3-cd)Pyrene	13 N	
53-70-3	Dibenz(a,h)Anthracene	16 N	
191-24-2	Benzo(g,h,i)Perylene	17 N	

(1)-Cannot be separated from diphenylamine

T-76

Laboratory Name Clayton

Case No 74168

7488-5-028-2

Sample Number

EM 529

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Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 19 June 1987

Date Analyzed 25 June 1987

Conc (D) Factor 1

Percent Moisture (decanted) —

GPC Cleanup ☐Yes ☑No

Separatory Funnel Extraction ☑Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		(ug/l or ug/Kg) (Circle One)
319-84-6	Alpha-BHC	0.05 u
319-85-7	Beta-BHC	0.05u
319-86-8	Delta-BHC	0.05u
58-89-9	Gamma-BHC (Lindane)	0.05u
76-44-8	Heptachlor	0.05u
309-00-2	Aldrin	0.05u
1024-57-3	Heptachlor Epoxide	0.05u
959-98-8	Endosulfan I	0.05u
60-57-1	Dieldrin	0.10u
72-55-9	4,4'-DDE	0.10u
72-20-8	Endrin	0.10u
33213-65-9	Endosulfan II	0.10u
72-54-8	4,4'-DDD	0.10u
1031-07-8	Endosulfan Sulfate	0.10u
50-29-3	4,4'-DDT	0.10u
72-43-5	Methoxychlor	0.5u
53494-70-5	Endrin Ketone	0.10u
57-74-9	Chlordane	0.5u
8001-35-2	Toxaphene	1.0u
12674-11-2	Aroclor-1016	0.5u
11104-28-2	Aroclor-1221	0.5u
11141-16-5	Aroclor-1232	0.5u
53469-21-9	Aroclor-1242	0.5u
12672-29-6	Aroclor-1248	0.5u
11097-69-1	Aroclor-1254	1.0u
11096-82-5	Aroclor-1260	1.0u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s 1000ml or W_s — V_t 10000 ul V_i 1 ul

R Flesher 6/30/87

✓ 7-1-87

7468 · 5-029-09

Laboratory Name Clayton Environmental

Case No 7468

Sample Number EM-5029

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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CLP Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. —	NO VOLATILE COMPOUNDS DETECTED	VOA	—	—
2. —	NO SEMI-VOLATILE COMPOUNDS DETECTED	BNA	—	—
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7468 • 5-008-10

Sample Number
EM-524

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Clayton Environmental
Case No: 7468
Lab Sample ID No: B8467 (552977)
QC Report No: N/A
Sample Matrix: SOIL
Contract No: 68-01-7100
Data Release Authorized By:
Date Sample Received: 06/19/87

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Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 6-24-87
Date Analyzed: 6-24-87
Conc/Dil Factor: 1 pH 7.2
Percent Moisture: (Not Decanted) 44.75 %

CAS Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	18	U
74-83-9	Bromomethane	18	U
75-01-4	Vinyl Chloride	18	U
75-00-3	Chloroethane	18	U
75-09-2	Methylene Chloride	12	~~B~~ J
67-64-1	Acetone	96	~~B~~ J
75-15-0	Carbon Disulfide	9	U
75-35-4	1, 1-Dichloroethene	9	U
75-34-3	1, 1-Dichloroethane	9	U
156-60-5	Trans-1, 2-Dichloroethene	9	U
67-66-3	Chloroform	9	U
107-06-2	1, 2-Dichloroethane	9	U
78-93-3	2-Butanone	16	J
71-55-6	1, 1, 1-Trichloroethane	9	U
56-23-5	Carbon Tetrachloride	9	U
108-05-4	Vinyl Acetate	18	U
75-27-4	Bromodichloromethane	9	U

CAS Number		ug/l or ug/Kg (Circle One)	
78-87-5	1, 2-Dichloropropane	9	U
10061-02-6	Trans-1, 3-Dichloropropene	9	U
79-01-6	Trichloroethene	9	U
124-48-1	Dibromochloromethane	9	U
79-00-5	1, 1, 2-Trichloroethane	9	U
71-43-2	Benzene	9	U
10061-01-5	cis-1, 3-Dichloropropene	9	U
110-75-8	2-Chloroethylvinylether	18	U J
75-25-2	Bromoform	9	U
108-10-1	4-Methyl-2-Pentanone	18	U
591-78-6	2-Hexanone	18	U
127-18-4	Tetrachloroethene	9	U
79-34-5	1, 1, 2, 2-Tetrachloroethane	9	U
108-88-3	Toluene	9	U
108-90-7	Chlorobenzene	9	U
100-41-4	Ethylbenzene	9	U
100-42-5	Styrene	9	U
	Total Xylenes	9	U

J-268

Data Reporting Qualifiers

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

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

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

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

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

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

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

M — Matrix spike compound

N — Instrument limit of detection was used because it was higher than the CRDL

A — Indicates a value less than the

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7468 · 5-028-11

Laboratory Name Clayton Environmental

Case No 7468

Sample Number EM-324

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Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared 6/22/87

Date Analyzed 6/30/87 (1900)

Conc/(Dil Factor) 0.5 (FOR GPC CLEANUP)

Percent Moisture (Decanted) 44.75%

GPC Cleanup ☒ Yes ☐ No

Separatory Funnel Extraction ☐ Yes

Continuous Liquid - Liquid Extraction ☐ Yes

CAS Number		ug/l or (ug/Kg) (Circle One)	
108-95-2	Phenol	1200	U
111-44-4	bis(-2-Chloroethyl)Ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl Alcohol	1200	U J
95-50-1	1,2-Dichlorobenzene	1200	U
95-48-7	2-Methylphenol	1200	U
39638-32-9	bis(2-chloroisopropyl)Ether	1200	U
106-44-5	4-Methylphenol	1200	U
621-64-7	N-Nitroso-Di-n-Propylamine	1200	U
67-72-1	Hexachloroethane	1200	U J
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
65-85-0	Benzoic Acid	6000	U
111-91-1	bis(2-Chloroethoxyl)Methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-Methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
95-95-4	2,4,5-Trichlorophenol	6000	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	6000	U
131-11-3	Dimethyl Phthalate	1200	U
208-96-8	Acenaphthylene	1200	U
99-09-2	3-Nitroaniline	6000	U J

CAS Number		ug/l or (ug/Kg) (Circle One)	
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	6000	U
100-02-7	4-Nitrophenol	6000	U J
132-64-9	Dibenzofuran	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
86-73-7	Fluorene	1200	U
100-01-6	4-Nitroaniline	6000	U J
534-52-1	4,6-Dinitro-2-Methylphenol	6000	U J
86-30-6	N-Nitrosodiphenylamine (1)	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	6000	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-Butylphthalate	1200	U
206-44-0	Fluoranthene	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
91-94-1	3,3-Dichlorobenzidine	3400	N
56-55-3	Benzo(a)Anthracene	1200	U
117-81-7	bis(2-Ethylhexyl)Phthalate	1200	U
218-01-9	Chrysene	1200	U
117-84-0	Di-n-Octyl Phthalate	1200	U
205-99-2	Benzo(b)Fluoranthene	1300	N
207-08-9	Benzo(k)Fluoranthene	1200	U
50-32-8	Benzo(a)Pyrene	1200	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1600	N
53-70-3	Dibenzo(a,h)Anthracene	1900	N
191-24-2	Benzo(g,h,i)Perylene	2100	N

(1)-Cannot be separated from diphenylamine

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J-26K

Laboratory Name Clayton

Case No 7468

7468 · 5-028-15

Sample Number
EAL-524

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Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 22 June 1987

Date Analyzed 25 June 1987

Conc/Dil Factor 0.2 × 0.5 (GPC effect)

Percent Moisture (decanted) 44.75

GPC Cleanup ☑Yes ☐No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or (ug/Kg) (Circle One)
319-84-6	Alpha-BHC	140u
319-85-7	Beta-BHC	140u
319-86-8	Delta-BHC	140u
58-89-9	Gamma-BHC (Lindane)	140u
76-44-8	Heptachlor	140u
309-00-2	Aldrin	140u
1024-57-3	Heptachlor Epoxide	140u
959-98-8	Endosulfan I	140u
60-57-1	Dieldrin	290u
72-55-9	4, 4'-DDE	290u
72-20-8	Endrin	290u
33213-65-9	Endosulfan II	290u
72-54-8	4, 4'-DDD	290u
1031-07-8	Endosulfan Sulfate	290u
50-29-3	4, 4'-DDT	290u
72-43-5	Methoxychlor	1400u
53494-70-5	Endrin Ketone	290u
57-74-9	Chlordane	1400u
8001-35-2	Toxaphene	2900u
12674-11-2	Aroclor-1016	1400u
11104-28-2	Aroclor-1221	1400u
11141-16-5	Aroclor-1232	1400u
53469-21-9	Aroclor-1242	1400u
12672-29-6	Aroclor-1248	1400u
11097-69-1	Aroclor-1254	2900u
11096-82-5	Aroclor-1260	2900u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s — or W_s 30.00g V_t 20000ul V_i 1ul

200000 ul due to GPC effect and 0.2 dilution

E. Flesher 6/30/87

7-1-87

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7468 • 5-029-

Laboratory Name Clayton Environmental

Case No 7468

Sample Number EM-524

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. —	NO VOLATILE COMPOUNDS DETECTED	VOA	—	—
2. —	UNKNOWN COMPOUND	BNA	5.93	4000 JB
3. 123422	4-HYDROXY-4-METHYL-2-PENTANONE	BNA	6.55	80000 JB *
4. 110123	5-METHYL-2-HEXANONE	BNA	6.78	6000 JB
5. 2216344	4-METHYL OCTANE	BNA	6.89	2000 JB
6. 2216333	3-METHYL OCTANE	BNA	7.06	3000 JB
7. 3744023	4-METHYL-4-PENTEN-2-ONE	BNA	8.04	800 JB
8. —	UNKNOWN COMPOUND (possible hydrocarbon)	BNA	9.78	1000 J
9. —	UNKNOWN COMPOUND	BNA	10.94	900 J
10. —	UNKNOWN COMPOUND	BNA	11.02	2000 J
11. —	UNKNOWN COMPOUND	BNA	11.15	600 J
12. —	POSSIBLE NN-DIBUTYL-1-BUTANAMINE	BNA	14.04	500 J
13. —	POSSIBLE N,N-DIBUTYL-1-BUTANAMINE	BNA	14.38	2000 J
14. —	UNKNOWN COMPOUND	BNA	17.36	500 J
15. 10544520	MOL. SULFUR	BNA	27.47	3000 J
16. —	UNKNOWN ~~22~~ 27.1167 HYDROCARBON	BNA	34.18	600 J
17. —	OCTADECENAL	BNA	35.51	600 J
18. —	UNKNOWN HYDROCARBON	BNA	36.04	1000 J
19. —	UNKNOWN HYDROCARBON	BNA	36.10	2000 J
20. —	UNKNOWN ~~HYDR~~ 27.1167 HY COMPOUND	BNA	42.19	1600 J
21. —	UNKNOWN COMPOUND	BNA	43.08	700 J
22. —	UNKNOWN COMPOUND	BNA	43.42	800 J
23. —	UNKNOWN COMPOUND	BNA	44.00	700 J
24.				
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* POSSIBLE ALDOL CONDENSATION PRODUCT

AMC 7/7/87

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Sample Number
CF-525

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7468 5-028-13

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Clayton Environmental
Case No: 7468
Lab Sample ID No: B8482 (552980)
QC Report No: N/A
Sample Matrix: SOIL
Contract No: 68-01-7100
Data Release Authorized By: [signature]
Date Sample Received: 06/19/87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 6-24-87
Date Analyzed: 6-24-87
Cond/Dil Factor: 0.5 pH 7.3
Percent Moisture: (Not Decanted) 7.25%

CAS Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	22	U J
74-83-9	Bromomethane	22	U
75-01-4	Vinyl Chloride	22	U
75-00-3	Chloroethane	22	U
75-09-2	Methylene Chloride	22 ~~B~~	U J
67-64-1	Acetone	420 ~~B~~	J
75-15-0	Carbon Disulfide	11	U
75-35-4	1, 1-Dichloroethene	11	U
75-34-3	1, 1-Dichloroethane	11	U
156-60-5	Trans-1, 2-Dichloroethene	11	U
67-66-3	Chloroform	11	U
107-06-2	1, 2-Dichloroethane	11	U J
78-93-3	2-Butanone	23	B J
71-55-6	1, 1, 1-Trichloroethane	2 J	
56-23-5	Carbon Tetrachloride	11	U J
108-05-4	Vinyl Acetate	22	U J
75-27-4	Bromodichloromethane	11	U

CAS Number		ug/l or ug/Kg (Circle One)	
78-87-5	1, 2-Dichloropropane	11	U
10061-02-6	Trans-1, 3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1, 1, 2-Trichloroethane	11	U
71-43-2	Benzene	11	U J
10061-01-5	cis-1, 3-Dichloropropene	11	U
110-75-8	2-Chloroethylvinylether	22	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	22	U
591-78-6	2-Hexanone	22	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1, 1, 2, 2-Tetrachloroethane	11	U
108-88-3	Toluene	17	
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
	Total Xylenes	11	U

J-26K

Data Reporting Qualifiers

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

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

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

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

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

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

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

M — Matrix spike compound

N — Instrument limit of detection was used because it was higher than the CRDL

A — Indicates a value less than the dilution corrected limit of

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7468 • 5-028-14

Laboratory Name Clayton Environmental

Case No 7468

Sample Number
PM-525

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Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 6/22/87

Date Analyzed 6/30/87 (A9099)

Conc/Dil Factor 0.5 (FOR GPC CLEANUP)

Percent Moisture (Decanted) 7.25 %

GPC Cleanup ☒ Yes ☐ No

Separatory Funnel Extraction ☐ Yes

Continuous Liquid - Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	720 U
111-44-4	bis(2-Chloroethyl)Ether	720 U
95-57-8	2-Chlorophenol	720 U
541-73-1	1,3-Dichlorobenzene	720 U
106-46-7	1,4-Dichlorobenzene	720 U
100-51-6	Benzyl Alcohol	720 U J
95-50-1	1,2-Dichlorobenzene	720 U
95-48-7	2-Methylphenol	720 U
39638-32-9	bis(2-chloroisopropyl)Ether	120 J
106-44-5	4-Methylphenol	720 U
621-64-7	N-Nitroso-Di-n-Propylamine	720 U
67-72-1	Hexachloroethane	720 U J
98-95-3	Nitrobenzene	720 U
78-59-1	Isophorone	720 U
88-75-5	2-Nitrophenol	720 U
105-67-9	2,4-Dimethylphenol	720 U
65-85-0	Benzoic Acid	3600 U J
111-91-1	bis(2-Chloroethoxy)Methane	720 U
120-83-2	2,4-Dichlorophenol	720 U
120-82-1	1,2,4-Trichlorobenzene	720 U
91-20-3	Naphthalene	170 J
106-47-8	4-Chloroaniline	720 U
87-68-3	Hexachlorobutadiene	720 U
59-50-7	4-Chloro-3-Methylphenol	720 U
91-57-6	2-Methylnaphthalene	88 J
77-47-4	Hexachlorocyclopentadiene	720 U
88-06-2	2,4,6-Trichlorophenol	720 U
95-95-4	2,4,5-Trichlorophenol	3600 U
91-58-7	2-Chloronaphthalene	720 U
88-74-4	2-Nitroaniline	3600 U
131-11-3	Dimethyl Phthalate	720 U
208-96-8	Acenaphthylene	720 U
99-09-2	3-Nitroaniline	3600 U J

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	260 J
51-28-5	2,4-Dinitrophenol	3600 U
100-02-7	4-Nitrophenol	3600 U J
132-64-9	Dibenzofuran	200 J
121-14-2	2,4-Dinitrotoluene	720 U
606-20-2	2,6-Dinitrotoluene	720 U
84-66-2	Diethylphthalate	720 U
7005-72-3	4-Chlorophenyl-phenylether	720 U
86-73-7	Fluorene	280 J
100-01-6	4-Nitroaniline	3600 U J
534-52-1	4,6-Dinitro-2-Methylphenol	3600 U J
86-30-6	N-Nitrosodiphenylamine (1)	720 U
101-55-3	4-Bromophenyl-phenylether	720 U
118-74-1	Hexachlorobenzene	720 U
87-86-5	Pentachlorophenol	3600 U
85-01-8	Phenanthrene	4600
120-12-7	Anthracene	1400
84-74-2	Di-n-Butylphthalate	480 J
206-44-0	Fluoranthene	5400
129-00-0	Pyrene	5900
85-68-7	Butylbenzylphthalate	140 J
91-94-1	3,3'-Dichlorobenzidine	2000 N
56-55-3	Benzo(a)Anthracene	4300
117-81-7	bis(2-Ethylhexyl)Phthalate	240 J
218-01-9	Chrysene	5400
117-84-0	Di-n-Octyl Phthalate	720 U
205-99-2	Benzo(b)Fluoranthene	5100
207-08-9	Benzo(k)Fluoranthene	790
50-32-8	Benzo(a)Pyrene	3400
193-39-5	Indeno(1,2,3-cd)Pyrene	1900
53-70-3	Dibenz(a,h)Anthracene	410 J
191-24-2	Benzo(g,h,i)Perylene	1200

(1)-Cannot be separated from diphenylamine

T-76

Laboratory Name Clayton

Case No 7468

7468 · 5-028-15

Sample Number 525

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Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 22 June 1987

Date Analyzed 25 June 1987

Conc/Dil Factor 0.2 × 0.5 (GPC effect)

Percent Moisture (decanted) 7.25

GPC Cleanup ☑ Yes ☐ No

Separatory Funnel Extraction ☐ Yes

Continuous Liquid - Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	86 u
319-85-7	Beta-BHC	86 u
319-86-8	Delta-BHC	86 u
58-89-9	Gamma-BHC (Lindane)	86 u
76-44-8	Heptachlor	86 u
309-00-2	Aldrin	86 u
1024-57-3	Heptachlor Epoxide	86 u
959-98-8	Endosulfan I	86 u
60-57-1	Dieldrin	170 u
72-55-9	4, 4'-DDE	170 u
72-20-8	Endrin	170 u
33213-65-9	Endosulfan II	170 u
72-54-8	4, 4'-DDD	170 u
1031-07-8	Endosulfan Sulfate	170 u
50-29-3	4, 4'-DDT	180
72-43-5	Methoxychlor	860 u
53494-70-5	Endrin Ketone	170 u
57-74-9	Chlordane	860 u
8001-35-2	Toxaphene	1700 u
12674-11-2	Aroclor-1016	860 u
11104-28-2	Aroclor-1221	860 u
11141-16-5	Aroclor-1232	860 u
53469-21-9	Aroclor-1242	860 u
12672-29-6	Aroclor-1248	860 u
11097-69-1	Aroclor-1254	1700 u
11096-82-5	Aroclor-1260	1700 u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s — or W_s 30.00g V_t 20000 ul V_i 1 ul

200000 ul due to GPC effect and 0.2 dilution.

R. Fleslin 6/30/
rso 7-1-87

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7468 • 5029-05

Laboratory Name Clayton Environmental

Case No. 7468

Sample Number EM-5

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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

	CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1	67630	2-PROPANOL	VOA	10.22	30 J
2	—	UNKNOWN COMPOUND	BNA	5.90	2000 J
3	123422	4-HYDROXY-4-METHYL-2-PENTANONE	BNA	6.53	40000 JB *
4	110123	5-METHYL-2-HEXANONE	BNA	6.79	3000 JB
5	2216344	4-METHYL OCTANE	BNA	6.92	1000 JB
6	2216333	3-METHYL OCTANE	BNA	7.08	1000 JB
7	—	UNKNOWN COMPOUND	BNA	8.43	900 J
8	—	UNKNOWN COMPOUND	BNA	8.85	700 J
9	100527	BENZALDEHYDE	BNA	9.10	600 J
10	203645	4H-CYCLOPENTA[def]PHENANTHRENE	BNA	25.85	500 J
11	243174	11H-BENZO[b]FLUORENE	BNA	29.53	900 J
12	—	POSSIBLE 7H-BENZ[de]ANTHRACEN-7-ONE	BNA	31.14	600 J
13	593453	OCTADECANE	BNA	34.24	500 J
14	—	UNKNOWN HYDROCARBON	BNA	35.19	600 J
15	—	POSSIBLE 16-OCTADECENAL	BNA	35.57	3000 J
16	—	UNKNOWN COMPOUND	BNA	36.03	500 J
17	—	UNKNOWN HYDROCARBON	BNA	36.12	3000 J
18	192972	BENZO[e]PYRENE	BNA	36.18	8000 J
19	—	POSSIBLE PERYLENE	BNA	36.58	2000 J
20	—	UNKNOWN COMPOUND	BNA	36.72	2000 J
21	—	UNKNOWN HYDROCARBON	BNA	37.09	500 J
22	—	UNKNOWN COMPOUND	BNA	37.60	600 J
23	—	UNKNOWN HYDROCARBON	BNA	38.22	2000 J
24	—	UNKNOWN COMPOUND	BNA	41.02	1000 J
25					
26					
27					
28					
29					
30					

* POSSIBLE ALDOL CONDENSATION PRODUCT

MU 7/7/87

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7468 • 5-028-1

Sample Number
EM1526

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Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Clayton Environmental
Case No: 7468
Lab Sample ID No: B8476 (552981)
QC Report No: N/A
Sample Matrix: SOIL
Contract No: 68-01-7100
Data Release Authorized By: [signature]
Date Sample Received: 06/19/87

Volatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 6-24-87

Date Analyzed: 6-24-87

Conc/Dil Factor: 1 pH 7.9

Percent Moisture: (Not Decanted) 9.61 %

CAS Number		ug/l or ug/Kg (Circle One)	
74-87-3	Chloromethane	11	U J
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	7	J
67-64-1	Acetone	21	B J
75-15-0	Carbon Disulfide	6	U
75-35-4	1, 1-Dichloroethene	6	U
75-34-3	1, 1-Dichloroethane	6	U
156-60-5	Trans-1, 2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1, 2-Dichloroethane	6	U J
78-93-3	2-Butanone	11	U J
71-55-6	1, 1, 1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U J
108-05-4	Vinyl Acetate	11	U J
75-27-4	Bromodichloromethane	6	U

CAS Number		ug/l or ug/Kg (Circle One)	
78-87-5	1, 2-Dichloropropane	6	U
10061-02-6	Trans-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 J
10061-01-5	cis-1, 3-Dichloropropene	6	U
110-75-8	2-Chloroethylvinylether	11	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1, 1, 2, 2-Tetrachloroethane	6	U
108-88-3	Toluene	13	
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
	Total Xylenes	6	U

UJ, J-26C

Data Reporting Qualifiers

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

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

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

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

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

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

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

M Matrix spike compound

N Instrument limit of detection was used because it was higher than the CRDL

A Indicates a value less than the dilution corrected limit of

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7468 • 5-028-17

Laboratory Name Clayton Environmental

Case No 7468

Sample Number EM-52

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Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared 6/22/87

Date Analyzed 6/29/87 (A908C)

Conc/Dil Factor 0.5 (FOR GPC CLEANUP)

Percent Moisture (Decanted) 9.61%

GPC Cleanup ☒ Yes ☐ No

Separatory Funnel Extraction ☐ Yes

Continuous Liquid - Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	740 U
111-44-4	bis(2-Chloroethyl)Ether	740 U
95-57-8	2-Chlorophenol	740 U
541-73-1	1 3-Dichlorobenzene	740 U
106-46-7	1 4-Dichlorobenzene	740 U
100-51-6	Benzyl Alcohol	740 U
95-50-1	1 2-Dichlorobenzene	740 U
95-48-7	2-Methylphenol	740 U
39638-32-9	bis(2-chloroisopropyl)Ether	740 U
106-44-5	4-Methylphenol	740 U J
621-64-7	N-Nitroso-Di-n-Propylamine	740 U
67-72-1	Hexachloroethane	740 U
98-95-3	Nitrobenzene	740 U
78-59-1	Isophorone	740 U
88-75-5	2-Nitrophenol	740 U
105-67-9	2 4-Dimethylphenol	740 U
65-85-0	Benzoic Acid	3700 U
111-91-1	bis(2-Chloroethoxy)Methane	740 U
120-83-2	2 4-Dichlorophenol	740 U
120-82-1	1 2 4-Trichlorobenzene	740 U
91-20-3	Naphthalene	740 U
106-47-8	4-Chloroaniline	740 U
87-68-3	Hexachlorobutadiene	740 U
59-50-7	4-Chloro-3-Methylphenol	740 U
91-57-6	2-Methylnaphthalene	740 U
77-47-4	Hexachlorocyclopentadiene	740 U
88-06-2	2 4 6-Trichlorophenol	740 U
95-95-4	2 4 5-Trichlorophenol	3700 U
91-58-7	2-Chloronaphthalene	740 U
88-74-4	2-Nitroaniline	3700 U
131-11-3	Dimethyl Phthalate	740 U
208-96-8	Acenaphthylene	740 U
99-09-2	3-Nitroaniline	3700 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	740 U
51-28-5	2 4-Dinitrophenol	3700 U J
100-02-7	4-Nitrophenol	3700 U
132-64-9	Dibenzofuran	740 U
121-14-2	2 4-Dinitrotoluene	740 U
606-20-2	2 6-Dinitrotoluene	740 U
84-66-2	Diethylphthalate	740 U
7005-72-3	4-Chlorophenyl-phenylether	740 U
86-73-7	Fluorene	740 U
100-01-6	4-Nitroaniline	3700 U J
534-52-1	4 6-Dinitro-2-Methylphenol	3700 U J
86-30-6	N-Nitrosodiphenylamine (1)	740 U
101-55-3	4-Bromophenyl-phenylether	740 U
118-74-1	Hexachlorobenzene	740 U
87-86-5	Pentachlorophenol	3700 U
85-01-8	Phenanthrene	740 U
120-12-7	Anthracene	740 U
84-74-2	Di-n-Butylphthalate	740 U
206-44-0	Fluoranthene	740 U
129-00-0	Pyrene	110 J
85-68-7	Butylbenzylphthalate	740 U
91-94-1	3 3 -Dichlorobenzidine	2100 N
56-55-3	Benzo(a)Anthracene	740 U
117-81-7	bis(2-Ethylhexyl)Phthalate	100 J B UJ
218-01-9	Chrysene	540 J
117-84-0	Di-n-Octyl Phthalate	740 U
205-99-2	Benzo(b)Fluoranthene	240 J
207-08-9	Benzo(k)Fluoranthene	740 U
50-32-8	Benzo(a)Pyrene	740 U
193-39-5	Indeno(1 2 3-cd)Pyrene	360 J
53-70-3	Dibenzo(a h)Anthracene	1300 N
191-24-2	Benzo(g h i)Perylene	320 J

(1)-Cannot be separated from diphenylamine

J-26

Laboratory Name Clayton

Case No 7468

7468 • 5-028-18

Sample Number
EM - 326

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared: 22 June 1987

Date Analyzed: 25 June 1987

Conc (D I Factor) 0.4 x 0.5 (GPC effect)

Percent Moisture (decanted) 9.61

GPC Cleanup ☑Yes ☐No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or (ug/Kg) (Circle One)
319-84-6	Alpha-BHC	44u
319-85-7	Beta-BHC	44u
319-86-8	Delta-BHC	44u
58-89-9	Gamma-BHC (Lindane)	44u
76-44-8	Heptachlor	44u
309-00-2	Aldrin	44u
1024-57-3	Heptachlor Epoxide	44u
959-98-8	Endosulfan I	44u
60-57-1	Dieldrin	88u
72-55-9	4,4'-DDE	88u
72-20-8	Endrin	88u
33213-65-9	Endosulfan II	88u
72-54-8	4,4'-DDD	88u
1031-07-8	Endosulfan Sulfate	88u
50-29-3	4,4'-DDT	88u
72-43-5	Methoxychlor	440u
53494-70-5	Endrin Ketone	88u
57-74-9	Chlordane	440u
8001-35-2	Toxaphene	880u
12674-11-2	Aroclor-1016	440u
11104-28-2	Aroclor-1221	440u
11141-16-5	Aroclor-1232	440u
53469-21-9	Aroclor-1242	440u
12672-29-6	Aroclor-1248	440u
11097-69-1	Aroclor-1254	620 A
11096-82-5	Aroclor-1260	880u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 30.00g V_t 20000 ul V_i 1 ul

100000 ul due to GPC effect and 0.4 dilution

R. Flesher 6/30/87

- JO 7-1-87

Laboratory Name Clayton Environmental

Case No 7468

7468 • 5-029-0

Sample Number EM526

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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. 67630	2-PROPANOL	VOA	10.21	7 J
2. ——	UNKNOWN COMPOUND	BNA	5.89	3000 J B
3. 123422	4-HYDROXY-4-METHYL-2-PENTANONE*	BNA	6.56	100000 J B
4. ——	UNKNOWN COMPOUND	BNA	6.71	600 J
5. 110123	5-METHYL-2-HEXANONE	BNA	6.76	2000 J B
6. 3216344	4-METHYL OCTANE	BNA	6.86	900 J B
7. 3216333	3-METHYL OCTANE	BNA	7.02	1000 J B
8. 3744023	4-METHYL-4-PENTEN-2-ONE	BNA	8.03	600 J B
9. ——	UNKNOWN COMPOUND	BNA	8.39	500 J
10. ——	UNKNOWN COMPOUND	BNA	9.02	1000 J
11. ——	UNKNOWN COMPOUND	BNA	11.00	900 J
12. 192972	BENZO[e] PYRENE	BNA	36.15	600 J
13. ——	UNKNOWN COMPOUND	BNA	36.68	2000 J
14. ——	UNKNOWN COMPOUND	BNA	39.52	600 J
15.				
16.				
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29.				
30.				

*POSSIBLE ALDOL CONDENSATION PRODUCT

AMC 7/7/87

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Sample Number
EMED527

7468 • 5-028-19

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Clayton Environmental
Case No: 7468
Lab Sample ID No: B8510 (552983)
QC Report No: N/A
Sample Matrix: SOIL
Contract No: 68-01-7100
Data Release Authorized By: [signature]
Date Sample Received: 06/19/87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 6-25-87
Date Analyzed: 6-25-87
Conc/Dil Factor: 0.33 pH 7.6 7.4
Percent Moisture: (Not Decanted) 13.09%

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	35 U
74-83-9	Bromomethane	35 U
75-01-4	Vinyl Chloride	35 U
75-00-3	Chloroethane	35 U
75-09-2	Methylene Chloride	40 ~~B~~ J
67-64-1	Acetone	410 ~~B~~ J
75-15-0	Carbon Disulfide	17 U
75-35-4	1, 1-Dichloroethene	17 U
75-34-3	1, 1-Dichloroethane	17 U
156-60-5	Trans-1, 2-Dichloroethene	17 U
67-66-3	Chloroform	17 U
107-06-2	1, 2-Dichloroethane	17 U
78-93-3	2-Butanone	27 ~~28~~ J
71-55-6	1, 1, 1-Trichloroethane	17 U
56-23-5	Carbon Tetrachloride	17 U
108-05-4	Vinyl Acetate	35 U
75-27-4	Bromodichloromethane	17 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	17 U
10061-02-6	Trans-1, 3-Dichloropropene	17 U
79-01-6	Trichloroethene	17 U
124-48-1	Dibromochloromethane	17 U
79-00-5	1, 1, 2-Trichloroethane	17 U
71-43-2	Benzene	17 U
10061-01-5	cis-1, 3-Dichloropropene	17 U
110-75-8	2-Chloroethylvinylether	35 U
75-25-2	Bromoform	17 U
108-10-1	4-Methyl-2-Pentanone	35 U
591-78-6	2-Hexanone	35 U
127-18-4	Tetrachloroethene	17 U
79-34-5	1, 1, 2, 2-Tetrachloroethane	17 U
108-88-3	Toluene	40
108-90-7	Chlorobenzene	17 U
100-41-4	Ethylbenzene	17 U
100-42-5	Styrene	17 U
	Total Xylenes	17 U

J-26K

Data Reporting Qualifiers

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

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

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

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

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

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

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

M Matrix spike compound

N Instrument limit of detection was used because it was higher than the CRDL

A Indicates a value less than the

Laboratory Name Clayton Environmental

Case No 7468

7468 • 5-028-20

Sample Number
E 527

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Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared 6/22/87

Date Analyzed 6/29/87 (A9089)

Conc/Dil Factor 0.5 (FOR GPC CLEANUP)

Percent Moisture (Decanted) 13.09 %

GPC Cleanup ☒ Yes ☐ No

Separatory Funnel Extraction ☐ Yes

Continuous Liquid - Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	770 U
111-44-4	bis(2-Chloroethyl)Ether	770 U
95-57-8	2-Chlorophenol	770 U
541-73-1	1,3-Dichlorobenzene	770 U
106-46-7	1,4-Dichlorobenzene	770 U
100-51-6	Benzyl Alcohol	770 U
95-50-1	1,2-Dichlorobenzene	770 U
95-48-7	2-Methylphenol	770 U
39638-32-9	bis(2-chloroisopropyl)Ether	770 U
106-44-5	4-Methylphenol	770 U J
621-64-7	N-Nitroso-Di-n-Propylamine	770 U
67-72-1	Hexachloroethane	770 U
98-95-3	Nitrobenzene	770 U
78-59-1	Isophorone	770 U
88-75-5	2-Nitrophenol	770 U
105-67-9	2,4-Dimethylphenol	770 U
65-85-0	Benzoic Acid	3800 U
111-91-1	bis(2-Chloroethoxy)Methane	770 U
120-83-2	2,4-Dichlorophenol	770 U
120-82-1	1,2,4-Trichlorobenzene	770 U
91-20-3	Naphthalene	260 J
106-47-8	4-Chloroaniline	770 U
87-68-3	Hexachlorobutadiene	770 U
59-50-7	4-Chloro-3-Methylphenol	770 U
91-57-6	2-Methylnaphthalene	510 J
77-47-4	Hexachlorocyclopentadiene	770 U
88-06-2	2,4,6-Trichlorophenol	770 U
95-95-4	2,4,5-Trichlorophenol	3800 U
91-58-7	2-Chloronaphthalene	770 U
88-74-4	2-Nitroaniline	3800 U
131-11-3	Dimethyl Phthalate	770 U
208-96-8	Acenaphthylene	770 U
99-09-2	3-Nitroaniline	3800 U

CAS Number		ug/l or ug/Kg (Circle One)
83-32-9	Acenaphthene	770 U
51-28-5	2,4-Dinitrophenol	3800 U J
100-02-7	4-Nitrophenol	3800 U
132-64-9	Dibenzofuran	150 J
121-14-2	2,4-Dinitrotoluene	770 U
606-20-2	2,6-Dinitrotoluene	770 U
84-66-2	Diethylphthalate	770 U
7005-72-3	4-Chlorophenyl-phenylether	770 U
86-73-7	Fluorene	770 U
100-01-6	4-Nitroaniline	3800 U J
534-52-1	4,6-Dinitro-2-Methylphenol	3800 U J
86-30-6	N-Nitrosodiphenylamine (1)	770 U
101-55-3	4-Bromophenyl-phenylether	770 U
118-74-1	Hexachlorobenzene	770 U
87-86-5	Pentachlorophenol	3800 U
85-01-8	Phenanthrene	550 J
120-12-7	Anthracene	770 U
84-74-2	Di-n-Butylphthalate	770 U
206-44-0	Fluoranthene	390 J
129-00-0	Pyrene	1200
85-68-7	Butylbenzylphthalate	150 J
91-94-1	3,3'-Dichlorobenzidine	2100 N
56-55-3	Benzo(a)Anthracene	320 J
117-81-7	bis(2-Ethylhexyl)Phthalate	310 JB
218-01-9	Chrysene	570 J
117-84-0	Di-n-Octyl Phthalate	770 U
205-99-2	Benzo(b)Fluoranthene	690 J
207-08-9	Benzo(k)Fluoranthene	770 U
50-32-8	Benzo(a)Pyrene	320 J
193-39-5	Indeno(1,2,3-cd)Pyrene	170 J
53-70-3	Dibenzo(a,h)Anthracene	1200 N
191-24-2	Benzo(g,h,i)Perylene	180 J

(1)-Cannot be separated from diphenylamine

7/85

Laboratory Name Clayton

Case No 7468

7468 • 5-028-2

Sample Number EM 27

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Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 22 June 1987

Date Analyzed 25 June 1987

Conc/(Dil Factor) 0.2×0.5 (GPC effect)

Percent Moisture (decanted) 13.09

GPC Cleanup ☑Yes ☐No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

CAS Number		ug/l or (ug/Kg) (Circle One)
319-84-6	Alpha-BHC	92u
319-85-7	Beta-BHC	92u
319-86-8	Delta-BHC	92u
58-89-9	Gamma-BHC (Lindane)	92u
76-44-8	Heptachlor	92u
309-00-2	Aldrin	92u
1024-57-3	Heptachlor Epoxide	92u
959-98-8	Endosulfan I	92u
60-57-1	Dieldrin	180u
72-55-9	4, 4'-DDE	180u
72-20-8	Endrin	180u
33213-65-9	Endosulfan II	180u
72-54-8	4, 4'-DDD	180u
1031-07-8	Endosulfan Sulfate	180u
50-29-3	4, 4'-DDT	180u
72-43-5	Methoxychlor	920u
53494-70-5	Endrin Ketone	180u
57-74-9	Chlordane	920u
8001-35-2	Toxaphene	1800u
12674-11-2	Aroclor-1016	920u
11104-28-2	Aroclor-1221	920u
11141-16-5	Aroclor-1232	920u
53469-21-9	Aroclor-1242	920u
12672-29-6	Aroclor-1248	920u
11097-69-1	Aroclor-1254	1800u
11096-82-5	Aroclor-1260	720 A

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 30.00g V_t 20000ul V_i 1ul

200000ul due to GPC effect and 0.2 dilution

E. Flaher 6/30/87 - SO 7-1-87

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7468 • 5-029-

Laboratory Name Clayton Environmental

Case No 7468

Sample Number EM5827

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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. 67630	2-PROPANOL	VOA	10.15	30 JB
2. —	UNKNOWN COMPOUND	BNA	5.80	3000 JB
3. 123422	4-HYDROXY-4-METHYL-2-PENTANONE*	BNA	6.47	80000 JB
4. 110123	5-METHYL-2-HEXANONE	BNA	6.72	3000 JB
5. 2216344	4-METHYL OCTANE	BNA	6.83	1000 JB
6. 2216333	3-METHYL OCTANE	BNA	7.02	2000 JB
7. 3744023	4-METHYL-4-PENTEN-2-ONE	BNA	8.03	600 JB
8. —	UNKNOWN COMPOUND	BNA	8.38	800 J
9. —	UNKNOWN COMPOUND	BNA	8.78	800 J
10. 100527	BENZALDEHYDE	BNA	9.05	800 J
11. —	UNKNOWN COMPOUND	BNA	9.77	500 J
12. —	UNKNOWN COMPOUND	BNA	11.00	1000 J
13. —	POSSIBLE HEXADECANE	BNA	20.94	400 J
14. 1921706	2,6,10,14-TETRAMETHYLPENTADECANE	BNA	22.52	1000 J
15. 10544500	MOL. SULFUR	BNA	27.47	1000 J
16. —	POSSIBLE HEPTADECANE	BNA	30.06	400 J
17. —	UNKNOWN COMPOUND	BNA	34.91	1000 J
18. —	UNKNOWN COMPOUND	BNA	35.04	700 J
19. —	POSSIBLE EICOSANE	BNA	36.06	1000 J
20. —	POSSIBLE EICOSANE	BNA	38.18	2000 J
21. —	UNKNOWN COMPOUND	BNA	39.50	700 J
22. —	UNKNOWN COMPOUND	BNA	42.74	1000 J
23. —	UNKNOWN COMPOUND	BNA	43.21	700 J
24. —	UNKNOWN COMPOUND	BNA	43.71	1000 J
25.				
26.				
27.				
28.				
29.				
30.				

* POSSIBLE ALDOL CONDENSATION PRODUCT

AMC 7/7/87

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Sample Number
EMD028
7468 5-028-20

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Organics Analysis Data Sheet
(Page 1)

Laboratory Name: Clayton Environmental
Case No: 7468
Lab Sample ID No: B8485 (552985)
QC Report No: N/A
Sample Matrix: SOIL
Contract No: 68-01-7100
Data Release Authorized By:
Date Sample Received: 06/19/87

Volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 6-24-87
Date Analyzed: 6-24-87
Conc/Dil Factor: 0.33 pH 7.6
Percent Moisture: (Not Decanted) 1.41%

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	30 U J
74-83-9	Bromomethane	30 U
75-01-4	Vinyl Chloride	30 U
75-00-3	Chloroethane	30 U
75-09-2	Methylene Chloride	11 ~~JB~~ UJ
67-64-1	Acetone	250 ~~B~~ J
75-15-0	Carbon Disulfide	15 U
75-35-4	1, 1-Dichloroethene	15 U
75-34-3	1, 1-Dichloroethane	15 U
156-60-5	Trans-1, 2-Dichloroethene	15 U
67-66-3	Chloroform	15 U
107-06-2	1, 2-Dichloroethane	15 U J
78-93-3	2-Butanone	24 ~~JB~~ UJ
71-55-6	1, 1, 1-Trichloroethane	15 U
56-23-5	Carbon Tetrachloride	15 U J
108-05-4	Vinyl Acetate	30 U J
75-27-4	Bromodichloromethane	15 U

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	15 U
10061-02-6	Trans-1, 3-Dichloropropene	15 U
79-01-6	Trichloroethene	15 U
124-48-1	Dibromochloromethane	15 U
79-00-5	1, 1, 2-Trichloroethane	15 U
71-43-2	Benzene	15 U J
10061-01-5	cis-1, 3-Dichloropropene	15 U
110-75-8	2-Chloroethylvinylether	30 U
75-25-2	Bromoform	15 U
108-10-1	4-Methyl-2-Pentanone	10 J
591-78-6	2-Hexanone	30 U
127-18-4	Tetrachloroethene	15 U
79-34-5	1, 1, 2, 2-Tetrachloroethane	15 U
108-88-3	Toluene	24
108-90-7	Chlorobenzene	15 U
100-41-4	Ethylbenzene	15 U
100-42-5	Styrene	15 U
	Total Xylenes	15 U

Data Reporting Qualifiers

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

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

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

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

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

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

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

M — Matrix spike compound

N — Instrument limit of detection was used because it was higher than the CRDL

A — Indicates a value less than the dilution corrected limit of

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7 1 6 8 P: 5-028-23

Laboratory Name Clayton Environmental

Case No 7468

Sample Number EM-5028

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Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low, Medium (Circle One)

Date Extracted/Prepared 6/22/87

Date Analyzed 6/29/87 (A9096)

Conc/Dil Factor 0.5 (FOR GPC CLEANUP)

Percent Moisture (Decanted) 1.41 %

GPC Cleanup ☒ Yes ☐ No

Separatory Funnel Extraction ☐ Yes

Continuous Liquid - Liquid Extraction ☐ Yes

CAS Number		ug/l or ug/Kg (Circle One)	
108-95-2	Phenol	680	U
111-44-4	bis(2-Chloroethyl)Ether	680	U
95-57-8	2-Chlorophenol	680	U
541-73-1	1,3-Dichlorobenzene	680	U
106-46-7	1,4-Dichlorobenzene	680	U
100-51-6	Benzyl Alcohol	680	U J
95-50-1	1,2-Dichlorobenzene	680	U
95-48-7	2-Methylphenol	680	U
39638-32-9	bis(2-chloroisopropyl)Ether	680	U
106-44-5	4-Methylphenol	680	U
621-64-7	N-Nitroso-Di-n-Propylamine	680	U
67-72-1	Hexachloroethane	680	U J
98-95-3	Nitrobenzene	680	U
78-59-1	Isophorone	680	U
88-75-5	2-Nitrophenol	680	U
105-67-9	2,4-Dimethylphenol	680	U
65-85-0	Benzoic Acid	3400	U J
111-91-1	bis(2-Chloroethoxy)Methane	680	U
120-83-2	2,4-Dichlorophenol	680	U
120-82-1	1,2,4-Trichlorobenzene	680	U
91-20-3	Naphthalene	680	U
106-47-8	4-Chloroaniline	680	U
87-68-3	Hexachlorobutadiene	680	U
59-50-7	4-Chloro-3-Methylphenol	680	U
91-57-6	2-Methylnaphthalene	69	J
77-47-4	Hexachlorocyclopentadiene	680	U
88-06-2	2,4,6-Trichlorophenol	680	U
95-95-4	2,4,5-Trichlorophenol	3400	U
91-58-7	2-Chloronaphthalene	680	U
88-74-4	2-Nitroaniline	3400	U
131-11-3	Dimethyl Phthalate	680	U
208-96-8	Acenaphthylene	680	U
99-09-2	3-Nitroaniline	3400	U J

CAS Number		ug/l or ug/Kg (Circle One)	
83-32-9	Acenaphthene	680	U
51-28-5	2,4-Dinitrophenol	3400	U
100-02-7	4-Nitrophenol	3400	U J
132-64-9	Dibenzofuran	680	U
121-14-2	2,4-Dinitrotoluene	680	U
606-20-2	2,6-Dinitrotoluene	680	U
84-66-2	Diethylphthalate	680	U
7005-72-3	4-Chlorophenyl-phenylether	680	U
86-73-7	Fluorene	680	U
100-01-6	4-Nitroaniline	3400	U J
534-52-1	4,6-Dinitro-2-Methylphenol	3400	U J
86-30-6	N-Nitrosodiphenylamine (1)	680	U
101-55-3	4-Bromophenyl-phenylether	680	U
118-74-1	Hexachlorobenzene	680	U
87-86-5	Pentachlorophenol	3400	U
85-01-8	Phenanthrene	350	J
120-12-7	Anthracene	680	U
84-74-2	Di-n-Butylphthalate	680	U
206-44-0	Fluoranthene	1000	
129-00-0	Pyrene	950	J
85-68-7	Butylbenzylphthalate	680	U
91-94-1	3,3'-Dichlorobenzidine	1900	N
56-55-3	Benzo(a)Anthracene	660	J
117-81-7	bis(2-Ethylhexyl)Phthalate	680	U
218-01-9	Chrysene	1000	
117-84-0	Di-n-Octyl Phthalate	680	U
205-99-2	Benzo(b)Fluoranthene	1200	
207-08-9	Benzo(k)Fluoranthene	1160	J
50-32-8	Benzo(a)Pyrene	710	
193-39-5	Indeno(1,2,3-cd)Pyrene	530	J
53-70-3	Dibenzo(a,h)Anthracene	83	J
191-24-2	Benzo(g,h,i)Perylene	460	J

(1)-Cannot be separated from diphenylamine

Laboratory Name Clayton

Case No 74168

7168 · 5-028-24

Sample Number
EN5528

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Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration (Low) Medium (Circle One)

Date Extracted/Prepared 22 June 1987

Date Analyzed 25 June 1987

Conc/(Dil Factor) 0.2 × 0.5 (GPC effect)

Percent Moisture (decanted) 1.41

GPC Cleanup ☑ Yes ☐ No

Separatory Funnel Extraction ☐ Yes

Continuous Liquid - Liquid Extraction ☐ Yes

CAS Number		ug/l or (ug/Kg) (Circle One)
319-84-6	Alpha-BHC	81 u
319-85-7	Beta-BHC	81 u
319-86-8	Delta-BHC	81 u
58-89-9	Gamma-BHC (Lindane)	81 u
76-44-8	Heptachlor	81 u
309-00-2	Aldrin	81 u
1024-57-3	Heptachlor Epoxide	81 u
959-98-8	Endosulfan I	81 u
60-57-1	Dieldrin	160 u
72-55-9	4,4'-DDE	160 u
72-20-8	Endrin	160 u
33213-65-9	Endosulfan II	160 u
72-54-8	4,4'-DDD	160 u
1031-07-8	Endosulfan Sulfate	160 u
50-29-3	4,4'-DDT	160 u
72-43-5	Methoxychlor	810 u
53494-70-5	Endrin Ketone	160 u
57-74-9	Chlordane	810 u
8001-35-2	Toxaphene	1600 u
12674-11-2	Aroclor-1016	810 u
11104-28-2	Aroclor-1221	810 u
11141-16-5	Aroclor-1232	810 u
53469-21-9	Aroclor-1242	810 u
12672-29-6	Aroclor-1248	810 u
11097-69-1	Aroclor-1254	1600 u
11096-82-5	Aroclor-1260	1600 u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s — or W_s 30.00 g V_t 20000 ul V_i 1 ul

200000 ul due to GPC effect and 0.2 dilution

R. Fleder 6/30/8 — 7-1-87

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7468 · 5029-08

Laboratory Name Clayton Environmental

Case No 7468

Sample Number CM-508

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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1 —	NO VOLATILE COMPOUNDS DETECTED	VOA	—	—
2 —	UNKNOWN COMPOUND	BNA	5.80	2000 JB
3 123422	4-HYDROXY-4-METHYL-2-PENTANONE*	BNA	6.43	50000 JB
4 110123	5-METHYL-2-HEXANONE	BNA	6.72	3000 JB
5 2216344	4-METHYL OCTANE	BNA	6.85	1000 JB
6 2216333	3-METHYL OCTANE	BNA	7.02	1000 JB
7 3744023	4-METHYL-4-PENTEN-2-ONE	BNA	8.03	400 JB
8 —	UNKNOWN COMPOUND	BNA	8.38	400 J
9 —	UNKNOWN COMPOUND	BNA	8.78	700 J
10 100527	BENZALDEHYDE	BNA	9.05	600 J
11 —	UNKNOWN COMPOUND	BNA	10.98	300 J
12 1921706	2,6,10,14-TETRAMETHYL PENTADECANE	BNA	22.52	400 J
13 7704560	MOL. SULFUR	BNA	27.44	600 J
14 —	POSSIBLE HEPTADECANE	BNA	35.13	300 J
15 —	POSSIBLE EICOSANE	BNA	36.04	500 J
16 192972	BENZO[e] PYRENE	BNA	36.14	700 J
17 —	UNKNOWN HYDROCARBON	BNA	38.16	400 J
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

*POSSIBLE ALDOL CONDENSATION PRODUCT

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7468 .05-025-01

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GC/MS TUNING AND MASS CALIBRATION

4-Bromofluorobenzene (BFB)

Case No. 7468 Contractor Clayton Env. Contract No. 68-01- 7100

Instrument ID 02B Date / Time 6/17/87 7:53

Lab ID 388343::CC Data Release Authorized By: [signature]

SCANS 120+126-125+174 JS 6/24/87

m/z	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	15.0 - 40.0% of the base peak	16.59 OK
75	30.0 - 60.0% of the base peak	41.86 OK
95	Base peak, 100% relative abundance	100.00 OK
96	5.0 - 9.0% of the base peak	6.05 OK
173	less than 1.0% of base peak	0.00 OK
174	greater than 50.0% of the base peak	75.58 OK
175	5.0 - 9.0% of mass 174	6.12 OK (8.092) #1
176	between 95.0 and 101.0% of mass 174	74.30 OK (98.31) #1
177	5.0 - 9.0% of mass 176	6.56 OK (8.831) #2

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

#1 - Value in parenthesis is % mass 174.
#2 - Value in parenthesis is % mass 176.

SAMPLE ID	LAB ID	DATE OF ANALYSIS	TIME OF ANALYSIS
V std 50	B 8346	06/17/87	10:59
V std 200	B8348	06/17/87	13:03
V std 150	B8349	06/17/87	13:56
V std 100	B8350	06/17/87	14:45
V std 20	B8351	06/17/87	15:34

within 12 hrs of smpl

FORM II 7/85

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7 4 8 8 · 5-025-0
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GC/MS TUNING AND MASS CALIBRATION

4-Bromofluorobenzene (BFB)

Case No. 7468 Contractor Clayton Env. Contract No. 68-01-7100

Instrument ID #2B Date / Time 6/20/87 1:07

Lab ID 088408:00 Data Release Authorized By:

SCANS 123-114 JT 6/24/87

m/z	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	15.0 - 40.0% of the base peak	15.01 OK
75	30.0 - 60.0% of the base peak	45.33 OK
95	Base peak, 100% relative abundance	100.00 OK
96	5.0 - 9.0% of the base peak	7.74 OK
173	less than 1.0% of base peak	0.00 OK
174	greater than 50.0% of the base peak	66.29 OK
175	5.0 - 9.0% of mass 174	4.33 OK (6.529) #1
176	between 95.0 and 101.0% of mass 174	63.56 OK (95.88) #1
177	5.0 - 9.0% of mass 176	3.80 OK (5.984) #2

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

#1 - Value in parenthesis is % mass 174.
#2 - Value in parenthesis is % mass 176.

SAMPLE ID	LAB ID	DATE OF ANALYSIS	TIME OF ANALYSIS
50PPB VOA STD	A B8412	6-20-87	04:57
MBLK (4W)	B8413	6-20-87	05:58
EM-414	B8414 (552957)	6-20-87	07:01
EM-414MS	B8415 (552957MS)	6-20-87	07:57
EM-414MSD	B8416 (552957MSD)	6-20-87	08:52
EM-415	B8417 (552961)	6-20-87	09:48
EM-416	B8418 (552963)	6-20-87	10:44
EM-529	B8419 (552965)	6-20-87	11:39
			within 12 hrs.

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7468 • 5-025-c

GC/MS TUNING AND MASS CALIBRATION

4-Bromofluorobenzene (BFB)

Case No. 7468 Contractor Clayton Env. Contract No. 68-01-7100

Instrument ID #28 Date / Time 6/23/87 18:56

Lab ID)88457::CE Data Release Authorized By: [signature]

Scan : 122-129

fg 6-23-87

m/z	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	15.0 - 40.0% of the base peak	15.13 OK
75	30.0 - 60.0% of the base peak	39.99 OK
95	Base peak, 100% relative abundance	100.00 OK
96	5.0 - 9.0% of the base peak	8.80 OK
173	less than 1.0% of base peak	0.00 OK
174	greater than 50.0% of the base peak	86.11 OK
175	5.0 - 9.0% of mass 174	7.60 OK (8.831) #1
176	between 95.0 and 101.0% of mass 174	85.08 OK (98.81) #1
177	5.0 - 9.0% of mass 176	6.00 OK (7.053) #2

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

#1 - Value in parenthesis is % mass 174.
#2 - Value in parenthesis is % mass 176.

SAMPLE ID	LAB ID	DATE OF ANALYSIS	TIME OF ANALYSIS
50ng BFB std.	B8461	6-23-87	22:56
MBLK I(WS)	B8466	6-24-87	03:53
EM-SWE524A	B8467(552977)	6-24-87	05:01
6/26/87			within 12hrs

FORM V 7/85

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7468 • 5-025-01

GC/MS TUNING AND MASS CALIBRATION

4-Bromofluorobenzene (BFB)

Case No. 7468 Contractor Clayton Env. Contract No. 68-01-7100

Instrument ID #29 Date / Time 6/24/87 8:31

Lab ID B8471##EE Data Release Authorized By: [signature]

Scan 131-114
TC 6-24-87

m/z	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE	
* 50	15.0 - 40.0% of the base peak	15.57 OK	
* 75	30.0 - 60.0% of the base peak	46.06 OK	
* 95	Base peak, 100% relative abundance	100.00 OK	
* 96	5.0 - 9.0% of the base peak	7.84 OK	
* 173	less than 1.0% of base peak	0.00 OK	
* 174	greater than 50.0% of the base peak	79.32 OK	
175	5.0 - 9.0% of mass 174	6.27 OK	(7.906) #1 ✓
176	between 95.0 and 101.0% of mass 174	77.01 OK	(97.08) #1 ✓
177	5.0 - 9.0% of mass 176	5.60 OK	(7.271) #2 ✓

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

#1 - Value in parenthesis is % mass 174.
#2 - Value in parenthesis is % mass 176.

SAMPLE ID	LAB ID	DATE OF ANALYSIS	TIME OF ANALYSIS
50PPB VOA STD	B8473	6-24-87	09:54
MBLK II (WS)	B5474	6-24-87	10:49
EM526	B8476 (552981)	6-24-87	12:26
EM525	B8482 (552980)	6-24-87	17:55
EM526MSD	B8483 (552981)	6-24-87	18:49
EM528	B8485 (552985)	6-24-87	20:29
			within 12 hrs.

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GC/MS TUNING AND MASS CALIBRATION

4-Bromofluorobenzene (BFB)

Case No. 7468 Contractor Clayton Env. Contract No. 68-01-7100

Instrument ID #28 Date / Time 6/25/87 12:12

Lab ID)88500::EE Data Release Authorized By: Daryl Strawbridge

SCANS: 122-114 DT 6/26/87

m/z	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	15.0 - 40.0% of the base peak	15.99 OK
75	30.0 - 60.0% of the base peak	47.11 OK
95	Base peak, 100% relative abundance	100.00 OK
96	5.0 - 9.0% of the base peak	7.25 OK
173	less than 1.0% of base peak	0.00 OK
174	greater than 50.0% of the base peak	71.54 OK
175	5.0 - 9.0% of mass 174	4.73 OK (6.613) #1
176	between 95.0 and 101.0% of mass 174	70.18 OK (98.11) #1
177	5.0 - 9.0% of mass 176	4.67 OK (6.661) #2

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

#1 - Value in parenthesis is % mass 174.
#2 - Value in parenthesis is % mass 176.

SAMPLE ID	LAB ID	DATE OF ANALYSIS	TIME OF ANALYSIS
50PPBVOAS70.	B8504	6-25-87	15:57
MBLKIII(LWS)	B8507	6-25-87	19:18
GM527	B8510 (552983)	6-25-87	22:32
GM526MS	B8511 (552981)	6-25-87	23:33
			Within 12 hrs

FORM V 7/85

recycled paper

ecology and environment

7468 5-026-01

GC/MS TUNING AND MASS CALIBRATION

Decafluorotriphenylphosphine (DFTPP)

Case No. 7468 Contractor Clayton Env. Contract No. 68-01-7100

Instrument ID #1A Date / Time 6/12/87 14:24

Lab ID >A8873::FF Data Release Authorized By:

Scan : 821 JB 6-12-87

m/z	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	38.62 OK
68	less than 2.0% of mass 69	0.00 OK (0.00) #1
69	mass 69 relative abundance	56.71
70	less than 2.0% of mass 69	.68 OK (1.199) #1
127	40.0 - 60.0% of mass 198	54.64 OK
197	less than 1.0% of mass 198	0.08 OK
198	base peak, 100% relative abundance	100.00 OK
199	5.0 - 9.0% of mass 198	6.87 OK
275	10.0 - 30.0% of mass 198	19.37 OK
365	greater than 1.00% of mass 198	1.35 OK
441	present, but less than mass 443	8.22 OK
442	greater than 40.0% of mass 198	44.87 OK
443	17.0 - 23.0% of mass 442	8.33 OK (18.57) #2

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

#1 - Value in parenthesis is % mass 69.
#2 - Value in parenthesis is % mass 442.

SAMPLE ID	LAB ID	DATE OF ANALYSIS	TIME OF ANALYSIS
50ng BNA STD	50ng BNA >A8875	6/12/87	16:29
20ng BNA STD.	20ng BNA >A8876	6/12/87	17:55
80ng BNA STD.	80ng BNA >A8877	6/12/87	18:58
120ng BNA STD	120ng BNA >A8878	6/12/87	20:15
160ng BNA STD	160ng BNA >A8879	6/12/87	21:13
			within 12 hrs

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7468 · 5-026-0

GC/MS TUNING AND MASS CALIBRATION

Decafluorotriphenylphosphine (DFTPP)

Case No. 7468 Contractor Clayton Env. Contract No. 68-01-7100

Instrument ID #18 Date / Time 6/23/87 8:42

Lab ID >A9013::FF Data Release Authorized By:

SCANS 810 + 811 + 812 6/23/87

m/z	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	31.76 OK
68	less than 2.0% of mass 69	0.00 OK (0.00) #1
69	mass 69 relative abundance	48.92
70	less than 2.0% of mass 69	.15 OK (.3061) #1
127	40.0 - 60.0% of mass 198	46.48 OK
197	less than 1.0% of mass 198	.55 OK
198	base peak, 100% relative abundance	100.00 OK
199	5.0 - 9.0% of mass 198	6.50 OK
275	10.0 - 30.0% of mass 198	20.30 OK
365	greater than 1.00% of mass 198	1.70 OK
441	present, but less than mass 443	14.75 OK
442	greater than 40.0% of mass 198	79.19 OK
443	17.0 - 23.0% of mass 442	14.86 OK (18.76) #2

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

#1 - Value in parenthesis is % mass 69.
#2 - Value in parenthesis is % mass 442.

SAMPLE ID	LAB ID	DATE OF ANALYSIS	TIME OF ANALYSIS
SDNGBNASTD	A9015	6-23-87	10:37
EM-529	A9017 (552975)	6-23-87	13:10
EM-414	A9018 (552967)	6-23-87	14:05
EM-414MS	A9019 (552967MS)	6-23-87	14:59
EM-414MSD	A9020 (552967MSD)	6-23-87	15:53
EM-416	A9022 (552973)	6-23-87	18:07
EM-415	A9024 (552971)	6-23-87	19:55
			within 12 hrs EGC

FORM II

7488.5-026-03

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GC/MS TUNING AND MASS CALIBRATION

Decafluorotriphenylphosphine (DFTPP)

Case No. 7468 Contractor Clayton Env. Contract No. 68-01-7100

Instrument ID #1A Date / Time 6/26/87 9:18

Lab ID)A9065::YY Data Release Authorized By: [signature]

Scan: 843 06-26-87

m/z	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	34.98 OK
68	less than 2.0% of mass 69	0.00 OK (0.00) #1
69	mass 69 relative abundance	55.80
70	less than 2.0% of mass 69	0.00 OK (0.00) #1
127	40.0 - 60.0% of mass 198	53.13 OK
197	less than 1.0% of mass 198	0.00 OK
198	base peak, 100% relative abundance	100.00 OK
199	5.0 - 9.0% of mass 198	6.80 OK
275	10.0 - 30.0% of mass 198	24.31 OK
365	greater than 1.00% of mass 198	2.25 OK
441	present, but less than mass 443	12.54 OK
442	greater than 40.0% of mass 198	79.71 OK
443	17.0 - 23.0% of mass 442	14.74 OK (18.50) #2

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

#1 - Value in parenthesis is % mass 69.
#2 - Value in parenthesis is % mass 442.

SAMPLE ID	LAB ID	DATE OF ANALYSIS	TIME OF ANALYSIS
50ng BNA Std	A9067	06/26/87	11:07
20ng BNA Std	A9068	06/26/87	13:00
80ng BNA Std	A9069	06/26/87	14:07
120ng BNA Std	A9070	06/26/87	15:02
160ng BNA Std	A9071	06/26/87	16:01

within 12 hrs ZGK

FORM V 7/85

GC/MS TUNING AND MASS CALIBRATION

Decafluorotriphenylphosphine (DFTPP)

7468 8 5 0260

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Case No. 7468 Contractor Clayton Env. Contract No. 68-01- 7100

Instrument ID #1A Date / Time 6/29/87 7:09

Lab ID >A9081::YY Data Release Authorized By:

Scans 837 + 838
#06 09 87

m/z	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	36.44 OK
68	less than 2.0% of mass 69	0.00 OK (0.00) #1
69	mass 69 relative abundance	51.54
70	less than 2.0% of mass 69	.30 OK (.5878) #1
127	40.0 - 60.0% of mass 198	47.39 OK
197	less than 1.0% of mass 198	.72 OK
198	base peak, 100% relative abundance	100.00 OK
199	5.0 - 9.0% of mass 198	6.72 OK
275	10.0 - 30.0% of mass 198	20.70 OK
365	greater than 1.00% of mass 198	1.98 OK
441	present, but less than mass 443	16.23 OK
442	greater than 40.0% of mass 198	92.11 OK
443	17.0 - 23.0% of mass 442	16.91 OK (18.36) #2

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

#1 - Value in parenthesis is % mass 69.
#2 - Value in parenthesis is % mass 442.

SAMPLE ID	LAB ID	DATE OF ANALYSIS	TIME OF ANALYSIS
50NGBNASTD	A9082	6-29-87	07:49
M-BLK I (LW)	A9083	6-29-87	08:57
M-BLK I (L/S)	A9084	6-29-87	09:54
EM-526	A9086 (552984)	6-29-87	11:44
EM-527	A9088 (552990)	6-29-87	14:36
EM-526MS	A9091 (552984MS)	6-29-87	16:41
EM-526MSD	A9092 (552984MSD)	6-29-87	17:47
			within 12 hrs
			ZGK

FORM V 7/85

7468 · 5-026

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GC/MS TUNING AND MASS CALIBRATION

Decafluorotriphenylphosphine (DFTPP)

Case No. 7468 Contractor Clayton Env. Contract No. 68-01-7100

Instrument ID #1A Date / Time 6/29/87 19:29

Lab ID >A9093::YY Data Release Authorized By:

scan 841 7/2/87 AS

m/z	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.78 OK
68	less than 2.0% of mass 69	0.00 OK (0.00) #1
69	mass 69 relative abundance	50.03
*70	less than 2.0% of mass 69	.24 OK (.4725) #1
127	40.0 - 60.0% of mass 198	48.07 OK
*197	less than 1.0% of mass 198	0.00 OK
198	base peak, 100% relative abundance	100.00 OK
199	5.0 - 9.0% of mass 198	6.48 OK
275	10.0 - 30.0% of mass 198	19.22 OK
*365	greater than 1.00% of mass 198	1.45 OK
*441	present, but less than mass 443	8.96 OK
442	greater than 40.0% of mass 198	51.12 OK
443	17.0 - 23.0% of mass 442	9.22 OK (18.04) #2

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

#1 - Value in parenthesis is % mass 69.
#2 - Value in parenthesis is % mass 442.

SAMPLE ID	LAB ID	DATE OF ANALYSIS	TIME OF ANALYSIS
SONGDWA STD	A9094	6-29-87	20:21
EM-528	A9096 (552991)	6-29-87	23:00
EM-525	A9099 (552988)	6-30-87	01:59
EM-524	A9100 (552987)	6-30-87	02:58
			within 12 hrs
			76K

FORM V 7/85

SAMPLE DESCRIPTION

SITE NAME/TDD# Medusa Aggregates / F58704-073

CASE NUMBER 7468

SAMPLE #/STATION LOCATION Blanks

SAMPLING DATE 6/18/87 SAMPLING TIME 1600

ORGANIC TRAFFIC NUMBER EM 529

INORGANIC TRAFFIC NUMBER MEM 053

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
40ml	VOA	5-35348, 49	B709221
8oz	Organic	50, 5-78951	A7117062
Liter	Metal	52	C7133162

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: clear

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT: None

INSTRUMENT READINGS

pH —

CONDUCTIVITY 0

TEMPERATURE 25°C

SAMPLE DESCRIPTION

SITE NAME/TOD# Medusa Aggregates /FS8704-073

CASE NUMBER 7468

SAMPLE #/STATION LOCATION S3

SAMPLING DATE 6/18/87 SAMPLING TIME 1110

ORGANIC TRAFFIC NUMBER EM526

INORGANIC TRAFFIC NUMBER MEN600

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
120 ml	VOA	S-35336, 37	D7089051
8 oz	Organic	38	F7085062
8 oz	Metal	39	"

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: Soil

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT: None

INSTRUMENT READINGS

pH —

CONDUCTIVITY —

TEMPERATURE —

SAMPLE DESCRIPTION

SITE NAME/TOD# Medusa Aggregates / FS8704-073

CASE NUMBER 7468

SAMPLE #/STATION LOCATION S4

SAMPLING DATE 6/18/87 SAMPLING TIME 1140

ORGANIC TRAFFIC NUMBER EM 527

INORGANIC TRAFFIC NUMBER MEM 051

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
120 ml	VOA	5-35340, 41	D7089051
8 oz	Organic	42	F7085062
8 oz	Metal	43	

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: Soil (whitish)

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT: None

INSTRUMENT READINGS

pH —

CONDUCTIVITY —

TEMPERATURE —

SAMPLE DESCRIPTION

SITE NAME/TDD# Medusa Aggregates /FS8704-073

CASE NUMBER 7468

SAMPLE #/STATION LOCATION SS

SAMPLING DATE 6/18/87 SAMPLING TIME 1150

ORGANIC TRAFFIC NUMBER EM528

INORGANIC TRAFFIC NUMBER MEM052

BOTTLE	ANALYSIS	TAG NUMBERS	LOT NUMBER
120 ml	VOA	S-35344, 45	D708905/
8 oz	Organic	46	F708506 2
8 oz	METAL	47	

PHYSICAL DESCRIPTION AT TIME OF COLLECTION: Soil

PHYSICAL CHANGES FROM TIME OF COLLECTION UNTIL SHIPMENT: None

INSTRUMENT READINGS

pH —

CONDUCTIVITY —

TEMPERATURE —