Barbara D.

WINK ENGINEERING

A DIVISION OF WINK INCORPORATED

MECHANICAL
CIVIL
ELECTRICAL
PROCESS
INSTRUMENT

7520 HAYNE BLVD. ■ NEW ORLEANS, LA. 70126-1899 ■ TELEPHONE. 504/246-7934

JULY 5, 1985

RECEIVED
JUL 15 1985
DEPARTMENT OF
ENVIRONMENTAL QUALITY
HAZARDOUS WASTE MANAGEMENT

MR. GLENN A. MILLER
ADMINISTRATOR
LOUISIANA DEPARTMENT OF
ENVIRONMENTAL QUALITY
P.O. BOX 44066
BATON ROUGE, LA 70804

LETTER NO.: WM59-5
RE: DELTA SHIPYARD'S WASTE SITES AT HOUMA & DUSON, LOUISIANA
WINK JOB NO.: 59-051485

DEAR MR. MILLER:

THIS LETTER AND ITS ATTACHMENTS ARE PREPARED PURSUANT TO MY TELEPHONE CONVERSATIONS ON JUNE 5, 1985, WITH MESSRS. DUDLEY DEVILLE AND TOM PATTERSON OF YOUR OFFICE. WINK, INC., AN INDEPENDENT CONSULTING ENGINEERING FIRM, HAS BEEN RETAINED TO DETERMINE IF THE ABOVE REFERENCED SITES ARE HAZARDOUS.

THERE ARE CURRENTLY SIX (6) SURFACE IMPOUNDMENTS AT DELTA'S HOUMA YARD: THREE (3) ARE COVERED AND OVERGROWN WITH VEGETATION, WHILE THE REMAINING THREE (3) ARE EXPOSED AND FILLED WITH SLUDGE. AT THE DUSON YARD THERE IS A SUBMERGED, UNCOVERED STEEL TANK FILLED WITH A LIQUID SUBSTANCE. ACCORDING TO OUR RESEARCH, ALL SITES WERE ONCE USED TO DISPOSE OF OIL FIELD DRILLING MATERIAL. THIS PRACTICE CEASED ABOUT 10 YEARS AGO; HOWEVER, IT APPEARS FROM OUR ANALYSIS DUMPING HAS OCCURRED INTERMITTENTLY SINCE THEN. SEVERAL SURFACE SPILLS WERE OBSERVED ON THESE PROPERTIES AND A CHEMICAL ANALYSIS WAS SUBSEQUENTLY MADE.

Next to Hildegrew Paper yard

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FEB 17 1986
Dept. of Environmental Quality
Hazardous Waste Division

9528081

AT ONE TIME THE SURFACE IMPOUNDMENTS AT HOUMA WERE REGISTERED WITH THE DEPARTMENT OF ENVIRONMENTAL QUALITY AS HAZARDOUS WASTE SITES, BUT WERE RECOMMENDED BY YOUR ENFORCEMENT AGENCY IN JANUARY, 1984, TO BE REMOVED FROM THE HAZARDOUS WASTE SYSTEM. CURRENTLY, THESE IMPOUNDMENTS ARE IN THE INACTIVE CLASSIFICATION AS CONFIRMED BY TELEPHONE ON JUNE 5, 1985. TO DETERMINE THE SLUDGE AND LIQUID CHEMICAL COMPOSITION AND THEREFORE THE POTENTIALLY HAZARDOUS NATURE OF THESE SITES, NUMEROUS SAMPLES WERE COLLECTED AT RANDOM LOCATIONS AS INDICATED IN ATTACHMENTS 1, 2, 3, 4, & 5. IMPOUNDMENTS 1, 2, 3 IN HOUMA ARE COVERED WITH A THIN CRUST OF FILL WHILE NOS. 5, 6, 7 ARE EXPOSED. HOUMA AREA NO. 4 AND DUSON AREA NOS. 2 & 3 ARE ESSENTIALLY LOW SPOTS WHERE ACCUMULATIONS OF SLUDGE HAVE SETTLED. DUSON AREA NO. 1 CONSISTS OF A SUBMERGED STEEL TANK OF UNKNOWN DEPTH CONTAINING A LIQUID SUBSTANCE. SOIL SAMPLES WERE TAKEN AT VARIOUS DEPTHS APPROXIMATELY 8" FROM THE SUBMERGED TANK TO CHECK FOR LEAKAGE.

ALL INDIVIDUAL SAMPLES FROM EACH IMPOUNDMENT/AREA WERE THOROUGHLY MIXED TO FORM A COMPOSITE SAMPLE FOR EACH LOCATION. LABORATORY ANALYSES WERE PERFORMED BY WEST-PAINE OF BATON ROUGE, AND THE RESULTS ARE CONTAINED IN ATTACHMENT NO. 6.

THE FOLLOWING TESTS WERE PERFORMED ON EACH SAMPLE: VOA (VOLATILE ORGANIC AROMATICS), CYANIDE, PHENOL (TOTAL), FLASH POINT (BELOW 140^{0}F), PH, EP TOXICITY, AND OIL & GREASE. BASED ON THE ATTACHED ANALYSES, THE EP TOXICITY CONSTITUENTS DO NOT EXCEED THOSE LIMITS DESCRIBED IN CHAPTER 24, TABLE 5. NEITHER DO THE SUMMATION OF CONSTITUENTS LISTED IN PARAGRAPHS 24.1 (D) AND (E) AND CHAPTER 17 EXCEED 1000 PPM. IT IS OUR OPINION THAT THESE SITES ARE NOT TO BE CONSIDERED HAZARDOUS AND WILL NOT NOW OR IN THE FUTURE POSE A THREAT TO HUMAN HEALTH OR THE ENVIRONMENT.

IF YOUR OFFICE IS IN AGREEMENT THAT THESE FACILITIES ARE NOT HAZARDOUS, PLEASE FURNISH THE NECESSARY DOCUMENTS TO AUTHORIZE DECLASSIFICATION OR CONFIRM THAT YOU HAVE CLOSED OUT YOUR FILE.

VERY TRULY YOURS,

Conrad Dussel

CONRAD A. DUSSEL, P.E.
PROJECT ENGINEER

CAD:MLV
ATTACHMENTS
CC: DUDLEY DEVILLE (DEQ)
TOM PATTERSON (DEQ)
HOWARD SEIFE (MILBANK, ET.AL.)
MICHAEL PERRY (GARY, FIELD, LANDRY & DORNIER)

ATTACHMENT NO. 4
DELTA SHIPYARD SLUDGE SAMPLING PROTOCOL
HOUMA, LA
MAY 20, JUNE 5 & JUNE 6, 1985

SAMPLE NO.	DEPTH	SAMPLE NO.	DEPTH
1A	1'-6"	5A	2'-0"
1A	2'-6"	5A	3'-0"
1A	4'-6"	5A	4'-0"
1A	5'-6"	5A	5'-6"
1B	1'-0"	5B	0'-6"
1B	3'-0"	5B	1'-6"
1B	5'-6"	5B	3'-6"
1C	SURFACE	5B	5'-0"
1C	2'-0"	5C	SURFACE
1C	3'-0"	5C	1'-0"
1C	4'-6"	5C	2'-0"
1C	5'-6"	5C	5'-6"
2A	1'-0"	6A	0'-6"
2A	3'-6"	6A	2'-0"
2A	5'-6"	6A	4'-0"
2B	0'-6"	6B	1'-0"
2B	2'-6"	6B	2'-6"
2B	4'-0"	6B	3'-6"
2C	1'-0"	6B	5'-6"
2C	3'-0"	6C	1'-0"
2C	5'-6"	6C	2'-0"
3A	0'-6"	6C	3'-0"
3A	1'-6"	6C	4'-0"
3A	3'-6"	6C	5'-0"
3A	4'-6"	6D	SURFACE
3B	1'-0"	6D	1'-6"
3B	3'-0"	6D	2'-6"
3C	0'-6"	6D	3'-0"
3C	2'-0"	7A	SURFACE
3C	4'-0"	7A	2'-0"
4	SURFACE SAMPLES	7A	3'-0"
		7B	0'-6"
		7B	2'-6"
		7B	4'-0"

ATTACHMENT NO. 5
DELTA SHIPYARD SLUDGE SAMPLING PROTOCOL
DUSON, LA
JUNE 5, 1985

SAMPLE NO.	DEPTH
1A	SURFACE (LIQUID)
1B	0'-6" (WITHIN 8" OF PIT)
1B	1'-0"
1B	3'-6"
1B	5'-0"
2	0'-6"
2	1'-0"
2	3'-0"
3A	SURFACE
3B	SURFACE
3C	SURFACE
3D	SURFACE

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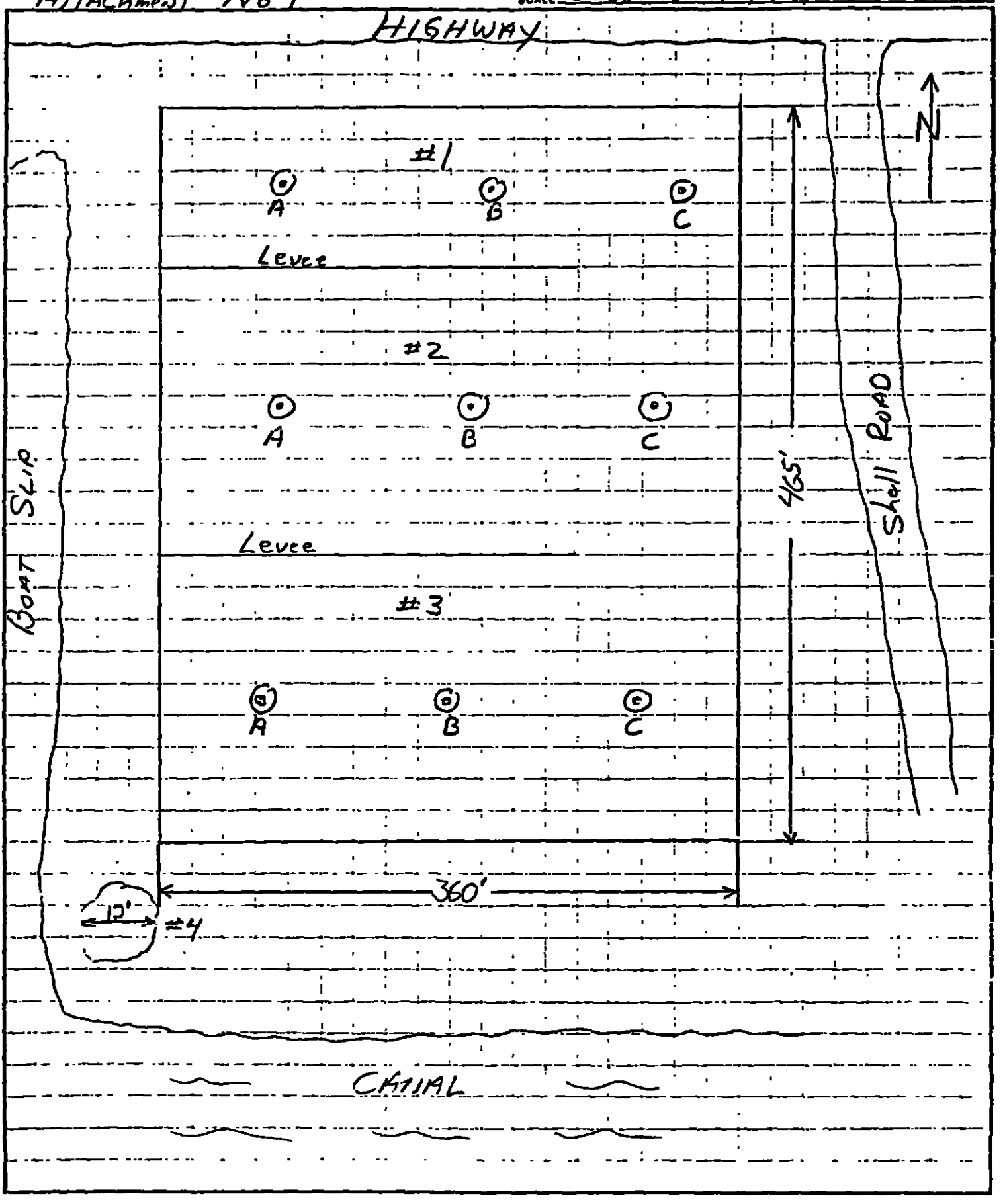
New Orleans, Louisiana 70126-1899
(504) 246-7924

JOB Delta Shipyard - Houma, LA
SHEET NO 1 OF 1
CALCULATED BY CAO DATE 6/18/95
CHECKED BY DATE
SCALE 3 Covered Pits / 1 Open Soil

ATTACHMENT No 1



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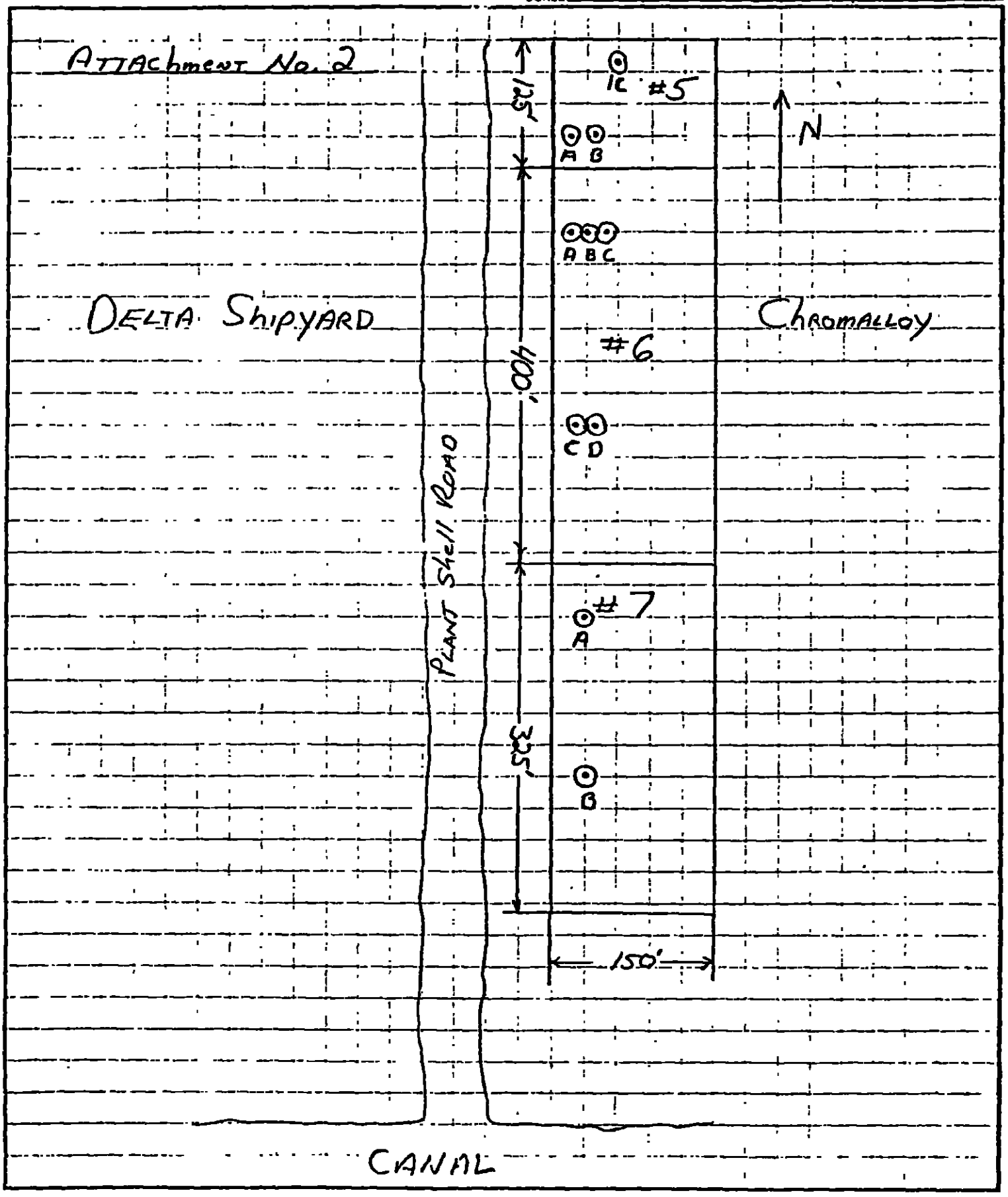
7520 Hayne Blvd.
New Orleans, Louisiana 70126-1899
(504) 246-7924

JOB DELTA - SHIPYARD - HOUMA, LA
SHEET NO 1 OF 1
CALCULATED BY CAN DATE 6/18/85
CHECKED BY DATE
SCALE 3 EXPOSED SURF. IMPOUNDMENTS



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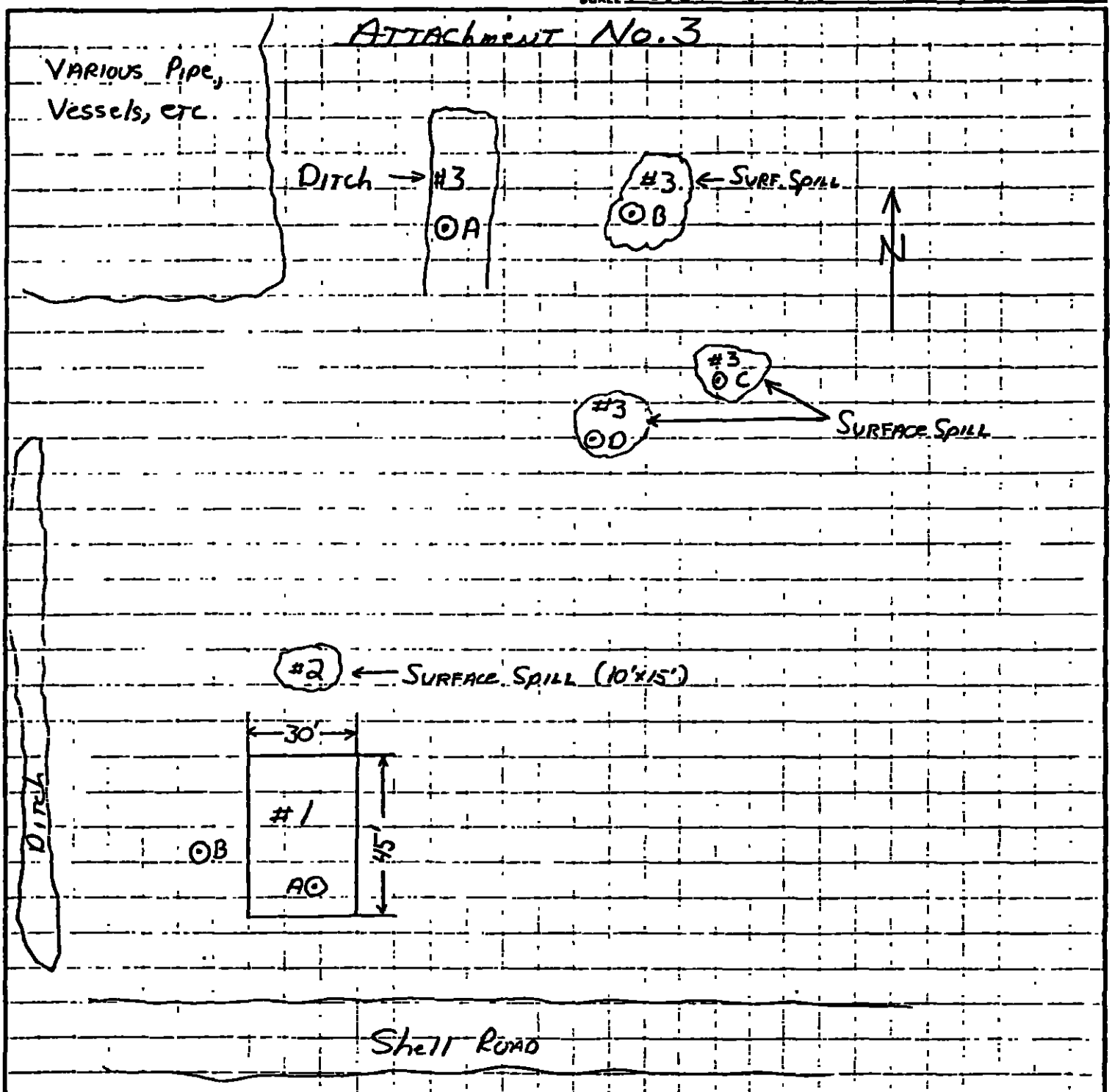
JOB: DELTA - SHIPYARD - DUSON, LA
SHEET NO. 1 OF 1
CALCULATED BY: CAD DATE: 6/18/85
CHECKED BY: DATE:
SCALE: 1 SUBMERGED TANK + MISC. SPILLS

ATTACHMENT No. 3



WEST-PAINE Laboratories INC.
7879 GSRI AVE • BATON ROUGE, LA 70820

SAMPLE ANALYSES

for

WINK ENGINEERING
7520 Hayne Blvd.
New Orleans, Louisiana 70126-1899

ATTENTION: Mr. Conrad A. Dussel

June 11, 1985

WEST-PAINE Laboratories INC.
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WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

Samples collected by Wink Engineering as documented by the enclosed chain-of-custody form, were received at West-Paine Laboratories, Incorporated on June 5, 1985 and June 7, 1985. The samples were analyzed according to the Environmental Protection Agency protocol:

A. Test Methods for Evaluating Solid Waste, SW-846, July 1982:

Parameter	Method
Cyanide	9010
Ignitability	1010
EP Toxicity Extraction Procedure	1310
Arsenic	7060
Barium	7080
Cadmium	7130
Chromium	7190
Lead	7420
Mercury	7470
Selenium	7740
Silver	7760
Volatile Organic Fraction	8240
pH	9040

B. Standard Methods for the Examination of Water and Wastewater, 15th Edition, 1980:

Parameter	Method
Oil & Grease	503C

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WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

r. Standard Methods for the Examination of Water and Wastewater, 14th Edition, 1979:

Parameter	Method
Phenol	510A, 510B

The results are on the following pages.

Victor J. Blanchard, III
Manager

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WEST-PAINE Laboratories INC.
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WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

Sample Identification: DUSON #1 Composite

Date Received: June 5, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	0.53	0.020/0.021	06-07/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	8.5	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	36,100	10.0/8.4	06-10/1600/RH

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WEST-PAINE Laboratories INC.
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WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

Sample Identification: DUSON #2 Composite

Date Received: June 5, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	0.43	0.020/0.021	06-07/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	9.2	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	53,000	10.0/8.4	06-10/1600/RH

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WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

Sample Identification: DUSON #3 Composite

Date Received: June 5, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	0.15	0.020/0.021	06-07/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	9.0	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	163,000	10.0/8.4	06-10/1600/RH

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WEST-PAINE Laboratories INC.
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WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

Sample Identification: HOUMA #1 Composite

Date Received: June 5, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	<0.15	0.020/0.021	06-07/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	7.7	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	4,650	10.0/8.4	06-10/1600/RH

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WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

Sample Identification: HOUMA #2 Composite

Date Received: June 5, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	<0.15	0.020/0.021	06-07/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	8.2	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	2,980	10.0/8.4	06-10/1600/RH

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WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

Sample Identification: HOUMA #3 Composite

Date Received: June 5, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	<0.15	0.020/0.021	06-07/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	7.4	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	150	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	3,100	10.0/8.4	06-10/1600/RH

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Laboratories INC.
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WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

Sample Identification: HOUMA #4 Composite

Date Received: June 5, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	0.69	0.020/0.021	06-07/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	7.8	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	311,000	10.0/8.4	06-11/0900/RH

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WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

Sample Identification: HOUMA #5 Composite

Date Received: June 7, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	3.0	0.020/0.020	06-10/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	9.1	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	104,000	10.0/8.4	06-11/0900/RH

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WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

Sample Identification: HOUMA #6 Composite

Date Received: June 7, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	2.5	0.020/0.020	06-10/0800/BE
Cyanide (mg/kg CN)	<0.5	0.100/0.110	06-07/0930/MS
pH (Units) as 4% w/v	9.3	7.0/7.0	06-10/1200/RC
Flashpoint (^{o}F)	>200	Not Applicable	Not Applicable
Oil & Grease (mg/kg)	183,000	10.0/8.4	06-11/0900/RH

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WINK ENGINEERING
New Orleans, Louisiana
May 29, 1985

Sample Identification: #7 HOUMA COMPOSITE

Date Received: May 21, 1985

Parameter	Results	Quality Assurance Actual/Found	Date/Time Analyst
Phenol (mg/kg Phenol)	2.3	0.020/0.020	05-24/1630/BE
Cyanide (mg/kg CN)	<0.2	0.10/0.11	05-26/1100/RC
pH (Units) as 4% w/v	9.0	7.0/7.0	05-24/1300/RC
Flashpoint (^{o}F)	>200	------	Not Applicable
Oil & Grease (mg/kg)	331,000	10.0/9.2	05-23/2000/FT

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85-1925

WEST-PAINE Laboratories INC.
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WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: DUSON #1, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	<0.01	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	0.3	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.008	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	<0.01	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	<0.04	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 104.44 gm

WEST-PAINE Laboratories INC.
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WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: DUSON #2, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	<0.01	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	0.2	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.016	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	<0.01	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	<0.04	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 103.64 gm

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WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: DUSON #3, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	<0.01	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	0.3	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.016	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	<0.01	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	0.12	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 103.77 gm

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WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: HOUMA #1, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	<0.01	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	<0.1	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.012	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	<0.01	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	<0.04	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 100.84 gm

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WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: HOUMA #2, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	0.02	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	0.2	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.016	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	<0.01	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	<0.04	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 103.07 gm

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WEST-PAINE Laboratories INC.
7979 OSRI AVE. • BATON ROUGE, LA 70820

WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: HOUMA #3, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	0.1	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	<0.01	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	<0.005	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	<0.01	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	<0.04	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 102.30 gm

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WINK ENGINEERING
New Orleans, Louisiana

June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: HOUMA #4, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	<0.01	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	0.1	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.008	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	<0.1	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	0.91	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 103.50 gm

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WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: HOUMA #5, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	0.04	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	2.6	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.016	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	0.48	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	1.5	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 107.50 gm

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WINK ENGINEERING
New Orleans, Louisiana
June 11, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: HOUMA #6, Composite

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	0.07	5.0	0.050/0.049	06-10/RM
Barium (mg/L Ba)	1.7	100	2.50/2.54	06-10/RM
Cadmium (mg/L Cd)	0.016	1.0	0.250/0.248	06-10/RM
Chromium (mg/L Cr)	0.56	5.0	0.50/0.51	06-10/RM
Lead (mg/L Pb)	1.2	5.0	2.50/2.46	06-10/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0109	06-10/RM
Selenium (mg/L Se)	<0.01	1.0	0.050/0.051	06-09/RM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	06-10/RM

Sample Weight: 102.80 gm

WEST-PAINE Laboratories INC.
7979 GSR AVE • BATON ROUGE LA 70820

WINK ENGINEERING
New Orleans, Louisiana
May 29, 1985

The total weight of solid material filtered from the sample as received is listed below. The Extraction Procedure (EP Toxicity Test) was employed as specified in the Federal Register, Monday, May 19, 1980, Appendix II, pages 33127 - 33128. The results below for sample extract, in mg/L, represent the concentration in the final leachate. For purpose of comparison, the maximum allowable concentration of each component is listed.

Sample Identification: #7 HOUMA COMPOSITE

Parameter	Results	Maximum Allowable in Extract	Quality Assurance Actual/Found	Date/ Analyst
Arsenic (mg/L As)	0.09	5.0	0.50/0.48	05-23/VM
Barium (mg/L Ba)	0.7	100	2.50/2.36	05-24/RM
Cadmium (mg/L Cd)	<0.005	1.0	0.250/0.250	05-23/VM
Chromium (mg/L Cr)	0.02	5.0	0.50/0.50	05-24/RM
Lead (mg/L Pb)	0.12	5.0	2.50/2.50	05-24/RM
Mercury (mg/L Hg)	<0.0002	0.2	0.0100/0.0105	05-23/VM
Selenium (mg/L Se)	0.03	1.0	0.050/0.048	05-23/VM
Silver (mg/L Ag)	<0.01	5.0	0.50/0.50	05-23/VM

Sample Weight: 102.06

WEST-PAINE Laboratories INC.
7979 OSRI AVE. • BATON ROUGE, LA 70808

Wi[illegible] Engineering
New Orleans, Louisiana
060585-51-53

PRIORITY POLLUTANTS
VOLATILES FRACTIONS

All results in milligrams per kilogram

	Duson #1	Duson #2	Duson #3
Benzene	<0.02	<0.02	<0.02
Bromoform	<0.02	<0.02	<0.02
Carbon tetrachloride	<0.02	<0.02	<0.02
Chlorobenzene	<0.02	0.27	<0.02
Chlorodibromomethane	<0.02	<0.02	<0.02
Chloroethane	<0.02	<0.02	<0.02
2-Chloroethylvinyl ether	<0.02	<0.02	<0.02
Chloroform	<0.02	<0.02	<0.02
1,2-Dichlorobenzene	<0.02	<0.02	<0.02
1,4-Dichlorobenzene	<0.02	<0.02	<0.02
1,3-Dichlorobenzene	<0.02	<0.02	<0.02
Dichlorobromomethane	<0.02	<0.02	<0.02
1,1-Dichloroethane	<0.02	<0.02	<0.02
1,2-Dichloroethane	<0.02	<0.02	<0.02
1,1-Dichloroethene	<0.02	<0.02	<0.02
trans-1,2-Dichloroethene	<0.02	<0.02	<0.02
1,2-Dichloropropane	<0.02	<0.02	<0.02
cis-1,3-Dichloropropene	<0.02	<0.02	<0.02
trans-1,3-Dichloropropene	<0.02	<0.02	<0.02
Ethylbenzene	0.06	0.65	<0.02
Methylbromide	<0.02	<0.02	<0.02
Methylchloride	<0.02	<0.02	<0.02
Methylene chloride	<0.02	<0.02	<0.02
1,1,2,2-Tetrachloroethane	<0.02	<0.02	<0.02
Tetrachloroethene	<0.02	<0.02	<0.02
Toluene	0.07	0.70	<0.02
1,1,1-Trichloroethane	<0.02	<0.02	<0.02
1,1,2-Trichloroethane	<0.02	<0.02	<0.02
Trichloroethene	<0.02	<0.02	<0.02
Trichlorofluormethane	<0.02	<0.02	<0.02
Vinyl chloride	<0.02	<0.02	<0.02
Total Xylene (semiquantitative)	0.46	6.7	<0.02
Date of Analyses	06-07-85	06-07-85	06-07-85

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WEST-PAINE Laboratories INC.
7979 GSRI AVE • BATON ROUGE, LA 70809

Wink Engineering

New Orleans, Louisiana

060585-54-57

PRIORITY POLLUTANTS
VOLATILES FRACTIONS

All results in milligrams per kilogram.

	Houma #1	Houma #2	Houma #3	Houma #4
Benzene	<0.02	<0.02	<0.02	<0.02
Bromoform	<0.02	<0.02	<0.02	<0.02
Carbon tetrachloride	<0.02	<0.02	<0.02	<0.02
Chlorobenzene	<0.02	<0.02	<0.02	<0.02
Chlorodibromomethane	<0.02	<0.02	<0.02	<0.02
Chloroethane	<0.02	<0.02	<0.02	<0.02
2-Chloroethylvinyl ether	<0.02	<0.02	<0.02	<0.02
Chloroform	<0.02	<0.02	<0.02	<0.02
1,2-Dichlorobenzene	<0.02	<0.02	<0.02	<0.02
1,4-Dichlorobenzene	<0.02	<0.02	<0.02	<0.02
1,3-Dichlorobenzene	<0.02	<0.02	<0.02	<0.02
Dichlorobromomethane	<0.02	<0.02	<0.02	<0.02
1,1-Dichloroethane	<0.02	<0.02	<0.02	<0.02
1,2-Dichloroethane	<0.02	<0.02	<0.02	<0.02
1,1-Dichloroethene	<0.02	<0.02	<0.02	<0.02
trans-1,2-Dichloroethene	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	<0.02	<0.02	<0.02	<0.02
cis-1,3-Dichloropropene	<0.02	<0.02	<0.02	<0.02
trans-1,3-Dichloropropene	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	<0.02	<0.02	<0.02	<0.02
Methylbromide	<0.02	<0.02	<0.02	<0.02
Methylchloride	<0.02	<0.02	<0.02	<0.02
Methylene chloride	<0.02	<0.02	<0.02	<0.02
1,1,2,2-Tetrachloroethane	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	<0.02	<0.02	<0.02	<0.02
Toluene	0.02	<0.02	<0.02	<0.02
1,1,1-Trichloroethane	<0.02	<0.02	<0.02	<0.02
1,1,2-Trichloroethane	<0.02	<0.02	<0.02	<0.02
Trichloroethene	<0.02	<0.02	<0.02	<0.02
Trichlorofluormethane	<0.02	<0.02	<0.02	<0.02
Vinyl chloride	<0.02	<0.02	<0.02	<0.02
Total Xylene (semiquantitative)	<0.02	<0.02	<0.02	<0.02
Date of Analyses	06-07-85	06-07-85	06-07-85	06-07-85

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85-2082

WEST-PAINE Laboratories INC.
7979 GSRI AVE • BATON ROUGE, LA 70806

Win[illegible]ngineering
New Orleans, Louisiana
060785-45-46

PRIORITY POLLUTANTS
VOLATILES FRACTIONS

All results in milligrams per kilogram

	Houma #5	Houma #6
Benzene	<0.04	<0.04
Bromoform	<0.04	<0.04
Carbon tetrachloride	<0.04	<0.04
Chlorobenzene	0.20	0.05
Chlorodibromomethane	<0.04	<0.04
Chloroethane	<0.04	<0.04
2-Chloroethylvinyl ether	<0.04	<0.04
Chloroform	<0.04	<0.04
1,2-Dichlorobenzene	<0.04	<0.04
1,4-Dichlorobenzene	<0.04	<0.04
1,3-Dichlorobenzene	<0.04	<0.04
Dichlorobromomethane	<0.04	<0.04
1,1-Dichloroethane	<0.04	<0.04
1,2-Dichloroethane	<0.04	<0.04
1,1-Dichloroethene	<0.04	<0.04
trans-1,2-Dichloroethene	<0.04	<0.04
1,2-Dichloropropane	<0.04	<0.04
cis-1,3-Dichloropropene	<0.04	<0.04
trans-1,3-Dichloropropene	<0.04	<0.04
Ethylbenzene	0.99	0.57
Methylbromide	<0.04	<0.04
Methylchloride	<0.04	<0.04
Methylene chloride	<0.04	<0.04
1,1,2,2-Tetrachloroethane	<0.04	<0.04
Tetrachloroethene	<0.04	<0.04
Toluene	1.43	0.49
1,1,1-Trichloroethane	<0.04	<0.04
1,1,2-Trichloroethane	<0.04	<0.04
Trichloroethene	<0.04	<0.04
Trichlorofluormethane	<0.04	<0.04
Vinyl chloride	<0.04	<0.04
Total Xylene (semiquantitative)	10.6	3.2
Date of Analyses	06-07-85	06-07-85

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85-2082

WEST-PAINE Laboratories INC.
7979 GSRI AVE • BATON ROUGE, LA 70806

Wink Engineering
New Orleans, Louisiana
052185-45-46

PRIORITY POLLUTANTS
VOLATILES FRACTIONS

All results in milligrams per kilogram.

	Houma #7 Composite
Benzene	<0.02
Bromoform	<0.02
Carbon tetrachloride	<0.02
Chlorobenzene	<0.02
Chlorodibromomethane	<0.02
Chloroethane	<0.02
2-Chloroethylvinyl ether	<0.02
Chloroform	<0.02
1,2-Dichlorobenzene	<0.02
1,4-Dichlorobenzene	<0.02
1,3-Dichlorobenzene	<0.02
Dichlorobromomethane	<0.02
1,1-Dichloroethane	<0.02
1,2-Dichloroethane	<0.02
1,1-Dichloroethene	<0.02
trans-1,2-Dichloroethene	<0.02
1,2-Dichloropropane	<0.02
cis-1,3-Dichloropropene	<0.02
trans-1,3-Dichloropropene	<0.02
Ethylbenzene	<0.02
Methylbromide	<0.02
Methylchloride	<0.02
Methylene chloride	<0.02
1,1,2,2-Tetrachloroethane	<0.02
Tetrachloroethene	<0.02
Toluene	<0.02
1,1,1-Trichloroethane	<0.02
1,1,2-Trichloroethane	<0.02
Trichloroethene	<0.02
Trichlorofluormethane	<0.02
Vinyl chloride	<0.02
Total Xylene (semiquantitative)	<0.02
Date of Analyses	05-27-85

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85-1925 CORRECTED