LONGHORN ARMY AMMUNITION PLANT

KARNACK, TEXAS

ADMINISTRATIVE RECORD

VOLUME 4 of 10

1995

Bate Stamp Numbers
014196 - 015320

Prepared for:

Department of the Army
Longhorn Army Ammunition Plant
Marshall, Texas 75671-1059

1995

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS
ADMINISTRATIVE RECORD - CHRONOLOGICAL INDEX

VOLUME 4 of 10

1995

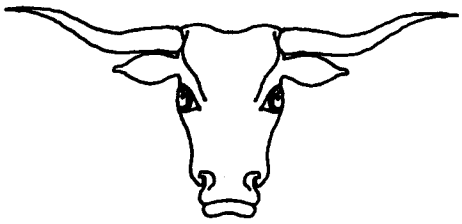
I. **Title:** Final Report - Remedial Investigation / Feasibility Study Sites 13 and 14 Volume III, Longhorn Army Ammunition Plant
Group(s): 3
Site(s): LHAAP-13 Suspected TNT Burial Between Active Landfill And Old Landfill
LHAAP-14 Area 54 Burial Ground
Location: Longhorn Army Ammunition Plant, Marshall, Texas
Agency: Department Of The Army, Longhorn Army Ammunition Plant
Author(s): U.S. Army Corps of Engineers, Tulsa District
Recipient: U.S. Army Corps of Engineers, Tulsa District
Date: June, 1995
Bate Stamp: 014196 - 015320

Note: Bate Stamp Numbers Are Out of Sequence Continuing From Volume 3 of 5 1995 After the Letter H.

014196

LONGHORN ARMY AMMUNITION PLANT

Marshall, Texas 75671-1059



FINAL

REMEDIAL INVESTIGATIONS / FEASIBILITY STUDY

SITES 13 and 14

Volume III

PREPARED BY:
U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

JUNE 1995

US Army Corps
of Engineers

Tulsa District

CONTENTS

VOLUME III
SITE LH13

Section 1

Overall Case Narrative
Table of field sample numbers and corresponding laboratory report numbers
Chain-of-custody forms and cooler receipt forms

Section 2 through Section 7

Laboratory Reports

COOLER RECEIPT FORM

014198

Date Received 3-8-93 Project Longhorn - USAFE

Number of Cooler 5 Cooler Numbers —

Date Checked in 3-8-93 By (sign) Niki Brucker

1. Shipping slip ..... Yes ... No

   If yes, carrier and bill number hand delivered

2. Custody seals on cooler ..... (Yes) .. No

   If yes, how many and where 1 left Corner

3. Custody seal intact ..... (Yes) .. No

4. Chain-of-Custody in plastic yes

5. Chain-of-Custody filled out properly ..... (Yes) .. No

6. SWD signed Chain-of-Custody properly ..... (Yes) .. No

7. Enough ice and packing ..... (Yes) .. No

   Type of packing ice / plastic

8. All bottles sealed ..... (Yes) .. No

9. Any bottles broken ..... Yes ... (No)

10. Labels in good condition and complete ..... (Yes) .. No

11. Labels agree with C-O-C ..... (Yes) .. No

12. Correct containers used ..... (Yes) .. No

13. Preserved properly ..... (Yes) .. No

14. Sufficient sample ..... (Yes) .. No

15. Bubbles absent from VOA ..... (Yes) .. No

16. Client called ..... Yes ... (No)

    Details _____

17. Comments _____

U:\Bblinda\form\Cooler.Rec

Page 1 of 1

Ebasco Environmental
400 N. Olive St., L.B. 259
Suite 900
Dallas, Texas 75201
(214) 978-3100

LH14

MONITOR WELL & SURFACE WATER CHAIN OF CUSTODY RECORD

Lab Name: NDRC	Phone: 214-238-5591
Address: 1809 E. Collins Blvd., Richardson, Tx. 75081	
Ebasco Contact Person: Kay Hawthorne	
PROJECT: Longhorn	CLIENT: USACE, Tulsa District
SAMPLERS: (Signature)	

SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	NO. CONTAINERS	S - Soil W - Water N - NAPL G - Gaseous	BNA's	Explosives	11 Metals	Nitrate/Nitrite	Sulfate	Chloride	Pesticides - mk # 3-24-93	Herbicides - mk # 3-24-93	VOCs	CHEMICAL USED FOR PRESERVATION: HNO_3 / H_2SO_4 / HCl	REMARKS
LH14-WW-01-01	3-23-93	1800		✓	9	W	2	1	1	1	1				3		
LH14-WW-01-01-QC	3-23-93	1800		✓	9	W	2	1	1	1	1				3		
LH01-WW03-01	3-24-93	0845		✓	3	W									3		
LH01-WW03-01QC	3-24-93	0845		✓	3	W									3		
LH13-WW02-01	3-24-93	1030		✓	3	W									3		
LH13-WW02-01-QC	3-24-93	1030		✓	3	W									3		
TB-12	3-23-93	1800		✓	2	W									2		Trip Blank
LHXX-WW04-01	3-24-93	1640		✓	3	W									3		
LHXX-WW04-01-QC	3-24-93	1640		✓	3	W									3		
LHXX-WW05-01	3-24-93	1730		✓	6	W									6		MS/MSD
LH27-WW06-01	3-25-93	0905		✓	3	W									3		
LH27-WW06-01-QC	3-25-93	0905		✓	3	W									3		
LH27-WW07-01	3-25-93	1000		✓	3	W									3		

Relinquished by: (Signature) ① George Njoku	Date / Time 3/25/93 1100	Received by: (Signature)	Relinquished by: (Signature) ③
Relinquished by: (Signature) ②	Date / Time	Received by: (Signature)	Received for Lab by: (Signature) David Hoye
Date / Time 3-25 1430	Shipped via: Delivered		
Date / Time 3/25 1430	Shipping Ticket No.: NA		

SAMPLE RECEIPT REPORT	YES	NO
Samples OK	X	
Temp 4°C Min.	X	
Custody Seals	X	
Custody Seals Intact	X	
Head Space in VOAs		X

Remarks: Please separate VOC samples and include with their respective sites (LH01, LH13, LHXX, & LH27)

Iced Yes ✓ No ___

Cooler ___ of ___

2 COOLERS

COOLER RECEIPT FORM

014200

Date Received 3-25-93 Project Longhorn, USACE, Tulsa LH 13

Number of Cooler 2 Cooler Numbers N/A

Date Checked in 3-25-93 By (sign) [signature]

1. Shipping slip ..... Yes . . . (No)

   If yes, carrier and bill number _____

2. Custody seals on cooler ..... (Yes) . . No

   If yes, how many and where 1- Top left Corner

3. Custody seal intact ..... (Yes) . . . No

4. Chain-of-Custody in plastic 2 yes

5. Chain-of-Custody filled out properly ..... (Yes) . . . No

6. Client signed Chain-of-Custody properly ..... (Yes) . . . No

7. Enough ice and packing ..... (Yes) . . No

   Type of packing 1 Divider

8. All bottles sealed ..... (Yes) . . . No

9. Any bottles broken ..... Yes . . (No)

10. Labels in good condition and complete ..... (Yes) . . . No

11. Labels agree with C-O-C ..... (Yes) . . . No

12. Correct containers used ..... (Yes) . . . No

13. Preserved properly ..... Yes (N/A) No

14. Sufficient sample ..... (Yes) . . . No

15. Bubbles absent from VOA ..... (Yes) . . . No

16. Client called ..... Yes . . . No

    Details _____

17. Comments _____

U:\Belinda\form\Cooler.Rec

Lab Name: NDRC	Phone: 214-238-5591
Address: 1809 E. Collins Blvd., Richardson, Tx. 75081	
Ebasco Contact Person: Kay Hawthorne	
PROJECT: Longhorn	CLIENT: USACE, Tulsa District
SAMPLERS: (Signature)	

Ebasco Environmental
400 N. Olive St., L.B. 259
Suite 900
Dallas, Texas 75201
(214) 978-3100

LH13

MONITOR WELL & SURFACE WATER CHAIN OF CUSTODY RECORD

SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	NO. CONTAINERS	S - Soil N - NAPL	W - Water G - Gaseous	BNA's	Explosives	11 Metals	Nitrate/Nitrite	Sulfate	Chloride	Pesticides	Herbicides			REMARKS 3453
												HNO_3	H_2SO_4					CHEMICAL USED FOR PRESERVATION
LH13-WW-02-01	3-24-93	1030		✓	8	W		2	1	1	1	1		1	1			
LH13-WW-02-01-QC	3-24-93	1030		✓	8	W		2	1	1	1	1		1	1			

Relinquished by: (Signature) ① George Nash	Date / Time 3/25/93 1100	Received by: (Signature)	Relinquished by: (Signature) ③
Relinquished by: (Signature) ②	Date / Time	Received by: (Signature)	Received for Lab by: (Signature) David Hoye

Date / Time 3-25 1431	Shipped via: Delivered		
Date / Time 3/25 1431	Shipping Ticket No.: NA		

SAMPLE RECEIPT REPORT	YES	NO
Samples OK	X	
Temp 4°C Min.	X	
Custody Seals	X	
Custody Seals Intact	X	
Head Space in VOAs		X

Remarks: 2 COOLERS

Iced Yes ✓ No ____

Cooler ____ of ____

10-3-93

01420?

Ebasco Environmental
400 N. Olive St., L.B. 259
Suite 900
Dallas, Texas 75201
(214) 978-3100

MONITOR WELL & SURFACE WATER CHAIN OF CUSTODY RECORD

Lab Name: NDRC | Phone: 214-238-5591
Address: 1809 E. Collins Blvd., Richardson, Tx. 75081
Ebasco Contact Person: Kay Hawthorne
PROJECT: Longhorn | CLIENT: USACE, Tulsa District
SAMPLERS: (Signature) M Kay Hawthorne

CHEMICAL USED FOR PRESERVATION: HNO_3, H_2SO_4, HCl

D93 - 2695

SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	NO. CONTAINERS	S - Soil W - Water N - NAPL G - Gaseous	BNA's	Explosives	11 Metals	Nitrate/Nitrite	Sulfate	Chloride	Pesticides	Herbicides	VOC's		REMARKS
LH13-SB11(5-7)-EB	3-6-93	1400		✓	11	W	2	1	1	1	1		1	1	3		EQUIPMENT Blank

Relinquished by: (Signature) ① M Kay Hawthorne — Date / Time 3-8-93 1100
Received by: (Signature) — Relinquished by: (Signature) ③ — Date / Time 3893 1550
Relinquished by: (Signature) ② — Date / Time
Received by: (Signature) — Received for Lab by: (Signature) Mike Brucker — Date / Time 3-8-93 1550

Shipped via: Delivered
Shipping Ticket No.: NA

SAMPLE RECEIPT REPORT	YES	NO
Samples OK	✓	
Temp 4°C Min.	✓	
Custody Seals	✓	
Custody Seals Intact		✓
Head Space in VOAs		

Remarks:

Iced Yes ✓ No ___
Cooler ___ of ___

014203

COOLER RECEIPT FORM

Date Received 3-8-93 Project Longhorn-ASACE, Tulsa Ds. f

Number of Cooler 1 Cooler Numbers _____

Date Checked in 3-8-93 By (sign) Mike Bricker

1. Shipping slip ..... Yes . . . No
   If yes, carrier and bill number Hand delivered
2. Custody seals on cooler ..... (Yes) . . . No
   If yes, how many and where 1 - left hand Corner
3. Custody seal intact ..... (Yes) . . . No
4. Chain-of-Custody in plastic yes
5. Chain-of-Custody filled out properly ..... (Yes) . . No
6. SWD signed Chain-of-Custody properly ..... (Yes) . . . No
7. Enough ice and packing ..... (Yes) . . No
   Type of packing ice + plastic
8. All bottles sealed ..... (Yes) . . No
9. Any bottles broken ..... Yes . . (No)
10. Labels in good condition and complete ..... (Yes) . . . No
11. Labels agree with C-O-C ..... (Yes) . . No
12. Correct containers used ..... (Yes) . . No
13. Preserved properly ..... (Yes) . . No
14. Sufficient sample ..... (Yes) . . . No
15. Bubbles absent from VOA ..... (Yes) . . No
16. Client called ..... Yes . . . (No)
    Details _____

17. Comments _____

U:\Labinfo\Form\Cooler Rec

014204

NDRC LABORATORIES, INC.

A member of Inchcape Environmental

1089 East Collins Blvd., Richardson, Texas 75081 • (214) 238-5591 • FAX (214) 238-5592

BEAUMONT DALLAS HOUSTON

REPORT NUMBER: Site LH13
REPORT DATE: 22-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
Dallas, TX 75201
ATTENTION : Ms. Kay Hawthorne

PROJECT : Longhorn

CASE NARRATIVE COMMENTS:

This package contains the analytical reports for the samples collected at Site LH13. The attached table will provide a quick reference to the sample identifications and laboratory identification numbers. The original chain of custodies for each job have been included with this cover letter.

No significant problems were encountered during the sample analysis for this project. An individual case narrative has been provided for those reports which warrant brief explanations.

If you have any questions during your data review, please feel free to contact me at (214) 238 - 5591.

NDRC Laboratories, Inc.

Belinda Feuerbacher
Project Manager

NDRC LABORATORIES, INC.

A member of Inchcape Environmental

1089 East Collins Blvd., Richardson, Texas 75081 • (214) 238-5591 • FAX (214) 238-5592

BEAUMONT DALLAS HOUSTON

Sample Site - LH13

Sample identification	Matrix	NDRC Sample identification
D93-2587		
LH13-SB07(0-2)-EB	Equipment Blank	D93-2587-1
TB-02	Trip Blank	D93-2587-2
Quality control samples		D93-2587-3-6
D93-2590		
LH13-SB07(0-2)	Soil Boring	D93-2590-1
LH13-SB07(5-7)	Soil Boring	D93-2590-2
LH13-SB07(10-14)	Soil Boring	D93-2590-3
LH13-SB07(15-17)	Soil Boring	D93-2590-4
LH13-SB07(20-24)	Soil Boring	D93-2590-5
LH13-SB07(20-24)-QC	Soil Boring	D93-2590-6
Quality control samples		D93-2590-7-10
D93-2685		
LH13-SB08(0-2)	Soil Boring	D93-2685-1
LH13-SB08(5-7)	Soil Boring	D93-2685-2
LH13-SB08(10-12)	Soil Boring	D93-2685-3
LH13-SB08(15-17)	Soil Boring	D93-2685-4
LH13-SB08(20-23)	Soil Boring	D93-2685-5
LH13-SB11(0-3)	Soil Boring	D93-2685-6
LH13-SB09(0-2)	Soil Boring	D93-2685-7
LH13-SB09(5-7)	Soil Boring	D93-2685-8
LH13-SB09(10-12)	Soil Boring	D93-2685-9

NDRC LABORATORIES, INC.

A member of Inchcape Environmental

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BEAUMONT DALLAS HOUSTON

Sample identification	Matrix	NDRC Sample identification
LH13-SB09(15-17)	Soil Boring	D93-2685-10
LH13-SB09(20-24.5)	Soil Boring	D93-2685-11
LH13-SB09(20-24.5) QC	Soil Boring	D93-2685-12
LH13-SB10(0-2)	Soil Boring	D93-2685-13
LH13-SB10(5-7)	Soil Boring	D93-2685-14
LH13-SB10(10-12)	Soil Boring	D93-2685-15
LH13-SB10(15-17)	Soil Boring	D93-2685-16
LH13-SB10(20-24)	Soil Boring	D93-2685-17
LH13-SB11(5-7)	Soil Boring	D93-2685-18
LH13-SB11(10-12.5)	Soil Boring	D93-2685-19
LH13-SB11(15-17)	Soil Boring	D93-2685-20
LH13-SB11(20-22)	Soil Boring	D93-2685-21
LH13-SB11(25-27)	Soil Boring	D93-2685-22
LH13-SB11(25-27)QC	Soil Boring	D93-2685-23
LH13-SB11(30-32)	Soil Boring	D93-2685-24
Quality Control Samples		D93-2685-25-32
D93-2693		
LH13-GG-07	Groundwater Grab	D93-2693-1
LH13-GG-08	Groundwater Grab	D93-2693-2
LH13-GG-08-QC	Groundwater Grab	D93-2693-3
LH13-GG-09	Groundwater Grab	D93-2693-4
LH13-GG-10	Groundwater Grab	D93-2693-5
Quality Control Samples		D93-2693-6-9
D93-2695		

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BEAUMONT DALLAS HOUSTON

Sample identification	Matrix	NDRC Sample identification
LH13-SB11(5-7)-EB	Equipment Blank	D93-2695-1
Quality Control Samples		D93-2695-2-6
D93-3493		
LH13-WW-02-01	Monitoring Well	D93-3493-1
LH13-WW-02-01-QC	Monitoring Well	D93-3493-2
Quality Control Samples		D93-3493-3-6

Ebasco Environmental
400 N. Olive St., L.B. 259
Suite 900
Dallas, Texas 75201
(214) 978-3100

MONITOR WELL & SURFACE WATER CHAIN OF CUSTODY RECORD

Lab Name: NDRC	Phone: 214-238-5591
Address: 1809 E. Collins Blvd., Richardson, Tx. 75081	
Ebasco Contact Person: Kay Hawthorne	
PROJECT: Longhorn	CLIENT: USACE, Tulsa District
SAMPLERS: (Signature) M Kay Hawthorne	

SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	NO. CONTAINERS	S - Soil N - NAPL / W - Water G - Gaseous	BNA's	Explosives	11 Metals (4, 6B, 6C, 6D, 11, 16, 18, 20, 21)	Nitrate/Nitrite	Sulfate	Chloride	Pesticides	Herbicides	VOC (8240)	REMARKS
LH13-SB07(0-2)-EB	3-4-93	1330		✓	9	W	2	1	1	1	1	~~2~~ 1		1	3	Equipment Blank
TB-02	3-4-93	1800		✓	2	W						2582		2	2	Trip Blank
MS								✓						3	✓	
MSD								✓						4	✓	
Method Blank								✓						5	✓	
Blank Spike								✓						6	✓	

CHEMICAL USED FOR PRESERVATION: HNO3 3-5-93, H2SO4, NaOH 3-5-93, HCl

Due 3/16/93

Relinquished by: (Signature) ① M Kay Hawthorne	Date / Time 3-5-93 0900	Received by: (Signature)	Relinquished by: (Signature) ③ Date / Time 3-5-93 1326
Relinquished by: (Signature) ②	Date / Time	Received by: (Signature)	Received for Lab by: (Signature) Date / Time 3-5-93 1326

Shipped via:

Shipping Ticket No.:

SAMPLE RECEIPT REPORT	YES	NO
Samples OK	✓	
Temp 4°C Min.	✓	
Custody Seals	✓	
Custody Seals Intact		✓
Head Space in VOAs		

Remarks:

Iced Yes ✓ No ____

Cooler ____ of ____

014209

COOLER RECEIPT FORM

Date Received 3/5/93 Project LONGHORN - USACOE 3 3/N/A

Number of Coolers 10 Cooler Numbers 802, 1153, 1017, 1065,

Date Checked in 3/5/93 By (sign) [signature]

1. Shipping slip ..... Yes . (No)

   If yes, carrier and bill number HAND-DELIVERED

2. Custody seals on cooler ..... (Yes) . . No

   If yes, how many and where 8 - SEALS COOLER

3. Custody seal intact ..... (Yes) . . No

4. Chain-of-Custody in plastic HAND-DELIVERED

5. Chain-of-Custody filled out properly ..... (Yes) . . No

6. SWD signed Chain-of-Custody properly ..... (Yes) . . No

7. Enough ice and packing ..... (Yes) . . No

   Type of packing PLASTIC BAGS - STYROFOAM INSERTS

8. All bottles sealed ..... (Yes) . . No

9. Any bottles broken ..... Yes . (No)

10. Labels in good condition and complete ..... (Yes) . . No

11. Labels agree with C-O-C ..... (Yes) . . No

12. Correct containers used ..... (Yes) . . No

13. Preserved properly ..... (Yes) . . No

14. Sufficient sample ..... (Yes) . . No

15. Bubbles absent from VOA ..... (Yes) . . No

16. Client called ..... Yes . (No)

    Details _____

17. Comments LH13-SB07(15-17) → REC'D 5 250ml's → 4 LOOKED SATISFACTORY 1 WAS NOT LIKE THE OTHER → DISSIMILAR SAMPLE ON HOLD → TESTING OTHER 4 CONTAINERS

U:\Data\Forms\Cooler.Rec

014210

Page 1 of 1

Ebasco Environmental
400 N. Olive St., L.B. 259
Suite 900
Dallas, Texas 75201
(214) 978-3100

SOIL / SEDIMENT CHAIN OF CUSTODY RECORD

Lab Name: NDRC	Phone: 214-238-5591
Address: 1809 E. Collins Blvd., Richardson, Tx. 75081	
Ebasco Contact Person: Kay Hawthorne	
PROJECT: Longhorn	CLIENT: USACE, Tulsa District
SAMPLERS: (Signature) Mkay Hawthorne	

SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	NO. CONTAINERS	S - Soil W - Water N - NAPL G - Gaseous	ph	Specific Conductance	BNA's	Explosives	11 Metals As, Ba, Ca, Cr, Hg, Al, Pb, Sb, Se, Ag	Anions *	Pesticides	Herbicides	Geotechnical **	VOC (8240)	REMARKS
LH13-SB07(0-2)	3-4-93	1530		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2590-1
LH13-SB07(5-7)	3-4-93	1600		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	2
LH13-SB07(10-14)	3-4-93	1630		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3
LH13-SB07(15-17)	3-4-93	1645		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	4
LH13-SB07(20-24)	3-4-93	1715		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	5
LH13-SB07(20-24)-QC	3-4-93	1715		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6
MS									✓	✓			✓	✓		✓	7
MSD									✓	✓			✓	✓		✓	8
METHOD BLANK									✓	✓			✓	✓		✓	9
BLANK SPIKE										✓			✓	✓			10

BLUE 3/16/93

Relinquished by: (Signature) ① Mkay Hawthorne	Date / Time 3-5-93 0900	Received by: (Signature)	Relinquished by: (Signature) ③	Date / Time 3-5-93 1327	Shipped via: Delivered
Relinquished by: (Signature) ②	Date / Time	Received by: (Signature)	Received for Lab by: (Signature)	Date / Time 3-5-93 1327	Shipping Ticket No.: NA

SAMPLE RECEIPT REPORT	YES	NO
Samples OK	✓	
Temp 4°C Min.	✓	
Custody Seals	✓	
Custody Seals Intact		
Head Space in VOAs		✓

Remarks:

Iced Yes ✓ No ___

Cooler 1 of 1

* Anions: Nitrate/nitrite, sulfate, chloride

** Geotechnical: Visual, moisture content, gradation, liquid & plastic limit

014211

COOLER RECEIPT FORM

Date Received 3/5/93 Project LONGHORN - USACOE

Number of Coolers 10 Cooler Numbers 802, 1153, 601, 7, 1065, 3 & N/A

Date Checked in 3/5/93 By (sign) Scott Tallo

1. Shipping slip ..... Yes . (No)

   If yes, carrier and bill number HAND-DELIVERED

2. Custody seals on cooler ..... (Yes) . . No

   If yes, how many and where 8 - SEALS COOLER

3. Custody seal intact ..... (Yes) . . No

4. Chain-of-Custody in plastic HAND-DELIVERED

5. Chain-of-Custody filled out properly ..... (Yes) . . No

6. SWD signed Chain-of-Custody properly ..... (Yes) . . No

7. Enough ice and packing ..... (Yes) . . No

   Type of packing PLASTIC BAGS - STYROFOAM INSERTS

8. All bottles sealed ..... (Yes) . . No

9. Any bottles broken ..... Yes . . (No)

10. Labels in good condition and complete ..... (Yes) . . No

11. Labels agree with C-O-C ..... (Yes) . . No

12. Correct containers used ..... (Yes) . . No

13. Preserved properly ..... (Yes) . . No

14. Sufficient sample ..... (Yes) . . No

15. Bubbles absent from VOA ..... (Yes) . . No

16. Client called ..... Yes . (No)

    Details _____

17. Comments LH13-SB07(15-17) → REC'D 5 250ml's → 4 LOOKED SATISFACTORY I WAS NOT LIKE THE OTHER → DESIGNATED SAMPLE ON HOLD → TESTING OTHER 4 CONTAINERS

U:\Shared\Forms\Cooler.Rec

01421.2

Page 1 of 2

Ebasco Environmental
400 N. Olive St., L.B. 259
Suite 900
Dallas, Texas 75201
(214) 978-3100

SOIL / SEDIMENT
CHAIN OF CUSTODY RECORD

Lab Name: NDRC	Phone: 214-238-5591
Address: 1809 E. Collins Blvd., Richardson, Tx. 75081	
Ebasco Contact Person: Kay Hawthorne	
PROJECT: Longhorn	CLIENT: USACE, Tulsa District
SAMPLERS: (Signature) M Kay Hawthorne	

SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	NO. CONTAINERS	S - Soil W - Water N - NAPL G - Gaseous	ph	Specific Conductance	BNA's	Explosives	11 Metals	Anions *	Pesticides	Herbicides	Geotechnical **	VOCs	D93-2685 REMARKS
LH13-SB08(0-2)	3-5-93	1000		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-1
LH13-SB08(5-7)	3-5-93	1030		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-2
LH13-SB08(10-12)	3-5-93	1045		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-3
LH13-SB08(15-17)	3-5-93	1100		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-4
LH13-SB08(20-23)	3-5-93	1130		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-5
LH13-SB11(0-3)	3-5-93	1350		✓	7	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	MS/MSD -6
LH13-SB09(0-2)	3-6-93	0830		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-7
LH13-SB09(5-7)	3-6-93	0900		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-8
LH13-SB09(10-12)	3-6-93	0915		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-9
LH13-SB09(15-17)	3-6-93	0945		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-10
LH13-SB09(20-24.5)	3-6-93	1000		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-11
LH13-SB09(20-24.5)-DC	3-6-93	1000		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-12
LH13-SB10(0-2)	3-6-93	1030		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-13
LH13-SB10(5-7)	3-6-93	1045		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-14
LH13-SB10(10-12)	3-6-93	1100		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-15
LH13-SB10(15-17)	3-6-93	1115		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-16

Relinquished by: (Signature) ① M Kay Hawthorne	Date / Time 3-8-93 1100	Received by: (Signature)	Relinquished by: (Signature) ③	Date / Time 3-8-93 1551	Shipped via:
Relinquished by: (Signature) ②	Date / Time	Received by: (Signature)	Received for Lab by: (Signature) Vicki Bricker	Date / Time 3-8-93 1551	Shipping Ticket No.:

SAMPLE RECEIPT REPORT	YES	NO
Samples OK	✓	
Temp 4°C Min.	✓	
Custody Seals	✓	
Custody Seals Intact		
Head Space in VOAs		N/A

Remarks:

Iced Yes ✓ No ___

Cooler ___ of ___

* Anions: Nitrate/nitrite, sulfate, chloride

** Geotechnical: Visual, moisture content, gradation, liquid & plastic limit

Lab No. NDRC | Phone: 214-238-5591

Address: 1809 E. Collins Blvd., Richardson, Tx. 75081

Ebasco Contact Person: Kay Hawthorne

PROJECT: Longhorn | CLIENT: USACE, Tulsa District

SAMPLERS: (Signature) Kay Hawthorne

Ebasco Environmental
400 N. Olive St., L.B. 259
Suite 900
Dallas, Texas 75201
(214) 978-3100

SOIL / SEDIMENT
CHAIN OF CUSTODY RECORD

SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	NO. CONTAINERS	S - Soil W - Water N - NAPL G - Gaseous	ph	Specific Conductance	BNA's	Explosives	11 Metals	Anions *	Pesticides	Herbicides	Geotechnical **	VOC	REMARKS	
LH13-SB10(20-24)	3-6-93	1130		✓	7	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	MS/MSD	-17
LH13-SB11(5-7)	3-6-93	1445		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		-18
LH13-SB11(10-12.5)	3-6-93	1515		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		-19
LH13-SB11(15-17)	3-6-93	1530		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		-20
LH13-SB11(20-22)	3-6-93	1600		✓	5	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		-21
LH13-SB11(25-27)	3-6-93	1615		✓	2	S	~~✓~~	✓	✓	~~✓~~ 3-7-93	~~✓~~	~~✓~~	~~✓~~	✓	✓	~~✓~~ 3-7-93	Geotech only	-22
LH13-SB11(25-27)-D	3-6-93	1615		✓	2	S	~~✓~~	✓	✓	~~✓~~ 3-7-93	~~✓~~	~~✓~~	~~✓~~	✓	✓	~~✓~~ 3-7-93	Geotech only	-23
LH13-SB11(30-32)	3-6-93	1630		✓	2	S	~~✓~~	✓	✓	~~✓~~	~~✓~~	~~✓~~	~~✓~~	✓	✓	~~✓~~ 3-7-93	Geotech only	-24
~~LH13MS/MSD 3-6-93~~																		
MS																		-25
MSD																		-26
Method Blank																		-27
Blank Spike																		-28
MS																		-29
MSD																		-30
~~Method Blank~~																		-31
~~Blank Spike~~																		-32

Relinquished by: (Signature) ①	Date / Time	Received by: (Signature)	Relinquished by: (Signature) ③	Date / Time	Shipped via:
Kay Hawthorne	3-8-93 1100			3-8-93 1551	Delivered
Relinquished by: (Signature) ②	**Date / Time**	**Received by: (Signature)**	**Received for Lab by: (Signature)**	**Date / Time**	**Shipping Ticket No.:**
			Vicki Bricken	3-8-93 1557	NA

SAMPLE RECEIPT REPORT	YES	NO
Samples OK	✓	
Temp 4°C Min.	✓	
Custody Seals	✓	
Custody Seals Intact	✓	
Head Space in VOAs		NA

Remarks:

Iced Yes ✓ No ____

Cooler ____ of ____

* Anions: Nitrate/nitrite, sulfate, chloride

** Geotechnical: Visual, moisture content, gradation, liquid & plastic limit

01413

014214

COOLER RECEIPT FORM

Date Received 3-8-93 Project Longhorn-USAFE

Number of Cooler 4 Cooler Numbers —

Date Checked in 3-8-93 By (sign) Nikki Bricker

1. Shipping slip ..... Yes ... No

   If yes, carrier and bill number Hand delivered

2. Custody seals on cooler ..... (Yes) .. No

   If yes, how many and where 1 left corner

3. Custody seal intact ..... (Yes) ... No

4. Chain-of-Custody in plastic yes

5. Chain-of-Custody filled out properly ..... (Yes) ... No

6. SWD signed Chain-of-Custody properly ..... (Yes) ... No

7. Enough ice and packing ..... (Yes) ... No

   Type of packing ice/plastic

8. All bottles sealed ..... (Yes) .. No

9. Any bottles broken ..... Yes ... (No)

10. Labels in good condition and complete ..... (Yes) ... No

11. Labels agree with C-O-C ..... (Yes) ... No

12. Correct containers used ..... (Yes) ... No

13. Preserved properly ..... (Yes) ... No

14. Sufficient sample ..... (Yes) ... No

15. Bubbles absent from VOA ..... (Yes) ... No

16. Client called ..... Yes ... (No)

    Details _____

17. Comments _____

U:\Betandaform\Cooler.Rec

Page 1 of 1

Ebasco Environmental
400 N. Olive St., L.B. 259
Suite 900
Dallas, Texas 75201
(214) 978-3100

GROUNDWATER GRAB CHAIN OF CUSTODY RECORD

Lab Name: NDRC	Phone: 214-238-5591
Address: 1809 E. Collins Blvd., Richardson, Tx. 75081	
Ebasco Contact Person: Kay Hawthorne	
PROJECT: Longhorn	CLIENT: USACE, Tulsa District
SAMPLERS: (Signature) MKay Hawthorn	

SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	NO. CONTAINERS	S - Soil W - Water N - NAPL G - Gaseous	TOX	TOC	Nitrate/Nitrite	Sulfate	Chloride	Explosives	Total Phenol				CHEMICAL USED FOR PRESERVATION
							H_2SO_4	H_2SO_4					H_2SO_4				D93-2693
LH13-GG-07	3-5-93	1100		✓	5	W	1	1		1		1	1				REMARKS
LH13-GG-08	3-5-93	1300		✓	5	W	1	1		1		1	1				
LH13-GG-08-QC	3-5-93	1300		✓	5	W	1	1		1		1	1				
LH13-GG-09	3-6-93	1230		✓	5	W	1	1		1		1	1				
LH13-GG-10	3-6-93	1300		✓	5	W	1	1		1		1	1				

Relinquished by: (Signature) ① MKay Hawthorn	Date / Time 3-8-93 1100	Received by: (Signature)	Relinquished by: (Signature) ③
Relinquished by: (Signature) ②	Date / Time	Received by: (Signature)	Received for Lab by: (Signature) Mike Bricker

Date / Time 3-8-93 1552	Shipped via: Delivered	
Date / Time 3-8-93 1552	Shipping Ticket No.: NA	

SAMPLE RECEIPT REPORT	YES	NO
Samples OK	✓	
Temp 4°C Min.	✓	
Custody Seals	✓	
Custody Seals Intact		
Head Space in VOAs		✓

Remarks:

Iced Yes ✓ No ___

Cooler ___ of ___

01421B

014216

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 5-MAR-1993

REPORT NUMBER: D93-2587
REPORT DATE: 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
Dallas, TX 75201
ATTENTION : Ms. Kay Hawthorne

PROJECT : Longhorn

DATE SAMPLED : 4-MAR-1993

CASE NARRATIVE COMMENTS:

The equipment blank provided for this project showed 22.2 µg/L of Cloroform present in the Volatile Organics analysis, EPA 8240.

No further problems were encountered during the sample analysis for this project.

Please refer to the attached Case Narrative Summary for a comparison of sample identifications and analytical requests.

NDRC Laboratories, Inc. Belinda Feuerbacher

Belinda Feuerbacher
Project Manager

014217

CASE NARRATIVE SUMMARY PAGE 1

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2587-1 DATE SAMPLED : 4-MAR-1993
ID MARKS : LH13-SB07(0-2)-EB

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8240_FL_L			JKA	13-MAR-1993
8270A_FL_L	TLR	7-MAR-1993	BJC	13-MAR-1993
8270B_FL_L	TLR	7-MAR-1993	BJC	13-MAR-1993
ABN_TIC			BJC	13-MAR-1993
CHLORIDE			BWB	8-MAR-1993
EXPLOS_L			JS	15-MAR-1993
M_AG_T_L_I	CCM	8-MAR-1993	KJS	9-MAR-1993
M_AS_T_L_F	CCM	19-MAR-1993	MES	21-MAR-1993
M_BA_T_L_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_CD_T_L_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_CR_T_L_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_HG_T_L_V	CCM	9-MAR-1993	AH	10-MAR-1993
M_NI_T_L_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_PB_T_L_F	CCM	19-MAR-1993	MES	22-MAR-1993
M_SB_T_L_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_SE_T_L_F	CCM	8-MAR-1993	MES	15-MAR-1993
M_TL_T_L_F	CCM	19-MAR-1993	MES	23-MAR-1993
NITR_N_I_L			MKS	15-MAR-1993
SULFATE_L			MKS	8-MAR-1993
VOA_TIC			JKA	13-MAR-1993

SAMPLE ID : D93-2587-2 DATE SAMPLED : 4-MAR-1993
ID MARKS : Trip Blank-02

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8240_FL_L			JKA	13-MAR-1993
VOA_TIC			JKA	13-MAR-1993

SAMPLE ID : D93-2587-3 DATE SAMPLED : 5-MAR-1993
ID MARKS : MS 2931-1 (VOA)/2530-2 (ABN)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8240_FL_L			JKA	12-MAR-1993
8270A_FL_L	TLR	7-MAR-1993	BJC	12-MAR-1993
8270B_FL_L	TLR	7-MAR-1993	BJC	12-MAR-1993
EXPLOS_L			JS	15-MAR-1993

SAMPLE ID : D93-2587-4 DATE SAMPLED : 5-MAR-1993
ID MARKS : MSD 2931-1 (VOA)/2530-1 (ABN)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8240_FL_L			JKA	12-MAR-1993
8270A_FL_L	TLR	7-MAR-1993	BJC	12-MAR-1993
8270B_FL_L	TLR	7-MAR-1993	BJC	12-MAR-1993
EXPLOS_L			JS	15-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2587-5 DATE SAMPLED : 5-MAR-1993
ID MARKS : Method Blank

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8240_FL_L			JKA	12-MAR-1993
8270A_FL_L	TLR	7-MAR-1993	VDL	8-MAR-1993
8270B_FL_L	TLR	7-MAR-1993	VDL	8-MAR-1993
ABN_TIC			VDL	8-MAR-1993
EXPLOS_L			JS	15-MAR-1993
VOA_TIC			JKA	12-MAR-1993

SAMPLE ID : D93-2587-6 DATE SAMPLED : 5-MAR-1993
ID MARKS : Blank Spike

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE

ANALYSIS ID	DESCRIPTION
8240_FL_L	Volatile Organics, Full List, Liquid Matrix
8270A_FL_L	Acid Extractables, Full List, Liquid Matrix
8270B_FL_L	Base-Neutral Extractables, Full List, Liquid
ABN_TIC	Tentatively Identified Compounds - ABN
CHLORIDE	Chloride, Liquid Matrix, Titration
EXPLOS_L	Explosives, Liquid Matrix, HPLC Method 8330
M_AG_T_L_I	Silver, Total, Liquid, by ICP
M_AS_T_L_F	Arsenic, Total Liquid, By GFAA
M_BA_T_L_I	Barium, Total, Liquid, by ICP
M_CD_T_L_I	Cadmium, Total, Liquid, by ICP
M_CR_T_L_I	Chromium, Total, Liquid, by ICP
M_HG_T_L_V	Mercury, Total, Liquid, by GVAA
M_NI_T_L_I	Nickel, Total, Liquid, by ICP
M_PB_T_L_F	Lead, Total. Liquid, by GFAA
M_SB_T_L_I	Antimony, Total, Liquid, by ICP
M_SE_T_L_F	Selenium, Total, Liquid, by GFAA
M_TL_T_L_F	Thallium, Total, Liquid, by Graphite Furnace
NITR_N_I_L	Nitrate-Nitrite Nitrogen as N, Liquid
SULFATE_L	Sulfate, Liquid Matrix
VOA_TIC	Tentatively Identified Compounds - VOA

014219

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-1
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB07(0-2)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	22.2 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2587-1
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	< 5.0 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	< 5.0 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	< 5.0 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	< 5.0 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	103 %
Toluene-d8 (SS)	50.0 µg/L	102 %
Bromofluorobenzene (SS)	50.0 µg/L	105 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

014221

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-1
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB07(0-2)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 7-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Phenol	10.0 µg/L	< 10.0 µg/L
2-Chlorophenol	10.0 µg/L	< 10.0 µg/L
2-Methylphenol	10.0 µg/L	< 10.0 µg/L
4-Methylphenol	10.0 µg/L	< 10.0 µg/L
2-Nitrophenol	10.0 µg/L	< 10.0 µg/L
2,4-Dimethylphenol	10.0 µg/L	< 10.0 µg/L
Benzoic acid	50.0 µg/L	< 50.0 µg/L
2,4-Dichlorophenol	10.0 µg/L	< 10.0 µg/L
4-Chloro-3-methylphenol	20.0 µg/L	< 20.0 µg/L
2,4,6-Trichlorophenol	10.0 µg/L	< 10.0 µg/L
2,4,5-Trichlorophenol	50.0 µg/L	< 50.0 µg/L
2,4-Dinitrophenol	50.0 µg/L	< 50.0 µg/L
4-Nitrophenol	50.0 µg/L	< 50.0 µg/L
4,6-Dinitro-2-methylphenol	50.0 µg/L	< 50.0 µg/L
Pentachlorophenol	50.0 µg/L	< 50.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2587-1
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/L	84.4 %
2-Fluorophenol (SS)	100 µg/L	80.0 %
2,4,6-Tribromophenol (SS)	100 µg/L	95.1 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

014223

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-1
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB07(0-2)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 7-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	10.0 µg/L	< 10.0 µg/L
1,3-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
1,4-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Benzyl alcohol	20.0 µg/L	< 20.0 µg/L
1,2-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroisopropyl)ether	10.0 µg/L	< 10.0 µg/L
N-Nitroso-Di-N-propylamine	10.0 µg/L	< 10.0 µg/L
Hexachloroethane	10.0 µg/L	< 10.0 µg/L
Nitrobenzene	10.0 µg/L	< 10.0 µg/L
Isophorone	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroethoxy)methane	10.0 µg/L	< 10.0 µg/L
1,2,4-Trichlorobenzene	10.0 µg/L	< 10.0 µg/L
Naphthalene	10.0 µg/L	< 10.0 µg/L
4-Chloroaniline	20.0 µg/L	< 20.0 µg/L
Hexachlorobutadiene	10.0 µg/L	< 10.0 µg/L
2-Methylnaphthalene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2587-1
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Hexachlorocyclopentadiene	10.0 µg/L	< 10.0 µg/L
2-Chloronaphthalene	10.0 µg/L	< 10.0 µg/L
2-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Dimethylphthalate	10.0 µg/L	< 10.0 µg/L
Acenaphthylene	10.0 µg/L	< 10.0 µg/L
2,6-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
3-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Acenaphthene	10.0 µg/L	< 10.0 µg/L
Dibenzofuran	10.0 µg/L	< 10.0 µg/L
2,4-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
Diethylphthalate	10.0 µg/L	< 10.0 µg/L
4-Chlorophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Fluorene	10.0 µg/L	< 10.0 µg/L
4-Nitroaniline	50.0 µg/L	< 50.0 µg/L
N-Nitrosodiphenylamine	10.0 µg/L	< 10.0 µg/L
4-Bromophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Hexachlorobenzene	10.0 µg/L	< 10.0 µg/L
Phenanthrene	10.0 µg/L	< 10.0 µg/L
Anthracene	10.0 µg/L	< 10.0 µg/L
Di-n-butylphthalate	10.0 µg/L	< 10.0 µg/L
Fluoranthene	10.0 µg/L	< 10.0 µg/L
Pyrene	10.0 µg/L	< 10.0 µg/L
Butyl benzyl phthalate	10.0 µg/L	< 10.0 µg/L
3,3'-Dichlorobenzidine	20.0 µg/L	< 20.0 µg/L
Benzo(a)anthracene	10.0 µg/L	< 10.0 µg/L
Chrysene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2587-1
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	10.0 µg/L	< 10.0 µg/L
Di-n-octylphthalate	10.0 µg/L	< 10.0 µg/L
Benzo(b)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(k)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(a)pyrene	10.0 µg/L	< 10.0 µg/L
Indeno(1,2,3-cd)pyrene	10.0 µg/L	< 10.0 µg/L
Dibenzo(a,h)anthracene	10.0 µg/L	< 10.0 µg/L
Benzo(g,h,i)perylene	10.0 µg/L	< 10.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/L	76.8 %
2-Fluorobiphenyl (SS)	50.0 µg/L	96.1 %
Terphenyl-d14 (SS)	50.0 µg/L	106 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

014226

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-1
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB07(0-2)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 10 µg/L

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-1
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB07(0-2)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-1
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB07(0-2)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYZED BY : JKA
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-1
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB07(0-2)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 9-MAR-1993 by KJS		
Arsenic	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 19-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by MES		
Barium	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Cadmium	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Chromium	0.05 mg/L	< 0.05 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Mercury	0.001 mg/L	< 0.001 mg/L
Dilution Factor : 1 Prepared using EPA 7470 on 9-MAR-1993 by CCM Analyzed using EPA 7470 on 10-MAR-1993 by AH		

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REPORT NUMBER : D93-2587-1

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	0.05 mg/L	< 0.05 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Lead	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 19-MAR-1993 by CCM Analyzed using EPA 7421 on 22-MAR-1993 by MES		
Antimony	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Selenium	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 8-MAR-1993 by CCM Analyzed using EPA 7740 on 15-MAR-1993 by MES		
Thallium	0.002 mg/L	< 0.002 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 19-MAR-1993 by CCM Analyzed using EPA 7841 on 23-MAR-1993 by MES		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-1
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB07(0-2)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	1.0 mg/L	< 1.0 mg/L
Dilution Factor : 1 Analyzed using EPA 9252 on 8-MAR-1993 by BWB		
Nitrate-Nitrite Nitrogen	0.01 mg/L	0.02 mg/L
Dilution Factor : 1 Analyzed using EPA 353.3 on 15-MAR-1993 by MKS		
Sulfate	1 mg/L	< 1 mg/L
Dilution Factor : 1 Analyzed using EPA 9038 on 8-MAR-1993 by MKS		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-2
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Trip Blank-02
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2587-2
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	< 5.0 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	< 5.0 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	< 5.0 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	< 5.0 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	102 %
Toluene-d8 (SS)	50.0 µg/L	99.4 %
Bromofluorobenzene (SS)	50.0 µg/L	105 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-2
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Trip Blank-02
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYZED BY : JKA
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-3
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: 2931-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	49.6 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2587-3
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	50.9 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	54.0 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	53.9 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	53.2 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	94.9 %
Toluene-d8 (SS)	50.0 µg/L	108 %
Bromofluorobenzene (SS)	50.0 µg/L	109 %

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-3
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: 2931-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 7-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Phenol	20.0 µg/L	200 µg/L
2-Chlorophenol	20.0 µg/L	180 µg/L
2-Methylphenol	20.0 µg/L	< 20.0 µg/L
4-Methylphenol	20.0 µg/L	< 20.0 µg/L
2-Nitrophenol	20.0 µg/L	< 20.0 µg/L
2,4-Dimethylphenol	20.0 µg/L	< 20.0 µg/L
Benzoic acid	100 µg/L	< 100 µg/L
2,4-Dichlorophenol	20.0 µg/L	< 20.0 µg/L
4-Chloro-3-methylphenol	40.0 µg/L	210 µg/L
2,4,6-Trichlorophenol	20.0 µg/L	< 20.0 µg/L
2,4,5-Trichlorophenol	100 µg/L	< 100 µg/L
2,4-Dinitrophenol	100 µg/L	< 100 µg/L
4-Nitrophenol	100 µg/L	190 µg/L
4,6-Dinitro-2-methylphenol	100 µg/L	< 100 µg/L
Pentachlorophenol	100 µg/L	200 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2587-3
ANALYSIS METHOD : EPA 8270

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/L	85.5 %
2-Fluorophenol (SS)	100 µg/L	96.4 %
2,4,6-Tribromophenol (SS)	100 µg/L	103 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-3
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: 2931-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 7-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	20.0 µg/L	< 20.0 µg/L
1,3-Dichlorobenzene	20.0 µg/L	< 20.0 µg/L
1,4-Dichlorobenzene	20.0 µg/L	88.0 µg/L
Benzyl alcohol	40.0 µg/L	< 40.0 µg/L
1,2-Dichlorobenzene	20.0 µg/L	< 20.0 µg/L
Bis(2-chloroisopropyl)ether	20.0 µg/L	< 20.0 µg/L
N-Nitroso-Di-N-propylamine	20.0 µg/L	86.0 µg/L
Hexachloroethane	20.0 µg/L	< 20.0 µg/L
Nitrobenzene	20.0 µg/L	< 20.0 µg/L
Isophorone	20.0 µg/L	< 20.0 µg/L
Bis(2-chloroethoxy)methane	20.0 µg/L	< 20.0 µg/L
1,2,4-Trichlorobenzene	20.0 µg/L	97.0 µg/L
Naphthalene	20.0 µg/L	< 20.0 µg/L
4-Chloroaniline	40.0 µg/L	< 40.0 µg/L
Hexachlorobutadiene	20.0 µg/L	< 20.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2587-3
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
2-Methylnaphthalene	20.0 µg/L	< 20.0 µg/L
Hexachlorocyclopentadiene	20.0 µg/L	< 20.0 µg/L
2-Chloronaphthalene	20.0 µg/L	< 20.0 µg/L
2-Nitroaniline	100 µg/L	< 100 µg/L
Dimethylphthalate	20.0 µg/L	< 20.0 µg/L
Acenaphthylene	20.0 µg/L	< 20.0 µg/L
2,6-Dinitrotoluene	20.0 µg/L	< 20.0 µg/L
3-Nitroaniline	100 µg/L	< 100 µg/L
Acenaphthene	20.0 µg/L	110 µg/L
Dibenzofuran	20.0 µg/L	< 20.0 µg/L
2,4-Dinitrotoluene	20.0 µg/L	87.0 µg/L
Diethylphthalate	20.0 µg/L	< 20.0 µg/L
4-Chlorophenylphenyl ether	20.0 µg/L	< 20.0 µg/L
Fluorene	20.0 µg/L	< 20.0 µg/L
4-Nitroaniline	100 µg/L	< 100 µg/L
N-Nitrosodiphenylamine	20.0 µg/L	< 20.0 µg/L
4-Bromophenylphenyl ether	20.0 µg/L	< 20.0 µg/L
Hexachlorobenzene	20.0 µg/L	< 20.0 µg/L
Phenanthrene	20.0 µg/L	< 20.0 µg/L
Anthracene	20.0 µg/L	< 20.0 µg/L
Di-n-butylphthalate	20.0 µg/L	< 20.0 µg/L
Fluoranthene	20.0 µg/L	< 20.0 µg/L
Pyrene	20.0 µg/L	120 µg/L
Butyl benzyl phthalate	20.0 µg/L	< 20.0 µg/L
3,3'-Dichlorobenzidine	40.0 µg/L	< 40.0 µg/L
Benzo(a)anthracene	20.0 µg/L	< 20.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2587-3
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chrysene	20.0 µg/L	< 20.0 µg/L
Bis(2-ethylhexyl)phthalate	20.0 µg/L	< 20.0 µg/L
Di-n-octylphthalate	20.0 µg/L	< 20.0 µg/L
Benzo(b)fluoranthene	20.0 µg/L	< 20.0 µg/L
Benzo(k)fluoranthene	20.0 µg/L	< 20.0 µg/L
Benzo(a)pyrene	20.0 µg/L	< 20.0 µg/L
Indeno(1,2,3-cd)pyrene	20.0 µg/L	< 20.0 µg/L
Dibenzo(a,h)anthracene	20.0 µg/L	< 20.0 µg/L
Benzo(g,h,i)perylene	20.0 µg/L	< 20.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/L	97.3 %
2-Fluorobiphenyl (SS)	50.0 µg/L	103 %
Terphenyl-d14 (SS)	50.0 µg/L	112 %

NDRC Laboratories, Inc. David R. Godwin

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

014242

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-3
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: 2931-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	5.71 µg/L
2,4-DNT	0.10 µg/L	5.20 µg/L
2,6-DNT	0.10 µg/L	5.12 µg/L
HMX	0.10 µg/L	6.51 µg/L
NB	0.10 µg/L	5.39 µg/L
2-NT	0.10 µg/L	4.84 µg/L
3-NT	0.10 µg/L	4.81 µg/L
4-NT	0.10 µg/L	4.51 µg/L
RDX	0.10 µg/L	6.37 µg/L
Tetryl	0.10 µg/L	6.13 µg/L
1,3,5-TNB	0.10 µg/L	5.72 µg/L
2,4,6-TNT	0.10 µg/L	5.07 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-4
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: 2931-1 (VOA)/2530-1 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	49.7 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2587-4
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	50.9 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	53.0 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	54.1 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	51.8 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	95.3 %
Toluene-d8 (SS)	50.0 µg/L	105 %
Bromofluorobenzene (SS)	50.0 µg/L	105 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-4
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: 2931-1 (VOA)/2530-1 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 7-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Phenol	20.0 µg/L	190 µg/L
2-Chlorophenol	20.0 µg/L	190 µg/L
2-Methylphenol	20.0 µg/L	< 20.0 µg/L
4-Methylphenol	20.0 µg/L	< 20.0 µg/L
2-Nitrophenol	20.0 µg/L	< 20.0 µg/L
2,4-Dimethylphenol	20.0 µg/L	< 20.0 µg/L
Benzoic acid	100 µg/L	< 100 µg/L
2,4-Dichlorophenol	20.0 µg/L	< 20.0 µg/L
4-Chloro-3-methylphenol	40.0 µg/L	200 µg/L
2,4,6-Trichlorophenol	20.0 µg/L	< 20.0 µg/L
2,4,5-Trichlorophenol	100 µg/L	< 100 µg/L
2,4-Dinitrophenol	100 µg/L	< 100 µg/L
4-Nitrophenol	100 µg/L	200 µg/L
4,6-Dinitro-2-methylphenol	100 µg/L	< 100 µg/L
Pentachlorophenol	100 µg/L	200 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2587-4
ANALYSIS METHOD : EPA 8270

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/L	82.5 %
2-Fluorophenol (SS)	100 µg/L	83.7 %
2,4,6-Tribromophenol (SS)	100 µg/L	98.8 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-4
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: 2931-1 (VOA)/2530-1 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 7-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	20.0 µg/L	< 20.0 µg/L
1,3-Dichlorobenzene	20.0 µg/L	< 20.0 µg/L
1,4-Dichlorobenzene	20.0 µg/L	91.0 µg/L
Benzyl alcohol	40.0 µg/L	< 40.0 µg/L
1,2-Dichlorobenzene	20.0 µg/L	< 20.0 µg/L
Bis(2-chloroisopropyl)ether	20.0 µg/L	< 20.0 µg/L
N-Nitroso-Di-N-propylamine	20.0 µg/L	78.0 µg/L
Hexachloroethane	20.0 µg/L	< 20.0 µg/L
Nitrobenzene	20.0 µg/L	< 20.0 µg/L
Isophorone	20.0 µg/L	< 20.0 µg/L
Bis(2-chloroethoxy)methane	20.0 µg/L	< 20.0 µg/L
1,2,4-Trichlorobenzene	20.0 µg/L	95.0 µg/L
Naphthalene	20.0 µg/L	< 20.0 µg/L
4-Chloroaniline	40.0 µg/L	< 40.0 µg/L
Hexachlorobutadiene	20.0 µg/L	< 20.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2587-4
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
2-Methylnaphthalene	20.0 µg/L	< 20.0 µg/L
Hexachlorocyclopentadiene	20.0 µg/L	< 20.0 µg/L
2-Chloronaphthalene	20.0 µg/L	< 20.0 µg/L
2-Nitroaniline	100 µg/L	< 100 µg/L
Dimethylphthalate	20.0 µg/L	< 20.0 µg/L
Acenaphthylene	20.0 µg/L	< 20.0 µg/L
2,6-Dinitrotoluene	20.0 µg/L	< 20.0 µg/L
3-Nitroaniline	100 µg/L	< 100 µg/L
Acenaphthene	20.0 µg/L	110 µg/L
Dibenzofuran	20.0 µg/L	< 20.0 µg/L
2,4-Dinitrotoluene	20.0 µg/L	90.0 µg/L
Diethylphthalate	20.0 µg/L	< 20.0 µg/L
4-Chlorophenylphenyl ether	20.0 µg/L	< 20.0 µg/L
Fluorene	20.0 µg/L	< 20.0 µg/L
4-Nitroaniline	100 µg/L	< 100 µg/L
N-Nitrosodiphenylamine	20.0 µg/L	< 20.0 µg/L
4-Bromophenylphenyl ether	20.0 µg/L	< 20.0 µg/L
Hexachlorobenzene	20.0 µg/L	< 20.0 µg/L
Phenanthrene	20.0 µg/L	< 20.0 µg/L
Anthracene	20.0 µg/L	< 20.0 µg/L
Di-n-butylphthalate	20.0 µg/L	< 20.0 µg/L
Fluoranthene	20.0 µg/L	< 20.0 µg/L
Pyrene	20.0 µg/L	120 µg/L
Butyl benzyl phthalate	20.0 µg/L	< 20.0 µg/L
3,3'-Dichlorobenzidine	40.0 µg/L	< 40.0 µg/L
Benzo(a)anthracene	20.0 µg/L	< 20.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2587-4
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chrysene	20.0 µg/L	< 20.0 µg/L
Bis(2-ethylhexyl)phthalate	20.0 µg/L	< 20.0 µg/L
Di-n-octylphthalate	20.0 µg/L	< 20.0 µg/L
Benzo(b)fluoranthene	20.0 µg/L	< 20.0 µg/L
Benzo(k)fluoranthene	20.0 µg/L	< 20.0 µg/L
Benzo(a)pyrene	20.0 µg/L	< 20.0 µg/L
Indeno(1,2,3-cd)pyrene	20.0 µg/L	< 20.0 µg/L
Dibenzo(a,h)anthracene	20.0 µg/L	< 20.0 µg/L
Benzo(g,h,i)perylene	20.0 µg/L	< 20.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/L	91.2 %
2-Fluorobiphenyl (SS)	50.0 µg/L	101 %
Terphenyl-d14 (SS)	50.0 µg/L	105 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-4
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: 2931-1 (VOA)/2530-1 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	5.70 µg/L
2,4-DNT	0.10 µg/L	5.20 µg/L
2,6-DNT	0.10 µg/L	5.10 µg/L
HMX	0.10 µg/L	6.49 µg/L
NB	0.10 µg/L	5.36 µg/L
2-NT	0.10 µg/L	4.81 µg/L
3-NT	0.10 µg/L	5.42 µg/L
4-NT	0.10 µg/L	4.53 µg/L
RDX	0.10 µg/L	6.33 µg/L
Tetryl	0.10 µg/L	6.01 µg/L
1,3,5-TNB	0.10 µg/L	5.62 µg/L
2,4,6-TNT	0.10 µg/L	5.06 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-5
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT DALLAS HOUSTON

014252

REPORT NUMBER : D93-2587-5
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	< 5.0 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	< 5.0 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	< 5.0 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	< 5.0 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	98.4 %
Toluene-d8 (SS)	50.0 µg/L	107 %
Bromofluorobenzene (SS)	50.0 µg/L	102 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-5
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 7-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : VDL
ANALYZED ON : 8-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Phenol	10.0 µg/L	< 10.0 µg/L
2-Chlorophenol	10.0 µg/L	< 10.0 µg/L
2-Methylphenol	10.0 µg/L	< 10.0 µg/L
4-Methylphenol	10.0 µg/L	< 10.0 µg/L
2-Nitrophenol	10.0 µg/L	< 10.0 µg/L
2,4-Dimethylphenol	10.0 µg/L	< 10.0 µg/L
Benzoic acid	50.0 µg/L	< 50.0 µg/L
2,4-Dichlorophenol	10.0 µg/L	< 10.0 µg/L
4-Chloro-3-methylphenol	20.0 µg/L	< 20.0 µg/L
2,4,6-Trichlorophenol	10.0 µg/L	< 10.0 µg/L
2,4,5-Trichlorophenol	50.0 µg/L	< 50.0 µg/L
2,4-Dinitrophenol	50.0 µg/L	< 50.0 µg/L
4-Nitrophenol	50.0 µg/L	< 50.0 µg/L
4,6-Dinitro-2-methylphenol	50.0 µg/L	< 50.0 µg/L
Pentachlorophenol	50.0 µg/L	< 50.0 µg/L

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BEAUMONT DALLAS HOUSTON

014254

REPORT NUMBER : D93-2587-5
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/L	82.6 %
2-Fluorophenol (SS)	100 µg/L	85.4 %
2,4,6-Tribromophenol (SS)	100 µg/L	99.7 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-5
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 7-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : VDL
ANALYZED ON : 8-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	10.0 µg/L	< 10.0 µg/L
1,3-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
1,4-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Benzyl alcohol	20.0 µg/L	< 20.0 µg/L
1,2-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroisopropyl)ether	10.0 µg/L	< 10.0 µg/L
N-Nitroso-Di-N-propylamine	10.0 µg/L	< 10.0 µg/L
Hexachloroethane	10.0 µg/L	< 10.0 µg/L
Nitrobenzene	10.0 µg/L	< 10.0 µg/L
Isophorone	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroethoxy)methane	10.0 µg/L	< 10.0 µg/L
1,2,4-Trichlorobenzene	10.0 µg/L	< 10.0 µg/L
Naphthalene	10.0 µg/L	< 10.0 µg/L
4-Chloroaniline	20.0 µg/L	< 20.0 µg/L
Hexachlorobutadiene	10.0 µg/L	< 10.0 µg/L
2-Methylnaphthalene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

014256

REPORT NUMBER : D93-2587-5
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Hexachlorocyclopentadiene	10.0 µg/L	< 10.0 µg/L
2-Chloronaphthalene	10.0 µg/L	< 10.0 µg/L
2-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Dimethylphthalate	10.0 µg/L	< 10.0 µg/L
Acenaphthylene	10.0 µg/L	< 10.0 µg/L
2,6-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
3-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Acenaphthene	10.0 µg/L	< 10.0 µg/L
Dibenzofuran	10.0 µg/L	< 10.0 µg/L
2,4-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
Diethylphthalate	10.0 µg/L	< 10.0 µg/L
4-Chlorophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Fluorene	10.0 µg/L	< 10.0 µg/L
4-Nitroaniline	50.0 µg/L	< 50.0 µg/L
N-Nitrosodiphenylamine	10.0 µg/L	< 10.0 µg/L
4-Bromophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Hexachlorobenzene	10.0 µg/L	< 10.0 µg/L
Phenanthrene	10.0 µg/L	< 10.0 µg/L
Anthracene	10.0 µg/L	< 10.0 µg/L
Di-n-butylphthalate	10.0 µg/L	< 10.0 µg/L
Fluoranthene	10.0 µg/L	< 10.0 µg/L
Pyrene	10.0 µg/L	< 10.0 µg/L
Butyl benzyl phthalate	10.0 µg/L	< 10.0 µg/L
3,3'-Dichlorobenzidine	20.0 µg/L	< 20.0 µg/L
Benzo(a)anthracene	10.0 µg/L	< 10.0 µg/L
Chrysene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2587-5
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	10.0 µg/L	< 10.0 µg/L
Di-n-octylphthalate	10.0 µg/L	< 10.0 µg/L
Benzo(b)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(k)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(a)pyrene	10.0 µg/L	< 10.0 µg/L
Indeno(1,2,3-cd)pyrene	10.0 µg/L	< 10.0 µg/L
Dibenzo(a,h)anthracene	10.0 µg/L	< 10.0 µg/L
Benzo(g,h,i)perylene	10.0 µg/L	< 10.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/L	86.8 %
2-Fluorobiphenyl (SS)	50.0 µg/L	99.7 %
Terphenyl-d14 (SS)	50.0 µg/L	102 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

014258

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-5
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : VDL
ANALYZED ON : 8-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 10 µg/L

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-5
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

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BEAUMONT DALLAS HOUSTON

014260

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2587-5
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : JKA
ANALYZED ON : 12-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/L

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 5-MAR-1993

REPORT NUMBER: D93-2587

REPORT DATE: 25-MAR-1993

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Lead	Thallium	Arsenic	Selenium	Arsenic	Mercury
BATCH No.	794	794	755	525	525	555
MATRIX	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid
PREP METHOD	EPA 3015	EPA 3015	EPA 7060	EPA 7740	EPA 7062	EPA 7470
PREP DATE	3/19/93	3/19/93	3/19/93	3/8/93	3/8/93	3/8/93
PREP TECHNICIAN	CCM	CCM	CCM	CCM	CCM	CCM
ANALYSIS METHOD	EPA 7421	EPA 7841	EPA 7060	EPA 7740	EPA 7062	EPA 7470
ANALYSIS DATE	3/22/93	3/23/93	3/21/93	3/15/93	3/8/93	3/10/93
ANALYST	RKD/MES	RKD/MES	RKD/MES	RKD/MES	AH	AH
METHOD BLANK	< 0.005 mg/L	< 0.002 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.01 mg/L	< 0.001 mg/L
MS % RECOVERY	102	109	96	75	81	109
LCS % RECOVERY	104	97	102	105	104	113
DUPLICATE RPD	----	---	----	----	----	----
MS/MSD RPD	3.0	10.0	1.0	3.0	5.0	3.0
SPIKE LEVEL	0.030 mg/L	0.030 mg/L	0.030 mg/L	0.030 mg/L	0.030 mg/L	0.025 mg/L
SPIKED SAMPLE ID No.	D93-2587-1	D93-2587-1	D93-3205-3	D93-2576-8	D93-2576-8	D93-2587-1
DUPLICATE SAMPLE ID No.	D93-2587-1	D93-2587-1	D93-3205-3	D93-2576-8	D93-2576-8	D93-2587-1

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

014262

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 5-MAR-1993

REPORT NUMBER: D93-2587

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Selenium	Silver	Chloride	Nitrate	Sulfate
BATCH No.	525	520	----	----	----
MATRIX	Liquid	Liquid	Liquid	Liquid	Liquid
PREP METHOD	EPA 7060	EPA 7760	----	----	----
PREP DATE	3/8/93	3/8/93	----	----	----
PREP TECHNICIAN	CCM	CCM	----	----	----
ANALYSIS METHOD	EPA 7060	EPA 6010	EPA 9252	EPA 353.3	EPA 9038
ANALYSIS DATE	3/15/93	3/9/93	3/8/93	3/15/93	3/8/93
ANALYST	MES	KJS	BWB	MKS	MKS
METHOD BLANK	< 0.01 mg/L	< 0.01 mg/L	< 1.0 mg/L	< 0.01 mg/L	< 1.0 mg/L
MS % RECOVERY	75	82	103	87	107
LCS % RECOVERY	105	85	100	101	94
DUPLICATE RPD	----	----	0.0	1.3	0.0
MS/MSD RPD	3.0	12.0	2.0	1.7	2.3
SPIKE LEVEL	0.030 mg/L	1.0 mg/L	859.7 mg/L	1.0 mg/L	20 mg/L
SPIKED SAMPLE ID No.	D93-2576-8	D93-2587-1	D93-2586-4	D93-2587-1	D93-2586-4
DUPLICATE SAMPLE ID No.	D93-2576-8	D93-2587-1	D93-2586-2	D93-2586-2	D93-2586-1

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

014263

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 5-MAR-1993

REPORT NUMBER: D93-2587

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	HMX	RDX	TNT	Nitbenzene	2,6-DNT	m-Nitrotoluene
BATCH No.	----	----	----	----	----	----
MATRIX	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid
PREP METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330
PREP DATE	3/10/93	3/10/93	3/10/93	3/10/93	3/10/93	3/10/93
PREP TECHNICIAN	LR	LR	LR	LR	LR	LR
ANALYSIS METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330
ANALYSIS DATE	3/15/93	3/15/93	3/15/93	3/15/93	3/15/93	3/15/93
ANALYST	JS	JS	JS	JS	JS	JS
METHOD BLANK	< 0.1 µg/L	< 0.1 µg/L	< 0.1 µg/L	< 0.1 µg/L	< 0.1 µg/L	< 0.1 µg/L
MS % RECOVERY	130	127	101	108	102	90
LCS % RECOVERY	----	----	----	----	----	----
DUPLICATE RPD	----	----	----	----	----	----
MS/MSD RPD	0.0	0.0	0.0	0.9	0.0	0.0
SPIKE LEVEL	5.0 µg/L	5.0 µg/L	5.0 µg/L	5.0 µg/L	5.0 µg/L	5.0 µg/L
SPIKED SAMPLE ID No.	Reagent Water	Reagent Water	Reagent Water	Reagent Water	Reagent Water	Reagent Water
DUPLICATE SAMPLE ID No.	----	----	----	----	----	-----

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

014264

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 5-MAR-1993

REPORT NUMBER: D93-2587

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ICP METALS SCAN

BATCH No.	520	MATRIX	Liquid
PREP METHOD	EPA 3015	ANALYSIS METHOD	EPA 6010
PREP DATE	3/8/93	ANALYSIS DATE	3/8/93
PREP TECHNICIAN	CCM	ANALYST	KJS
SPIKED SAMPLE ID No.	D93-2582-1	DUPLICATE SAMPLE ID No.	D93-2582-1

ANALYTE	Barium	Cadmium	Chromium	Nickel
METHOD BLANK	< 0.01 mg/L	< 0.005 mg/L	< 0.05 mg/L	< 0.05 mg/L
MS % RECOVERY	87	81	84	82
LCS % RECOVERY	94	88	87	88
DUPLICATE RPD	----	----	----	----
MS/MSD RPD	0.4	0.1	2.7	1.1
SPIKE LEVEL	1 mg/L	1 mg/L	1 mg/L	1 mg/L

ANALYTE	Lead	Antimony	Thallium
METHOD BLANK	< 0.02 mg/L	< 0.005 mg/L	< 0.01 mg/L
MS % RECOVERY	93	93	81
LCS % RECOVERY	100	78	99
DUPLICATE RPD	----	----	----
MS/MSD RPD	2.1	2.1	1.1
SPIKE LEVEL	1 mg/L	1 mg/L	1 mg/L

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

014265

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKD DUPLICATE RECOVERY

Lab Name: New CLP Forms Contract: 1234-56

Lab Code: HP002 Case No.: AD-76 SAS No.: JKA SDG No.: 03/12/93

Matrix Spike - EPA Sample No.: D93-2931-01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.00	0.00	49.6	99.2	61-145
Trichloroethene	50.00	0.00	50.9	102	71-120
Benzene	50.00	0.00	54.0	108	76-127
Toluene	50.00	0.00	53.9	108	76-125
Chlorobenzene	50.00	0.00	53.2	106	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.00	49.7	99.4	0.2	14	61-145
Trichloroethene	50.00	50.9	102	0	14	71-120
Benzene	50.00	53.0	106	2	11	76-127
Toluene	50.00	54.1	108	0	13	76-125
Chlorobenzene	50.00	51.8	104	2	13	75-130

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

* Values outside of qc limits

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

COMMENTS: METHOD 624

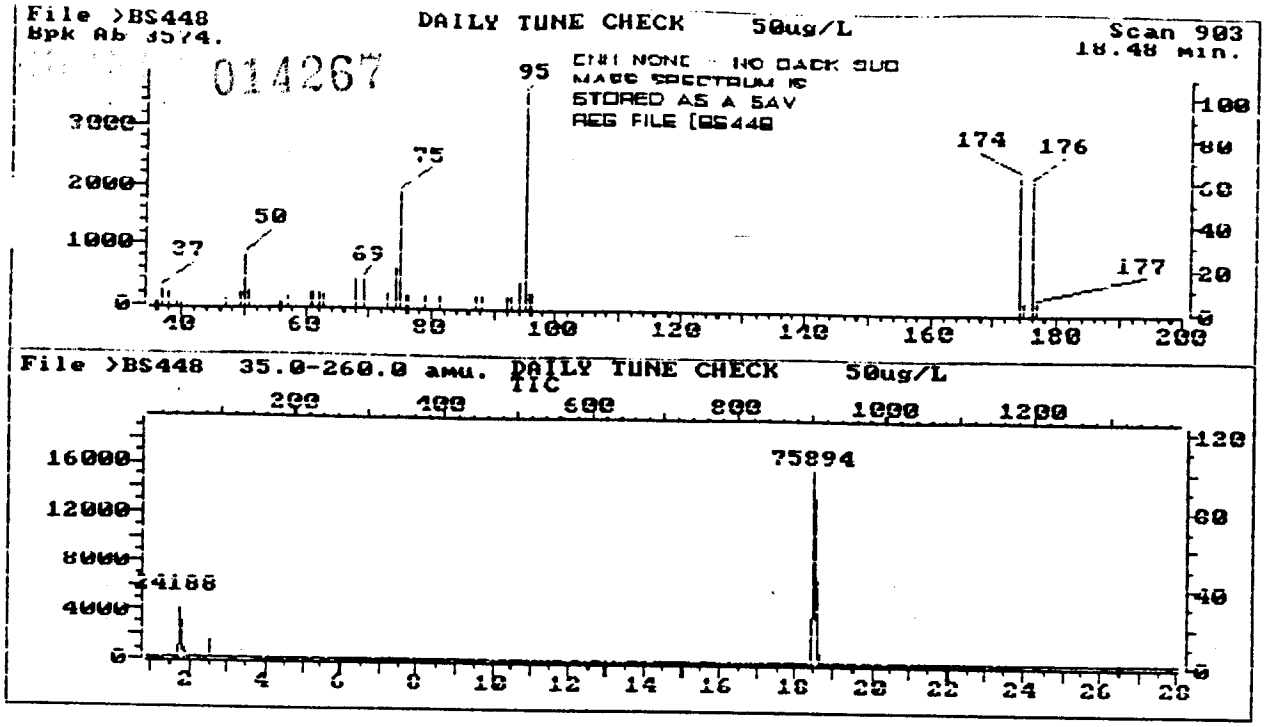
GC/MS PERFORMANCE STANDARD

014266

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.36	22.36	Ok
75	30-60% of mass 95	52.49	52.49	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.52	6.52	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	63.15	63.15	Ok
175	5-9% of mass 174	3.81	6.03	Ok
176	95-101% of mass 174	60.58	95.92	Ok
177	5-9% of mass 176	4.31	7.11	Ok

Injection Date: 03/12/93
Injection Time: 07:53
Data File: >BS448
Scan: 903


File >BS448
Bpk Ab 3574.
DAILY TUNE CHECK 50ug/L
Scan 903
18.48 min.
014267
DFTPP NONE - NO BACK SUB
MASS SPECTRUM IS
STORED AS A SAV
REG FILE [BS448
95
75
50
37
69
174
176
177
3000
2000
1000
0
100
80
60
40
20
0
40
60
80
100
120
140
160
180
200

File >BS448 35.0-260.0 amu. DAILY TUNE CHECK 50ug/L
TIC
200
400
600
800
1000
1200
16000
12000
8000
4000
0
75894
44188
120
80
40
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28

Instrument ID: VOA2 Analyzed on: 3/12/93 7:53

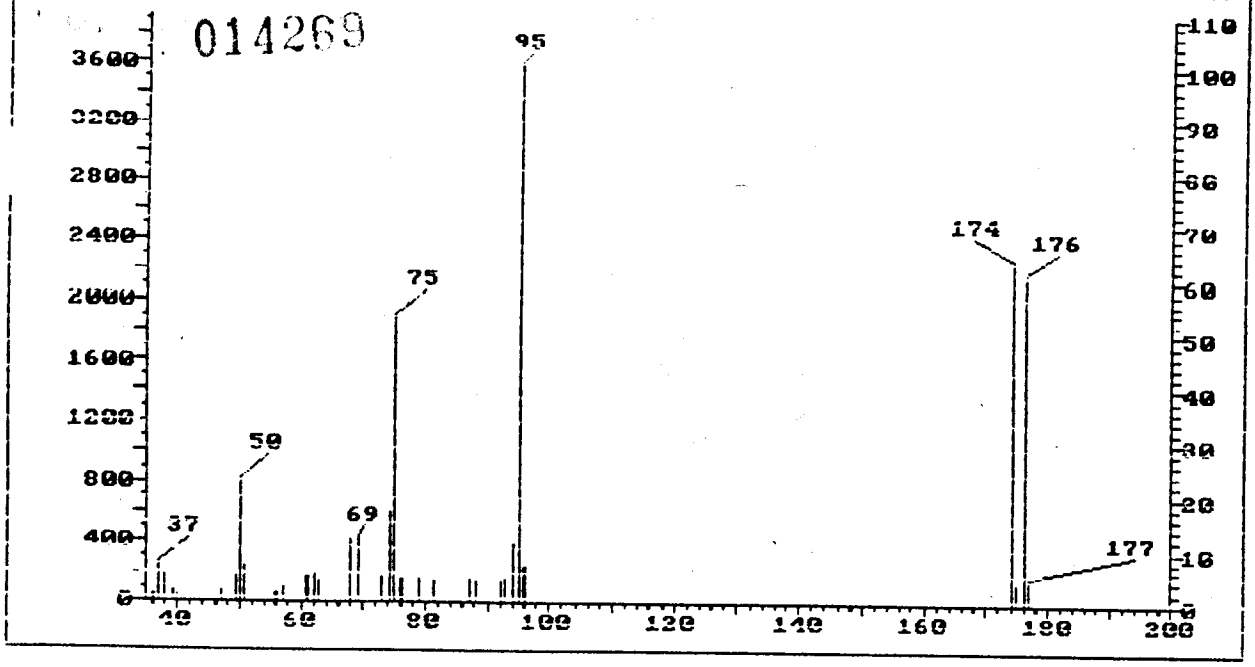
014268

File 7B5448
Bpk Ab 3574.

DAILY TUNE CHECK 50ug/L

Scan 903
18.48 min.

014269



Instrument ID: VOA2 Analyzed on: 3/12/93 7:53

014270

>BS448 DAILY TUNE CHECK 50ug/L
90014271 NKM

File: >BS448 Scan #: 903 Retn. time: 18.48

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.00	1.175	50.05	22.356	68.05	11.528	81.05	3.693	95.05	100.000
37.00	6.603	51.05	6.575	69.05	11.752	86.95	4.029	96.05	6.519
38.00	5.120	56.05	1.371	73.05	4.952	88.05	3.805	174.00	63.151
39.00	1.623	57.15	2.770	74.05	16.480	92.05	3.721	175.00	3.805
40.00	.979	61.05	4.449	75.05	52.490	93.05	4.253	176.00	60.576
47.05	1.987	62.05	5.484	76.05	4.141	94.05	10.856	177.00	4.309
49.15	4.729	63.05	3.637	78.95	4.309				

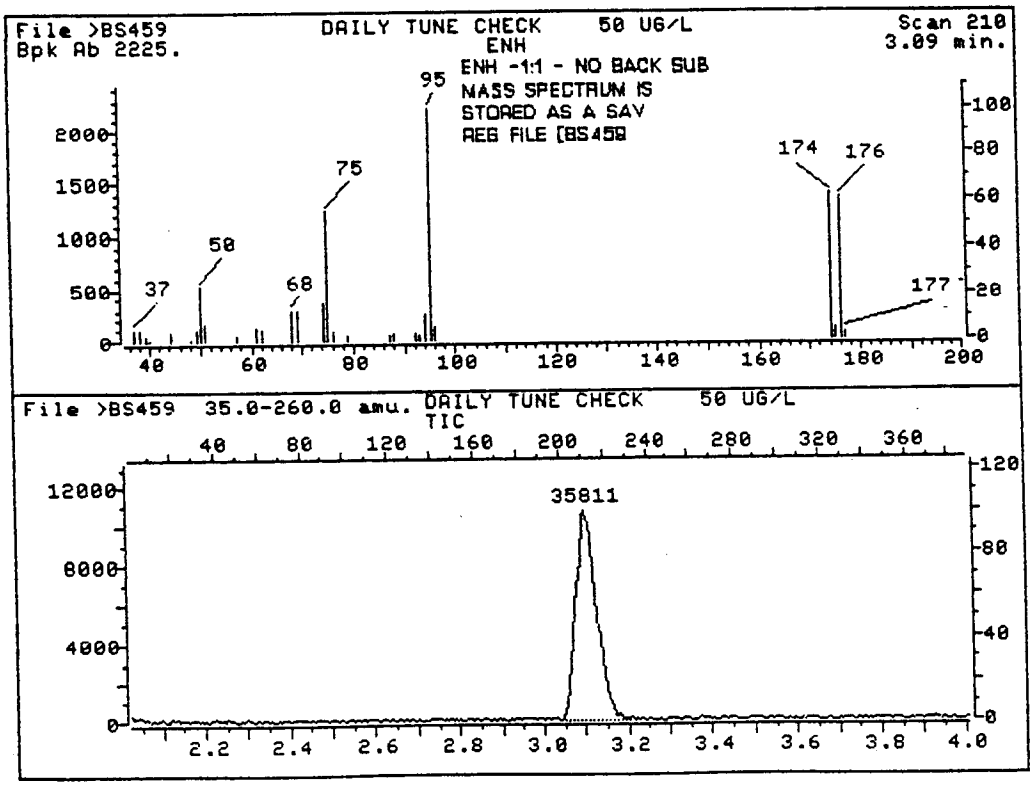
Instrument ID: VOA2 Analyzed on: 3/12/93 7:53

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

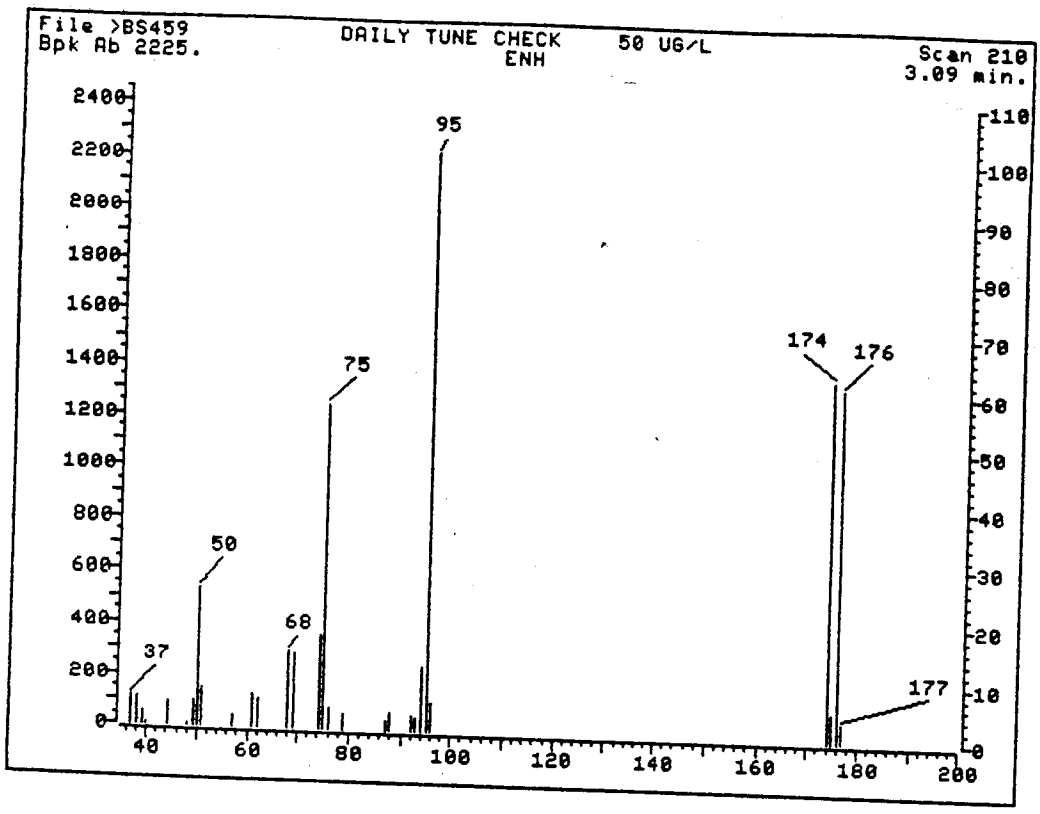
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	23.93	23.93	Ok
75	30-60% of mass 95	55.84	55.84	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	5.27	5.27	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	62.36	62.36	Ok
175	5-9% of mass 174	5.05	8.10	Ok
176	95-101% of mass 174	60.86	97.60	Ok
177	5-9% of mass 176	3.34	5.49	Ok

Injection Date: 03/12/93
Injection Time: 17:54
Data File: >BS459
Scan: 210



Instrument ID: VOA2 Analyzed on: 3/12/93 17:54

014273



Instrument ID: VOA2 Analyzed on: 3/12/93 17:54

014274

>BS459 DAILY TUNE CHECK 50 UG/L
210 NRM ENH

File: >BS459 Scan #: 210 Retn. time: 3.09

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.00	5.139	49.15	4.600	68.05	13.515	86.95	1.933	96.05	5.274
38.10	4.930	50.15	23.929	69.15	13.215	87.95	3.102	174.00	62.361
39.20	2.547	51.05	6.937	74.05	16.362	91.95	2.892	175.00	5.049
39.90	.584	57.05	2.023	75.05	55.844	92.95	2.337	176.00	60.863
44.05	3.986	61.05	5.664	76.05	3.746	94.05	11.238	176.90	3.341
48.15	.494	62.15	5.229	79.05	2.712	95.05	100.000		

Instrument ID: VOA2 Analyzed on: 3/12/93 17:54

014275

30

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name:New CLP Forms Contract:8270

Lab Code: HP002 Case No.: AD-76 SAS No.: 3/7/93 SDG No.: 3/12/93

Matrix Spike - EPA Sample No.: 93-2530-2

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
Phenol	200.00	0.00	200.00	100		12-110
2-Chlorophenol	200.00	0.00	180.00	90		27-123
1,4-Dichlorobenzene	100.00	0.00	88.00	88		36- 97
N-Nitroso-di-n-prop.(1)	100.00	18.00	86.00	68		41-116
1,2,4-Trichlorobenzene	100.00	0.00	97.00	97		39- 98
4-Chloro-3-methylphenol	200.00	0.00	210.00	100	*	23- 97
Acenaphthene	100.00	0.00	110.00	110		46-118
4-Nitrophenol	200.00	0.00	190.00	97	*	10- 80
2,4-Dinitrotoluene	100.00	0.00	87.00	87		24- 96
Pentachlorophenol	200.00	0.00	200.00	100		9-103
Pyrene	100.00	0.00	120.00	120		26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
Phenol	200.00	190.00	97		3		42	12-110
2-Chlorophenol	200.00	190.00	93		3		40	27-123
1,4-Dichlorobenzene	100.00	91.00	91		3		28	36- 97
N-Nitroso-di-n-prop.(1)	100.00	78.00	60		12		38	41-116
1,2,4-Trichlorobenzene	100.00	95.00	95		2		28	39- 98
4-Chloro-3-methylphenol	200.00	200.00	98	*	2		42	23- 97
Acenaphthene	100.00	110.00	110		0		31	46-118
4-Nitrophenol	200.00	200.00	100	*	3		50	10- 80
2,4-Dinitrotoluene	100.00	90.00	90		3		38	24- 96
Pentachlorophenol	200.00	200.00	98		2		50	9-103
Pyrene	100.00	120.00	120		0		31	26-127

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

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

RPD: 0 out of 11 outside limits
Spike Recovery: 4 out of 22 outside limits

COMMENTS: SW-846 EPA METHOD 8270

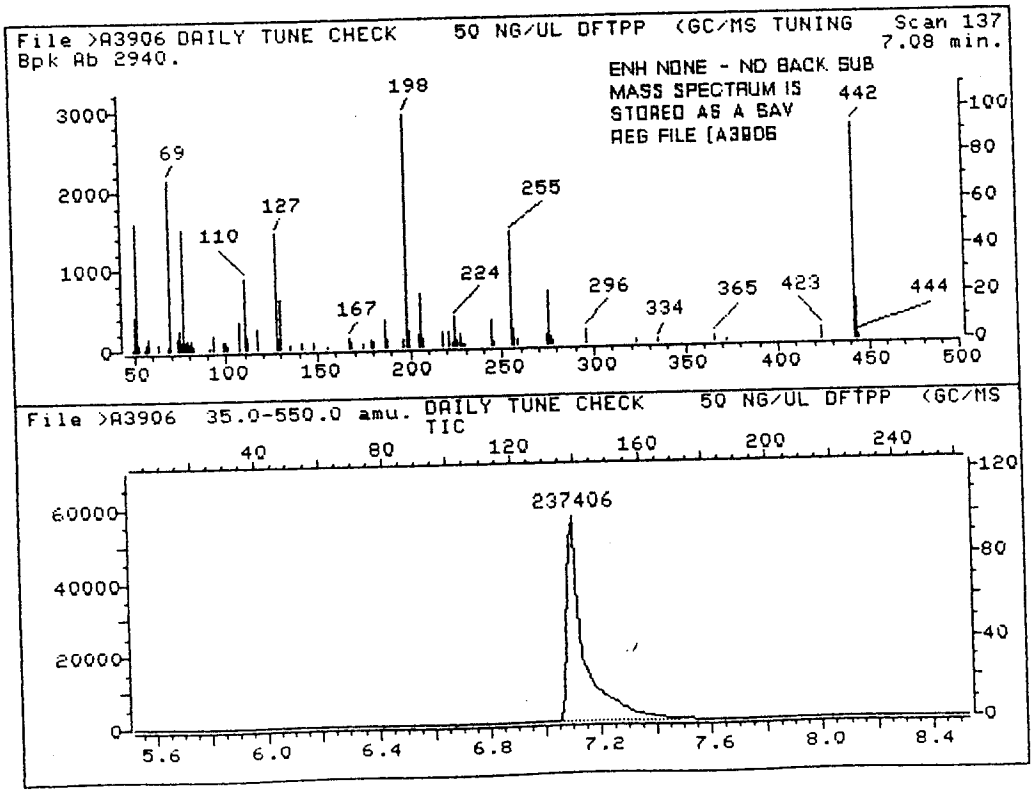
014276

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

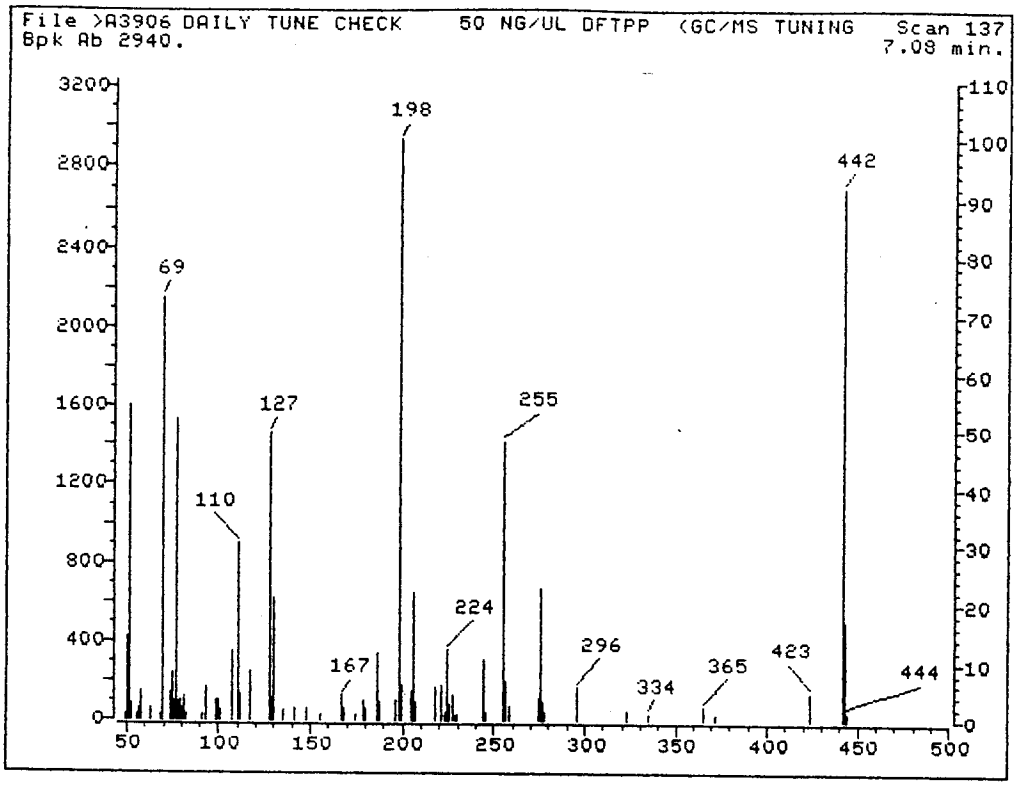
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	54.46	54.46	Ok
68	Less than 2% of mass 69	1.26	1.72	Ok
69	(reference only)	73.10	73.10	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	49.69	49.69	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.26	6.26	Ok
275	10-30% of mass 198	22.76	22.76	Ok
365	Greater than 1% of mass 198	2.45	2.45	Ok
441	0-100% of mass 443	13.50	79.88	Ok
442	Greater than 40% of mass 198	92.14	92.14	Ok
443	17-23% of mass 442	16.90	18.35	Ok

Injection Date: 03/08/93
Injection Time: 11:59
Data File: >A3906
Scan: 137



Instrument ID: ABN1 Analyzed on: 3/08/93 11:59

014277



Instrument ID: ABN1 Analyzed on: 3/08/93 11:59

>A3906 DAILY TUNE CHECK 50 NG/UL DFTPP (GC/MS TUNING STD.)
137 NRM

File: >A3906 Scan #: 137 Retn. time: 7.08

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
39.10	5.204	78.15	3.197	129.10	21.190	204.10	2.857	258.00	2.619
44.00	3.469	79.05	3.605	130.00	1.905	205.10	5.170	274.10	3.741
49.00	1.054	80.05	2.109	135.10	1.633	206.10	22.143	275.10	22.755
50.10	14.184	81.05	4.082	141.05	2.109	207.20	3.163	276.10	3.095
51.10	54.456	82.05	1.190	148.05	2.279	217.05	5.986	277.10	1.497
52.10	2.721	91.05	1.054	155.05	.986	221.05	6.020	296.05	5.714
55.10	.952	93.05	5.918	167.15	4.320	223.05	1.497	323.15	1.803
56.10	2.211	98.00	3.469	168.05	2.075	224.15	12.177	334.10	1.224
57.10	5.034	99.00	3.401	175.00	1.259	225.05	2.653	365.10	2.449
63.05	2.211	101.00	1.871	179.00	3.469	227.05	4.422	372.15	1.054
68.05	1.259	107.10	11.871	180.10	2.177	228.05	.714	423.10	4.864
69.05	73.095	110.10	30.374	186.10	11.701	229.05	.986	441.20	13.503
74.05	4.830	111.10	4.456	187.10	3.027	244.15	10.476	442.20	92.143
75.05	8.061	117.10	8.537	196.10	3.503	245.15	1.463	443.20	16.905
76.15	3.163	127.10	49.694	198.10	100.000	255.10	48.231	444.15	1.565
77.05	51.973	128.10	3.707	199.10	6.259	256.10	6.871		

Instrument ID: ABN1 Analyzed on: 3/08/93 11:59

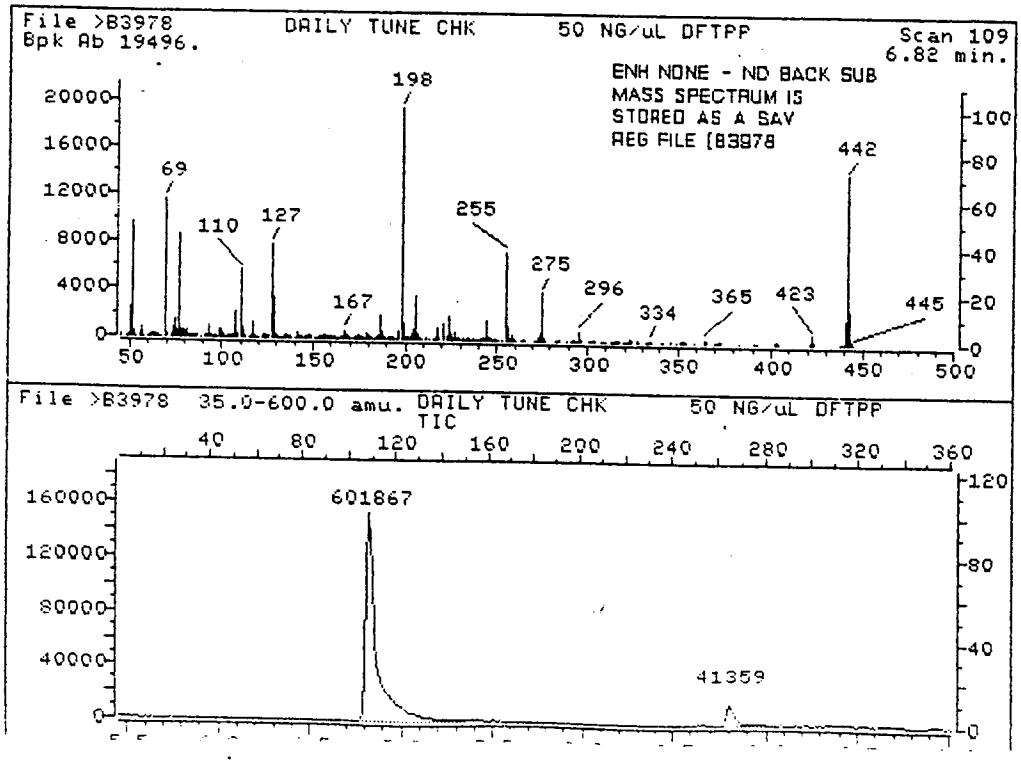
014279

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

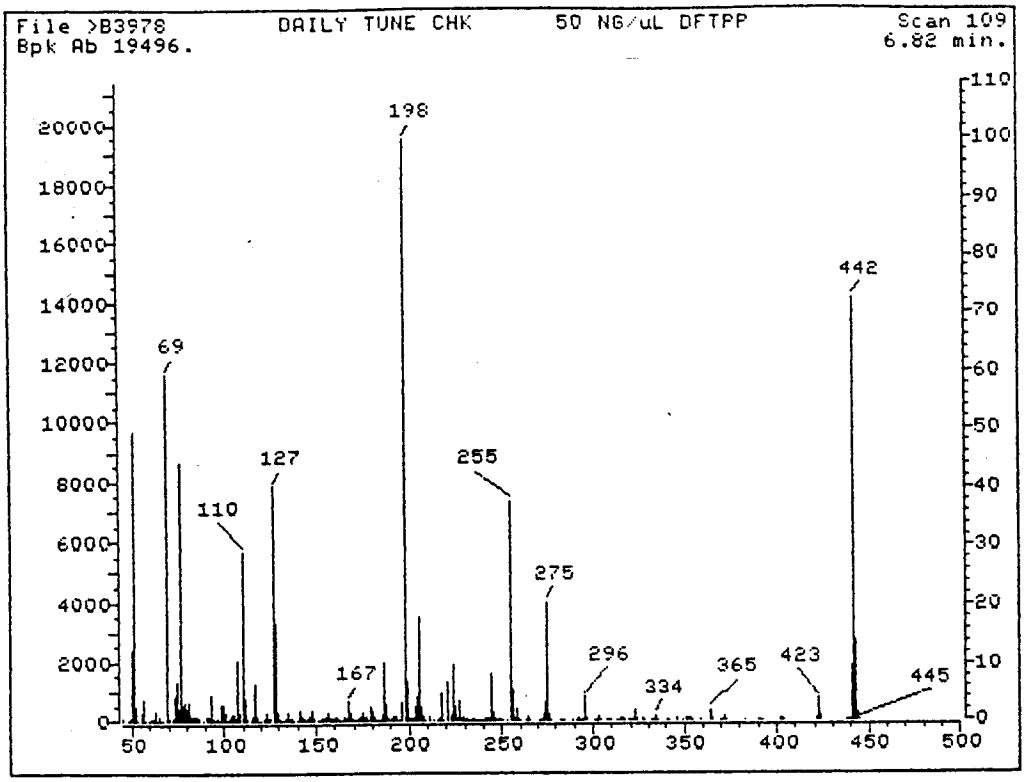
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	49.67	49.67	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	59.52	59.52	Ok
70	Less than 2% of mass 69	.27	.46	Ok
127	40-60% of mass 198	40.23	40.23	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.81	6.81	Ok
275	10-30% of mass 198	20.40	20.40	Ok
365	Greater than 1% of mass 198	1.86	1.86	Ok
441	0-100% of mass 443	9.56	68.80	Ok
442	Greater than 40% of mass 198	72.45	72.45	Ok
443	17-23% of mass 442	13.89	19.17	Ok

Injection Date: 03/12/93
Injection Time: 11:36
Data File: >B3978
Scan: 109



Instrument ID: ABN2 Analyzed on: 3/12/93 11:36

014280



Instrument ID: ABN2 Analyzed on: 3/12/93 11:36

014281

>B3978 DAILY TUNE CHK 50 NG/uL DFTPP
109 NRM

File: >B3978 Scan #: 109 Retn. time: 6.82

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
35.90	.082	102.95	.580	165.00	.646	227.90	.554	303.95	.118
36.90	.231	103.95	1.031	165.90	.467	228.90	.800	307.95	.072
38.10	.713	104.95	1.041	167.00	3.437	229.90	.113	308.85	.036
39.10	5.232	105.95	.354	168.00	1.570	230.90	.318	309.85	.041
40.10	.241	106.95	10.710	169.00	.308	231.80	.077	312.55	.051
41.10	.282	108.05	1.600	170.00	.113	233.00	.041	312.85	.051
42.00	.092	110.05	29.093	171.00	.138	234.00	.246	313.95	.190
43.10	.441	111.05	3.703	172.00	.297	234.90	.328	314.85	.467
44.00	.564	112.05	.477	173.00	.405	235.90	.174	315.95	.287
45.00	.272	114.65	.051	174.00	.744	237.00	.236	316.85	.056
48.00	.056	116.05	.626	174.95	1.272	237.80	.041	319.85	.036
49.00	.513	116.95	6.601	176.05	.477	239.00	.138	320.85	.159
50.10	12.310	117.95	.657	176.95	.698	239.80	.154	322.05	.097
51.10	49.672	118.85	.077	177.75	.195	241.00	.308	322.90	1.652
52.10	2.288	120.05	.097	178.95	2.452	241.90	.539	323.90	.333
53.10	.174	122.05	.544	179.95	1.636	243.00	.487	326.80	.256
55.10	.462	122.95	1.272	180.85	.816	243.90	8.268	327.90	.128
56.00	1.503	123.85	.410	181.75	.164	244.90	1.164	331.90	.087
57.00	3.867	125.00	.533	182.85	.092	245.90	1.334	333.00	.118
58.10	.200	127.00	40.234	184.05	.231	246.90	.308	333.90	.790
60.00	.128	128.00	3.016	184.95	1.195	247.80	.087	334.90	.236
61.10	.580	128.90	17.075	185.95	10.279	248.90	.364	336.00	.056
62.00	.554	129.90	1.452	186.95	2.924	249.80	.087	340.90	.164
63.10	1.667	130.80	.256	187.95	.256	250.80	.082	341.70	.067
64.00	.251	132.00	.128	188.95	.513	252.90	.180	345.80	.297
65.10	.892	132.90	.144	189.95	.108	254.90	37.654	349.80	.036
66.00	.072	134.00	.472	191.05	.318	255.90	5.447	352.00	.492
67.10	.097	135.00	1.323	191.85	.780	256.90	.415	352.90	.277
69.00	59.520	136.00	.585	192.95	.810	257.90	1.959	353.90	.533
70.10	.272	137.00	.585	193.95	.169	259.00	.256	355.00	.149
73.10	.364	137.70	.092	194.95	.185	259.90	.036	358.90	.056
74.00	4.026	138.00	.097	195.95	3.006	260.80	.072	364.90	1.857
75.05	6.971	138.20	.103	197.95	100.000	263.80	.072	365.90	.318
76.05	2.041	139.90	.200	198.85	6.812	264.90	.728	369.80	.077
77.05	44.250	141.00	1.908	199.95	.492	265.90	.144	370.90	.138
78.05	2.734	142.00	.687	201.25	.528	270.70	.087	372.00	.892
78.95	3.206	143.00	.385	201.45	.528	272.00	.128	372.95	.251
79.95	2.226	144.00	.113	202.85	.349	272.90	1.216	382.85	.205
80.95	3.252	145.90	.313	203.95	2.375	273.95	3.196	389.85	.128
81.95	.851	147.00	.923	204.95	4.196	274.95	20.404	390.95	.092
83.05	.677	147.90	1.770	205.95	18.029	275.85	2.765	391.95	.046
83.95	.154	149.00	.441	206.95	2.621	276.85	1.211	401.85	.369
84.95	.616	151.10	.200	207.95	.595	277.85	.200	402.95	.431
85.95	.821	151.30	.195	208.95	.164	282.95	.164	403.95	.118
86.95	.354	151.60	.190	211.05	.769	283.65	.092	420.95	.528
88.95	.164	153.00	.549	212.95	.077	284.95	.246	421.95	.467
90.95	.759	154.00	.539	214.85	.144	288.85	.067	422.80	3.765
91.95	.631	155.00	.887	215.95	.333	291.95	.087	423.80	.754
92.95	4.534	156.00	1.339	216.95	4.652	292.85	.292	437.40	.031
93.95	.405	157.00	.359	217.95	.549	293.65	.046	437.60	.031
95.15	.138	158.00	.364	218.95	.113	294.95	.123	438.90	.026
95.95	.267	159.00	.287	220.85	.suppressed				

97.85	2.926	160.90	.928	223.80	9.817	300.75	.072	441.90	72.445
98.95	2.780	161.90	.292	224.90	2.472	302.05	.082	442.90	13.890
100.05	.318	163.10	.067	225.90	.267	302.95	.621	443.90	1.328
101.05	1.452	164.10	.138	226.90	3.421	303.75	.113	445.00	.077
101.85	.087								

014282

Instrument ID: ABN2 Analyzed on: 3/12/93 11:36

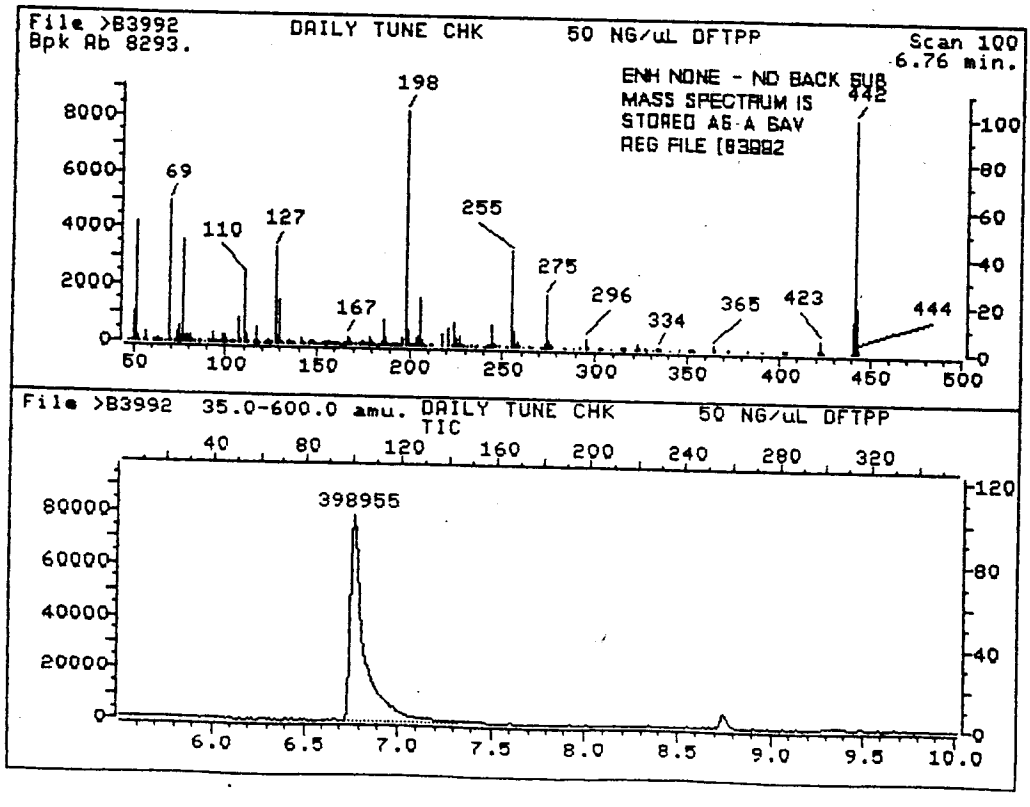
014283

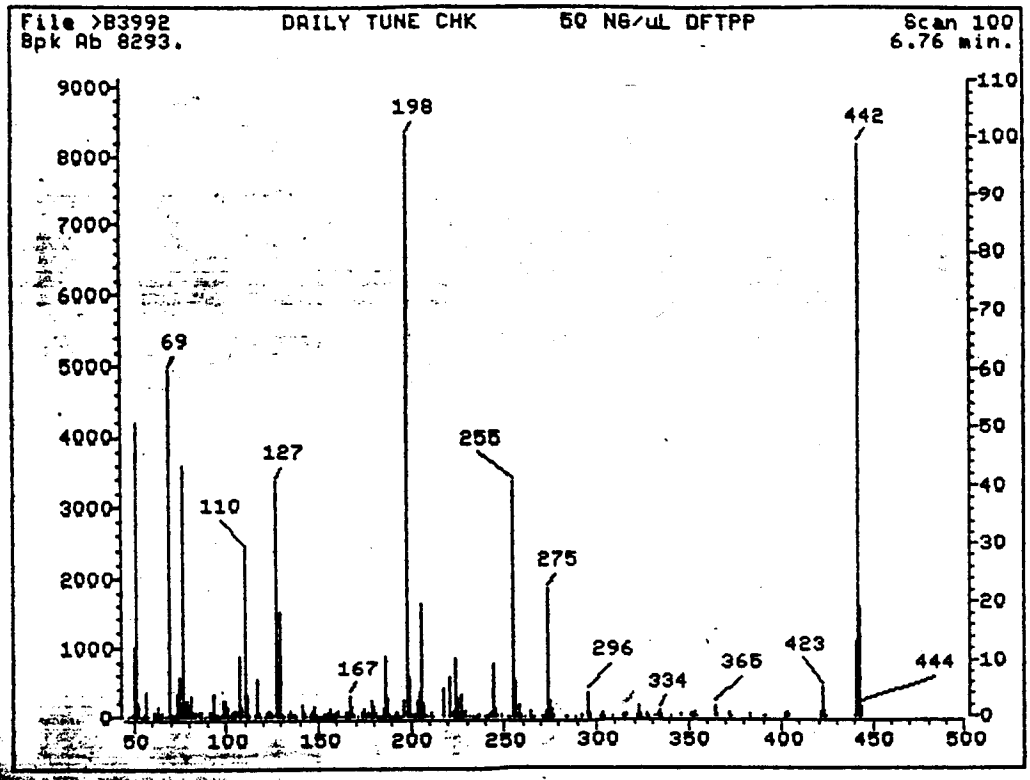
GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	50.65	50.65	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	59.45	59.45	Ok
70	Less than 2% of mass 69	.28	.47	Ok
127	40-60% of mass 198	40.62	40.62	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.91	6.91	Ok
275	10-30% of mass 198	22.39	22.39	Ok
365	Greater than 1% of mass 198	1.92	1.92	Ok
441	0-100% of mass 443	12.85	67.64	Ok
442	Greater than 40% of mass 198	98.87	98.87	Ok
443	17-23% of mass 442	19.00	19.22	Ok

Injection Date: 03/13/93
Injection Time: 11:25
Data File: >B3992
Scan: 100





Instrument ID: ABN2 Analyzed on: 3/13/93 11:25

014285

>B3992 DAILY TUNE CHK 50 NG/uL DFTPP
100 NRM

File: >B3992 Scan #: 100 Retn. time: 6.76

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
38.10	.928	100.95	1.700	157.90	.374	206.95	2.605	284.85	.217
39.10	4.534	103.05	.639	159.00	.314	208.05	.531	288.85	.072
40.00	.519	103.85	.965	159.90	.663	208.95	.157	292.95	.398
41.10	.434	104.95	.977	160.90	.989	210.95	.736	295.85	4.281
43.00	.326	106.95	10.394	161.70	.217	211.75	.229	296.85	.687
44.00	1.724	108.05	1.869	162.00	.229	216.95	4.679	302.05	.096
46.90	.157	109.95	29.024	163.10	.133	217.95	.724	302.85	.639
49.10	.434	111.05	3.666	163.90	.169	220.95	6.994	303.95	.217
50.10	12.010	111.95	.398	165.00	.603	222.95	.977	309.15	.072
51.10	50.645	115.85	.470	166.00	.699	223.90	10.129	313.75	.241
52.10	2.580	116.05	.482	167.00	3.497	224.90	3.147	314.85	.506
53.80	.060	117.05	6.656	167.90	1.917	225.90	.374	315.95	.362
55.00	.326	117.95	.724	169.00	.301	226.90	3.654	321.95	.109
56.10	1.797	119.15	.096	171.00	.229	227.90	.675	323.00	1.893
57.00	4.076	120.85	.096	173.00	.398	228.90	.965	323.90	.374
58.10	.145	122.05	.615	173.90	.832	229.80	.121	326.90	.289
61.10	.687	122.95	1.061	174.95	1.495	231.90	.096	327.80	.181
62.00	.567	123.95	.639	175.95	.567	234.00	.241	331.70	.121
63.00	1.712	125.00	.494	176.95	.856	235.60	.169	332.90	.277
64.10	.277	125.70	.157	177.95	.265	236.90	.338	333.90	1.025
65.10	.892	127.00	40.625	178.95	2.858	240.00	.109	335.00	.350
67.10	.109	128.00	3.195	179.85	1.712	240.60	.145	340.90	.217
69.00	59.448	129.00	18.305	180.95	.736	241.90	.555	345.90	.277
70.20	.277	130.00	1.447	181.95	.193	242.90	.627	351.90	.555
73.00	.277	131.00	.289	182.35	.133	243.90	9.249	352.90	.289
74.10	3.798	131.80	.084	182.65	.181	245.00	1.266	353.90	.627
74.95	6.789	132.10	.145	183.75	.169	245.90	1.278	354.90	.133
76.05	2.279	133.90	.555	184.95	1.399	246.90	.289	364.80	1.917
77.05	43.446	135.00	1.061	185.95	10.455	248.90	.314	365.80	.314
78.05	2.713	136.00	.446	186.95	3.087	251.90	.084	371.90	.820
78.95	2.858	137.20	.506	188.05	.241	252.90	.193	372.65	.253
79.95	2.074	137.90	.169	188.95	.543	254.90	40.516	372.85	.253
80.95	3.316	140.90	1.978	189.65	.084	255.90	6.198	382.75	.277
81.95	.711	141.90	.736	189.85	.084	256.80	.494	389.85	.193
83.05	.736	142.90	.519	190.85	.241	257.90	2.267	390.85	.072
85.05	.615	143.90	.157	191.85	.687	258.80	.362	391.75	.109
86.05	.880	146.00	.362	192.95	.844	261.00	.096	401.85	.289
87.05	.289	146.90	1.158	193.95	.253	264.90	1.049	402.95	.711
88.95	.072	148.00	1.628	194.95	.109	265.90	.133	403.85	.265
90.95	.724	148.90	.398	195.15	.109	267.00	.072	420.95	.687
92.05	.784	150.00	.157	195.95	2.870	270.90	.072	421.85	.567
92.95	3.895	150.40	.084	197.95	100.000	272.00	.145	422.80	5.028
93.85	.277	151.00	.205	198.95	6.909	272.90	1.194	423.80	1.037
94.85	.265	151.50	.193	199.95	.362	273.85	3.714	424.70	.109
95.95	.217	152.90	.579	201.45	.434	274.85	22.392	439.10	.084
96.85	.350	153.90	.482	202.85	.543	275.85	2.906	440.80	12.854
97.95	2.954	155.00	.844	203.95	2.882	276.85	1.399	441.80	98.867
99.05	2.785	156.00	1.531	204.95	4.257	277.85	.289	442.90	19.004
99.95	.350	157.10	.314	205.95	19.776	283.85	.109	443.80	1.857

Instrument ID: ABN2 Analyzed on: 3/13/93 11:25

NDRC LABORATORIES, INC. № 24016

Dallas - 1089 East Collins Blvd. • Richardson, Texas 75081 • (214) 238-5591 • Fax (214) 238-5592

014286

SAMPLE PRESERVATION INFORMATION SHEET

Field Sampling ☐ Incoming Samples ☐

GENERAL

2587

Company: Frasco Job No: ~~2587~~ 2587-1-6

No. of Cooler(s): 1 Temperature of Cooler(s): 4°C

PRESERVATION INFORMATION

Sample No.	Temperature of Sample	Sample Container	Volume	Preservation used *	Initial pH	Final pH	Bottles generated	Comments
2587-1		1HG	1L	8	6.8	6.8	1	NP
1		1	1	1	1	1	1	1
1		1	1	1	1	1	1	1
1		1	1	2	<2	<2	1	NO_2-NO_3
1		1	1	3	1	1	1	Metals
								already preserved

PRESERVATION USED *

1 - Cool to 4° C
2 - H_2SO_4 to pH < 2
3 - HNO_3 to pH < 2
4 - HCL to pH < 2
5 - NaOH to pH > 12
6 - $Na_2S_2O_2$ 0.008%
7 - 2 mL Zinc Acetate and NaOH to pH > 12
8 - None required

NIK/KICH
Preserved by

2/5/92
Date/Time

014287

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-1
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-1
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	81.4 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

NDRC LABORATORIES, INC.

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-1
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 10-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

014299

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-1
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Heptachlor Epoxide	55.6	µg/Kg	<	55.6	µg/Kg
Methoxychlor	118	µg/Kg	<	118	µg/Kg
Toxaphene	161	µg/Kg	<	161	µg/Kg
Aroclor-1016	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1221	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1232	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1242	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1248	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1254	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1260	6.0	µg/Kg	<	6.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Decachlorobiphenyl (SS)	6.7	µg/Kg	83.3	%
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7	µg/Kg	91.2	%

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

NDRC LABORATORIES, INC.

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

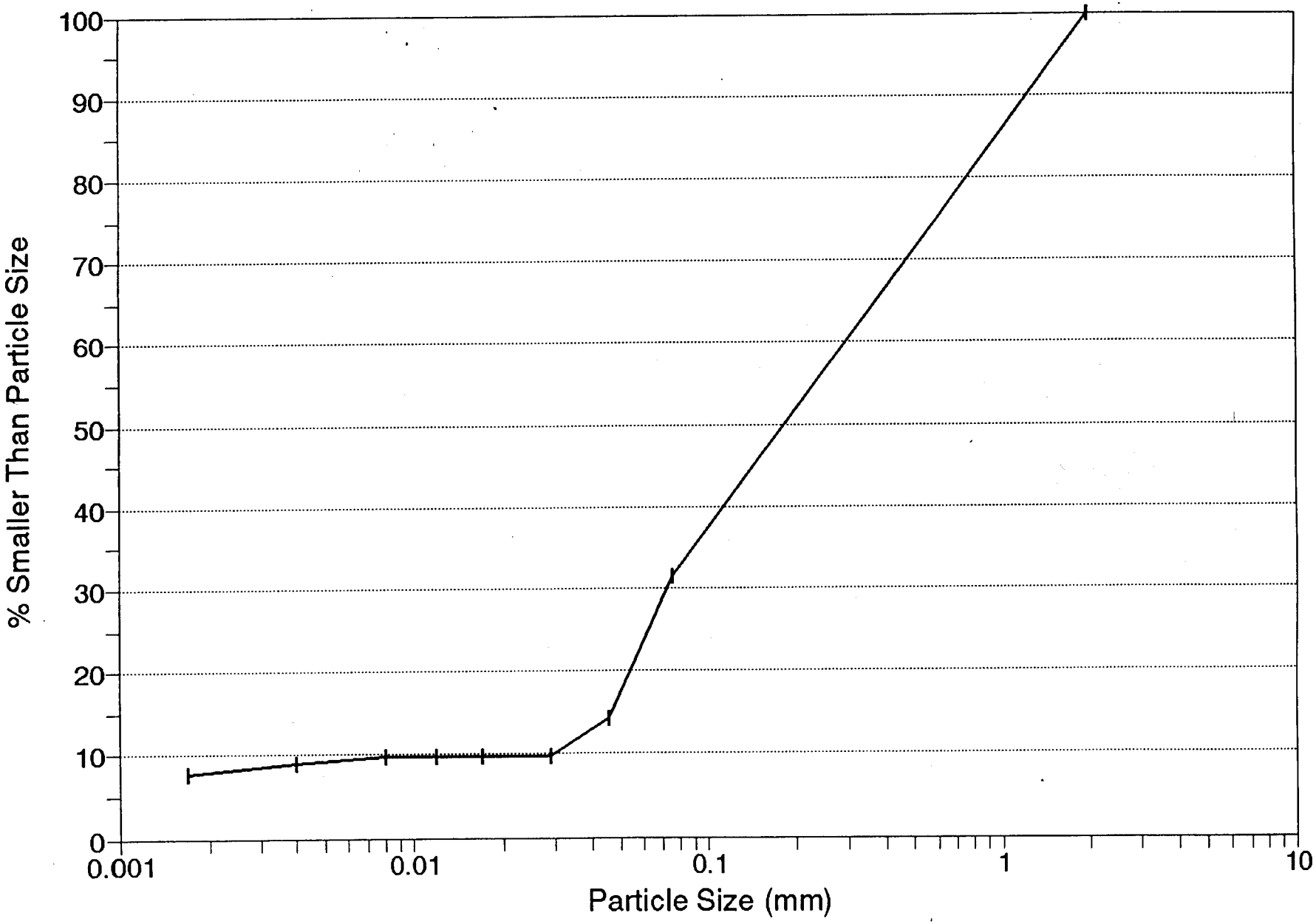
REPORT NUMBER : D93-2590-1
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

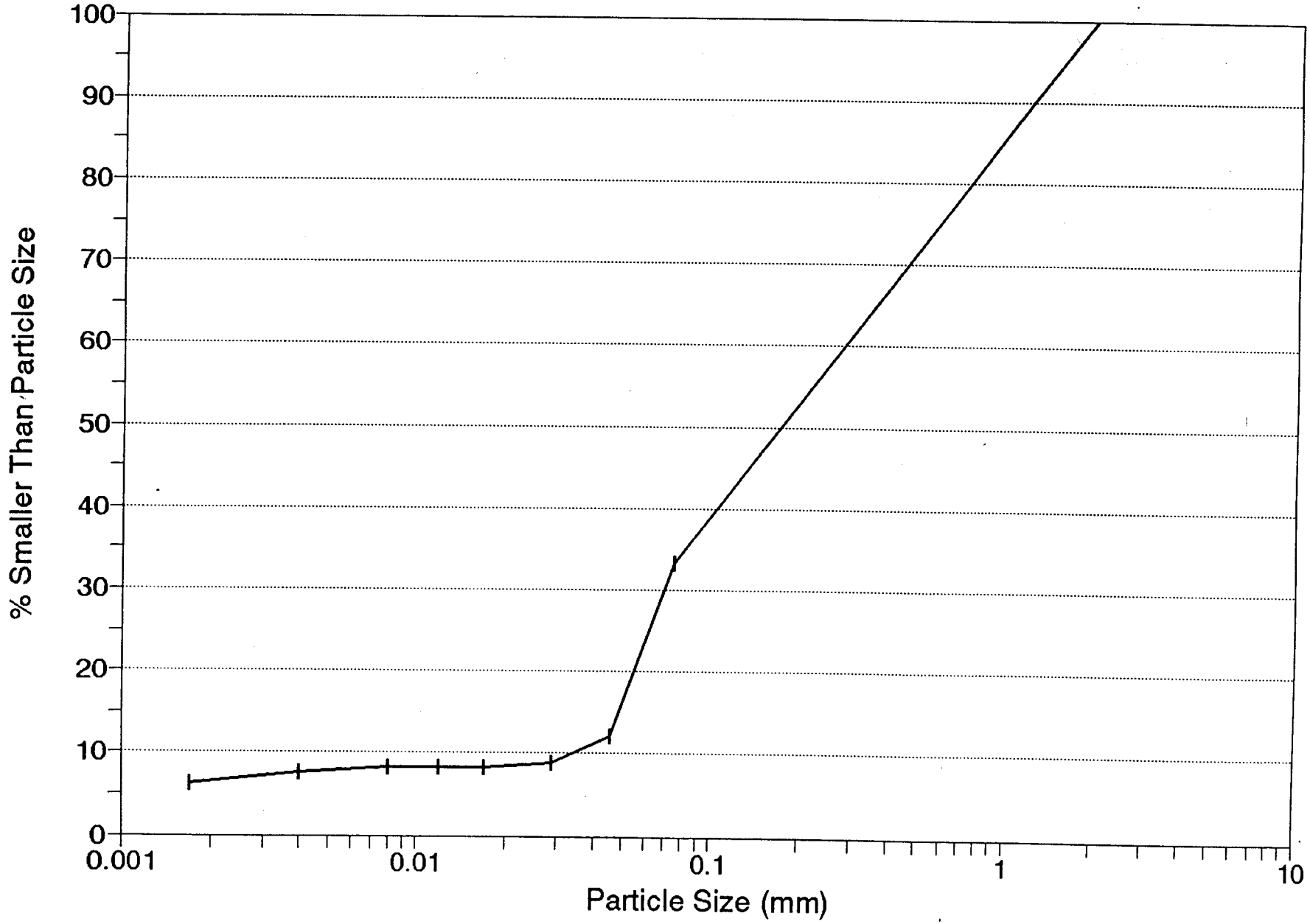
CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Aldrin	2.7	µg/Kg	<	2.7	µg/Kg
Alpha-BHC	2.0	µg/Kg	<	2.0	µg/Kg
Beta-BHC	4.0	µg/Kg	<	4.0	µg/Kg
Delta-BHC	6.0	µg/Kg	<	6.0	µg/Kg
Gamma-BHC(Lindane)	2.7	µg/Kg	<	2.7	µg/Kg
Chlordane	9.4	µg/Kg	<	9.4	µg/Kg
4,4'-DDD	7.4	µg/Kg	<	7.4	µg/Kg
4,4'-DDE	2.7	µg/Kg	<	2.7	µg/Kg
4,4'-DDT	8.0	µg/Kg	<	8.0	µg/Kg
Dieldrin	1.3	µg/Kg	<	1.3	µg/Kg
Endosulfan I	9.4	µg/Kg	<	9.4	µg/Kg
Endosulfan II	2.7	µg/Kg	<	2.7	µg/Kg
Endosulfan Sulfate	44.2	µg/Kg	<	44.2	µg/Kg
Endrin	4.0	µg/Kg	<	4.0	µg/Kg
Endrin Aldehyde	15.4	µg/Kg	<	15.4	µg/Kg
Heptachlor	2.0	µg/Kg	<	2.0	µg/Kg

GRADATION
Sample # D93-2590-6



014292

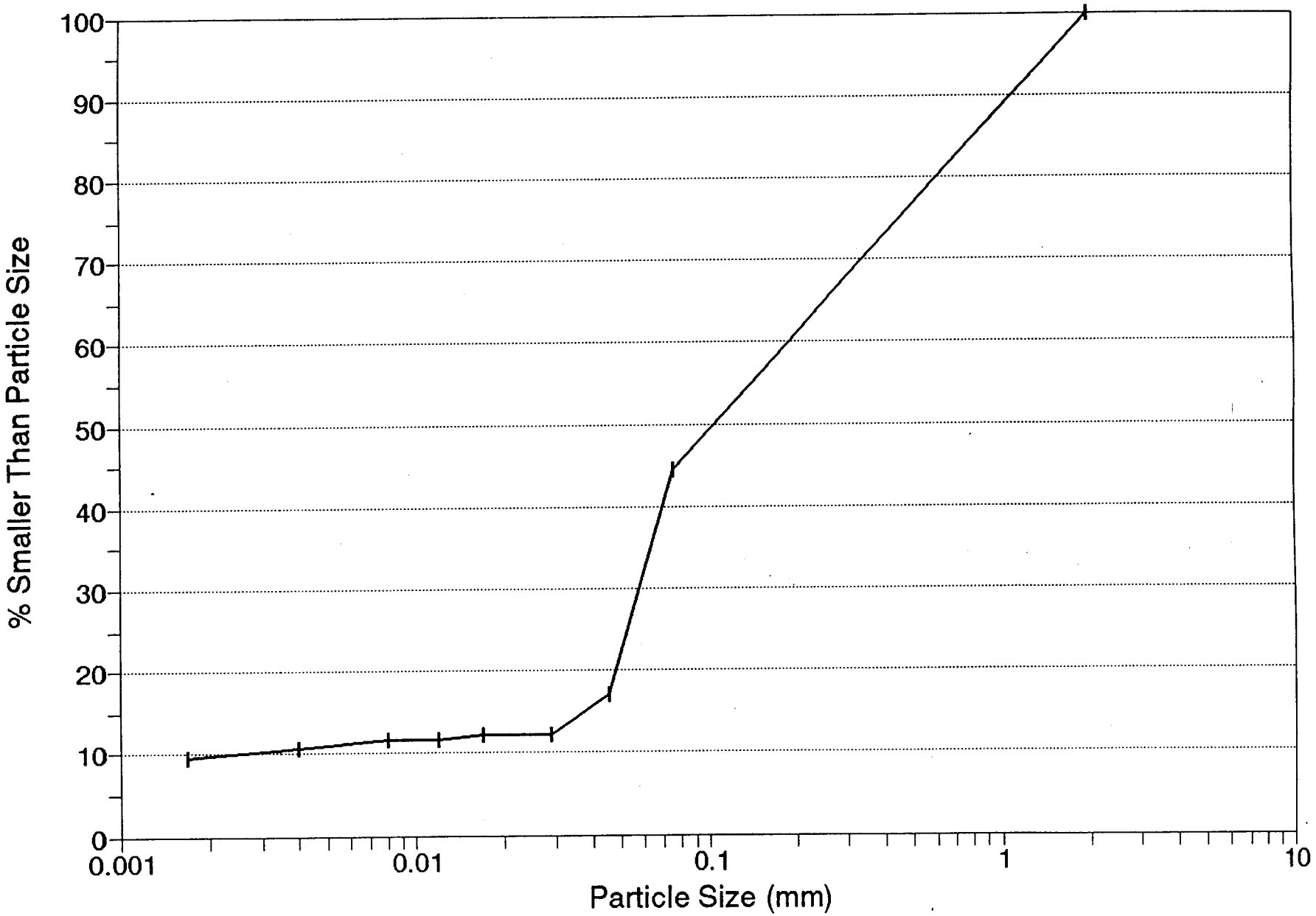
GRADATION
Sample # D93-2590-5



014293

GRADATION

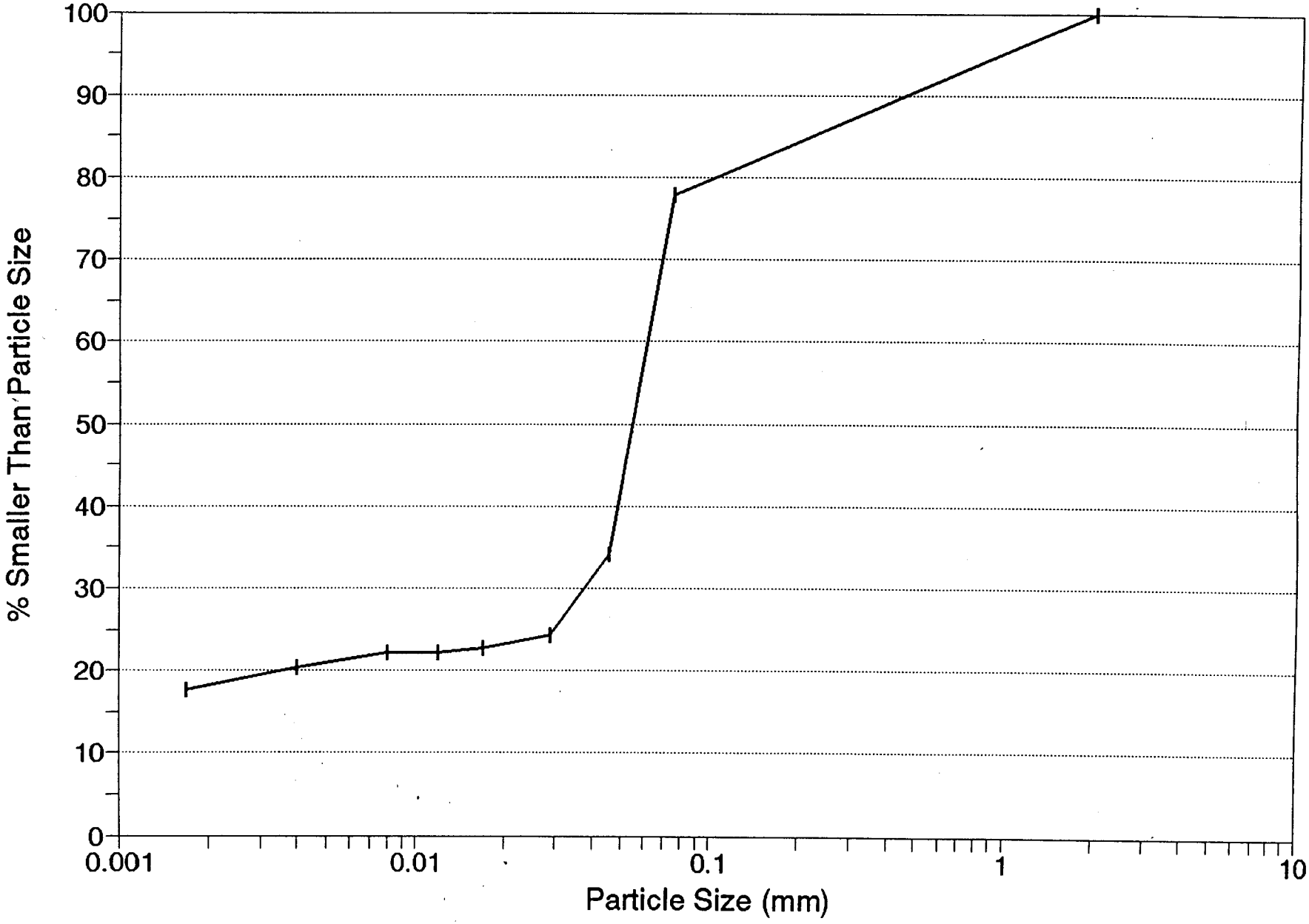
Sample # D93-2590-4



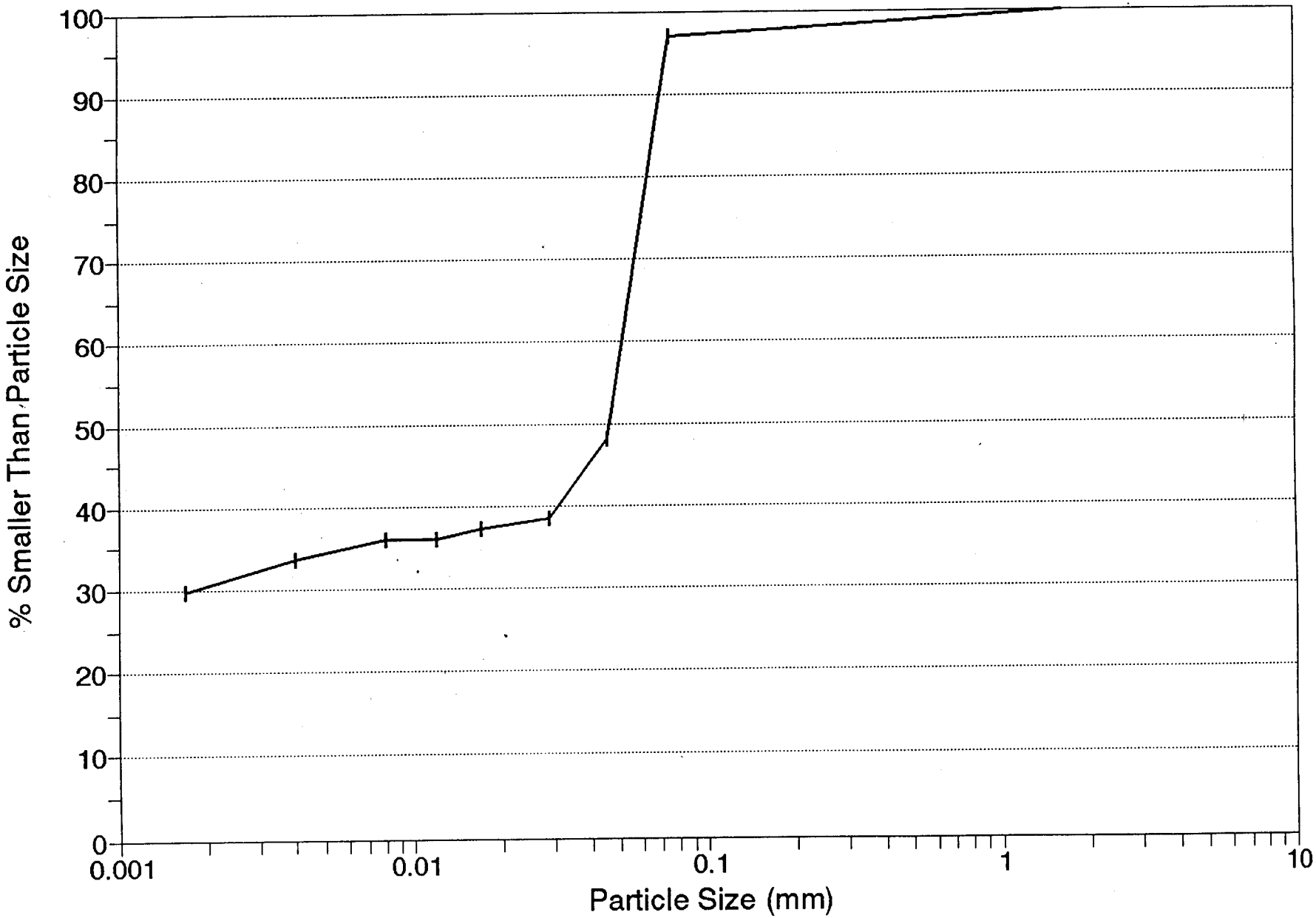
014294

GRADATION

Sample # D93-2590-3



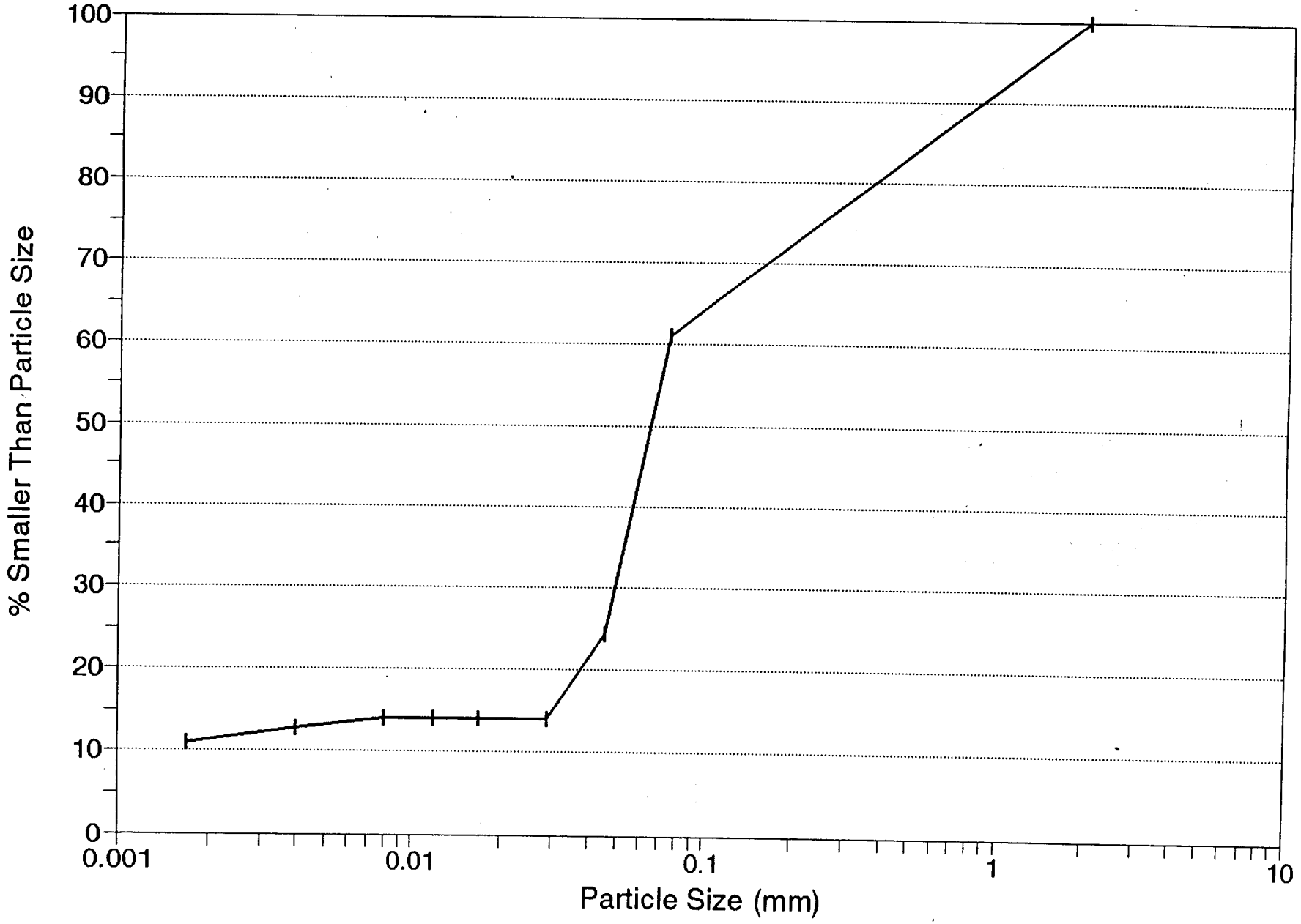
GRADATION
Sample # D93-2590-2



014296

GRADATION

Sample # D93-2590-1



CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

ANALYSIS ID	DESCRIPTION
8080_S	Chlorinated Pesticides/PCBs, Solid Matrix
8150_S	Chlorinated Herbicides, Solid Matix
8240_FL_S	Volatile Organics, Full List, Solid Matrix
8270A_FL_S	Acid Extractables, Full List, Solid Matrix
8270B_FL_S	Base-Neutral Extractables, Full List, Solid
ABN_TIC	Tentatively Identified Compounds - ABN
CHLORIDE_S	Chloride, Solid Matrix, Titration
CONDUCT_S	Conductivity, Solid Matrix
EXPLOS_S	Explosives, Solid Matrix, HPLC Method 8330
GRADATION	Gradation, Method ASTM D421/D422
L_P_LIMIT	Liquid/Plastic Limit ASTM D4318
MOIST_OVEN	Moisture by Drying Oven
M_AG_T_S_I	Silver, Total, Solid, by ICP
M_AS_T_S_F	Arsenic, Total, Solid, By GFAA
M_BA_T_S_I	Barium, Total, Solid, by ICP
M_CD_T_S_I	Cadmium, Total, Solid, by ICP
M_CR_T_S_I	Chromium, Total, Solid, by ICP
M_HG_T_S_V	Mercury, Total, Solid, by GVAA
M_NI_T_S_I	Nickel, Total, Solid, by ICP
M_PB_T_S_F	Lead, Total, Solid, by GFAA
M_SB_T_S_I	Antimony, Total, Solid, by ICP
M_SE_T_S_F	Selenium, Total, Solid, by GFAA
M_TL_T_S_F	Thallium, Total, Solid, by Graphite Furnace
NITR_N_I_S	Nitrate-Nitrite Nitrogen as N, Solid
PH_S	pH Determination by Meter, Solid Matrix
SOLID_TPER	Total Solids by OVEN
SUL_9038_S	Sulfate, Solid Matrix
VOA_TIC	Tentatively Identified Compounds - VOA

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2590-8 DATE SAMPLED : 5-MAR-1993
ID MARKS : MSD 2590-1 (VOA)/2450-11 (ABN)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	8-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	4-MAR-1993	RLP	4-MAR-1993
8240_FL_S			JKA	11-MAR-1993
8270A_FL_S	TLR	4-MAR-1993	MCS	5-MAR-1993
8270B_FL_S	TLR	4-MAR-1993	MCS	5-MAR-1993
EXPLOS_S			JS	11-MAR-1993

SAMPLE ID : D93-2590-9 DATE SAMPLED : 5-MAR-1993
ID MARKS : Method Blank

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	8-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	8-MAR-1993	RLP	10-MAR-1993
8240_FL_S			JKA	11-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	BJC	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	BJC	13-MAR-1993
ABN_TIC			BJC	13-MAR-1993
EXPLOS_S			JS	11-MAR-1993
VOA_TIC			JKA	11-MAR-1993

SAMPLE ID : D93-2590-10 DATE SAMPLED : 5-MAR-1993
ID MARKS : Blank Spike

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	8-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	4-MAR-1993	RLP	4-MAR-1993
EXPLOS_S			JS	11-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2590-6 DATE SAMPLED : 4-MAR-1993
ID MARKS : LH13-SB07 (20-24) QC

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	8-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	8-MAR-1993	SRW	10-MAR-1993
8240_FL_S			JKA	12-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	BJC	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	BJC	13-MAR-1993
ABN_TIC			BJC	13-MAR-1993
CHLORIDE_S			BWB	9-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	11-MAR-1993
GRADATION			NJK	19-MAR-1993
L_P_LIMIT			JRW	28-MAR-1993
MOIST_OVEN			RJS	11-MAR-1993
M_AG_T_S_I	CCM	8-MAR-1993	KJS	9-MAR-1993
M_AS_T_S_F	CCM	8-MAR-1993	MES	21-MAR-1993
M_BA_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_CD_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_CR_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_HG_T_S_V	CCM	8-MAR-1993	AH	9-MAR-1993
M_NI_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_PB_T_S_F	CCM	8-MAR-1993	MES	19-MAR-1993
M_SB_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_SE_T_S_F	CCM	8-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	8-MAR-1993	RKD	19-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			BWB	8-MAR-1993
SOLID_TPER			KOB	11-MAR-1993
SUL_9038_S			MKS	8-MAR-1993
VOA_TIC			JKA	12-MAR-1993

SAMPLE ID : D93-2590-7 DATE SAMPLED : 5-MAR-1993
ID MARKS : MS 2590-1 (VOA)/2450-11 (ABN)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	8-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	4-MAR-1993	RLP	4-MAR-1993
8240_FL_S			JKA	11-MAR-1993
8270A_FL_S	TLR	4-MAR-1993	MCS	5-MAR-1993
8270B_FL_S	TLR	4-MAR-1993	MCS	5-MAR-1993
EXPLOS_S			JS	11-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2590-5 DATE SAMPLED : 4-MAR-1993
ID MARKS : LH13-SB07 (20-24)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	8-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	8-MAR-1993	SRW	10-MAR-1993
8240_FL_S			JKA	12-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	BJC	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	BJC	13-MAR-1993
ABN_TIC			BJC	13-MAR-1993
CHLORIDE_S			BWB	9-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	11-MAR-1993
GRADATION			NJK	19-MAR-1993
L_P_LIMIT			JRW	28-MAR-1993
MOIST_OVEN			RJS	11-MAR-1993
M_AG_T_S_I	CCM	8-MAR-1993	KJS	9-MAR-1993
M_AS_T_S_F	CCM	8-MAR-1993	MES	21-MAR-1993
M_BA_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_CD_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_CR_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_HG_T_S_V	CCM	8-MAR-1993	AH	9-MAR-1993
M_NI_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_PB_T_S_F	CCM	8-MAR-1993	MES	19-MAR-1993
M_SB_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_SE_T_S_F	CCM	8-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	8-MAR-1993	RKD	19-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			BWB	8-MAR-1993
SOLID_TPER			KOB	11-MAR-1993
SUL_9038_S			MKS	8-MAR-1993
VOA_TIC			JKA	12-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2590-4 DATE SAMPLED : 4-MAR-1993
ID MARKS : LH13-SB07 (15-17)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	8-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	8-MAR-1993	SRW	10-MAR-1993
8240_FL_S			JKA	12-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	BJC	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	BJC	13-MAR-1993
ABN_TIC			BJC	13-MAR-1993
CHLORIDE_S			BWB	9-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	11-MAR-1993
GRADATION			NJK	19-MAR-1993
L_P_LIMIT			JRW	28-MAR-1993
MOIST_OVEN			RJS	11-MAR-1993
M_AG_T_S_I	CCM	8-MAR-1993	KJS	9-MAR-1993
M_AS_T_S_F	CCM	8-MAR-1993	MES	21-MAR-1993
M_BA_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_CD_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_CR_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_HG_T_S_V	CCM	8-MAR-1993	AH	9-MAR-1993
M_NI_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_PB_T_S_F	CCM	8-MAR-1993	MES	19-MAR-1993
M_SB_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_SE_T_S_F	CCM	8-MAR-1993	RKD	17-MAR-1993
M_TL_T_S_F	CCM	8-MAR-1993	RKD	19-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			BWB	8-MAR-1993
SOLID_TPER			KOB	11-MAR-1993
SUL_9038_S			MKS	8-MAR-1993
VOA_TIC			JKA	12-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2590-3 DATE SAMPLED : 4-MAR-1993
ID MARKS : LH13-SB07 (10-14)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	8-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	8-MAR-1993	SRW	10-MAR-1993
8240_FL_S			JKA	11-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	BJC	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	BJC	13-MAR-1993
ABN_TIC			BJC	13-MAR-1993
CHLORIDE_S			BWB	9-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	11-MAR-1993
GRADATION			NJK	19-MAR-1993
L_P_LIMIT			JRW	28-MAR-1993
MOIST_OVEN			RJS	11-MAR-1993
M_AG_T_S_I	CCM	8-MAR-1993	KJS	9-MAR-1993
M_AS_T_S_F	CCM	8-MAR-1993	MES	21-MAR-1993
M_BA_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_CD_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_CR_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_HG_T_S_V	CCM	8-MAR-1993	AH	9-MAR-1993
M_NI_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_PB_T_S_F	CCM	8-MAR-1993	MES	19-MAR-1993
M_SB_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_SE_T_S_F	CCM	8-MAR-1993	RKD	17-MAR-1993
M_TL_T_S_F	CCM	8-MAR-1993	RKD	19-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			BWB	8-MAR-1993
SOLID_TPER			KOB	11-MAR-1993
SUL_9038_S			MKS	8-MAR-1993
VOA_TIC			JKA	11-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2590-2 DATE SAMPLED : 4-MAR-1993
ID MARKS : LH13-SB07 (5-7)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	8-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	8-MAR-1993	SRW	10-MAR-1993
8240_FL_S			JKA	11-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	BJC	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	BJC	13-MAR-1993
ABN_TIC			BJC	13-MAR-1993
CHLORIDE_S			BWB	9-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	11-MAR-1993
GRADATION			NJK	19-MAR-1993
L_P_LIMIT			JRW	28-MAR-1993
MOIST_OVEN			RJS	11-MAR-1993
M_AG_T_S_I	CCM	8-MAR-1993	KJS	9-MAR-1993
M_AS_T_S_F	CCM	8-MAR-1993	MES	21-MAR-1993
M_BA_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_CD_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_CR_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_HG_T_S_V	CCM	8-MAR-1993	AH	9-MAR-1993
M_NI_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_PB_T_S_F	CCM	8-MAR-1993	MES	19-MAR-1993
M_SB_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_SE_T_S_F	CCM	8-MAR-1993	RKD	17-MAR-1993
M_TL_T_S_F	CCM	8-MAR-1993	RKD	19-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			BWB	8-MAR-1993
SOLID_TPER			KOB	11-MAR-1993
SUL_9038_S			MKS	8-MAR-1993
VOA_TIC			JKA	11-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

014305

SAMPLE ID : D93-2590-1 DATE SAMPLED : 4-MAR-1993
ID MARKS : LH13-SB07 (0-2)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	8-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	8-MAR-1993	SRW	10-MAR-1993
8240_FL_S			JKA	11-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	BJC	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	BJC	13-MAR-1993
ABN_TIC			BJC	13-MAR-1993
CHLORIDE_S			BWB	9-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	11-MAR-1993
GRADATION			NJK	19-MAR-1993
L_P_LIMIT			JRW	28-MAR-1993
MOIST_OVEN			RJS	11-MAR-1993
M_AG_T_S_I	CCM	8-MAR-1993	KJS	9-MAR-1993
M_AS_T_S_F	CCM	8-MAR-1993	MES	21-MAR-1993
M_BA_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_CD_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_CR_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_HG_T_S_V	CCM	8-MAR-1993	AH	9-MAR-1993
M_NI_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_PB_T_S_F	CCM	8-MAR-1993	MES	19-MAR-1993
M_SB_T_S_I	CCM	8-MAR-1993	KJS	8-MAR-1993
M_SE_T_S_F	CCM	8-MAR-1993	RKD	17-MAR-1993
M_TL_T_S_F	CCM	8-MAR-1993	RKD	19-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			BWB	8-MAR-1993
SOLID_TPER			KOB	11-MAR-1993
SUL_9038_S			MKS	8-MAR-1993
VOA_TIC			JKA	11-MAR-1993

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 5-MAR-1993

REPORT NUMBER: D93-2590
REPORT DATE: 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
Dallas, TX 75201
ATTENTION : Ms. Kay Hawthorne

PROJECT : Longhorn

DATE SAMPLED : 4-MAR-1993

CASE NARRATIVE COMMENTS:

The matrix spike recoveries for Arsenic, Antimony, Lead, Selenium, and Thallium were affected by matrix interferences or high concentrations of the compounds within the samples. The laboratory control samples analyzed with each set of quality control were used to validate the data for the batch.

No further problems were encountered during the sample analysis for this project.

Please refer to the attached Case Narrative Summary for a comparison of sample identifications and analytical requests.

NDRC Laboratories, Inc. Belinda Feuerbacher

Belinda Feuerbacher
Project Manager

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-2
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 19-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	3.0 %
Silt (0.005 to 0.075 mm)	0.1 %	63.4 %
Clay/Colloids (< 0.005 mm)	0.1 %	33.5 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-2
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

NDRC Laboratories, Inc. David R. Godwin

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-2
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	89 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 9-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	211 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	18.0 %
Analyzed using ASTM D2216 on 11-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.68 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		6.1
Analyzed using EPA 9045 on 8-MAR-1993 by BWB		
Total Solids	0.01 %	82.0 %
Analyzed using EPA 160.3 on 11-MAR-1993 by KOB		
Sulfate	20 mg/Kg	220 mg/Kg
Dilution Factor : 20 Analyzed using EPA 9038 on 8-MAR-1993 by MKS		

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-2

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	1.0 mg/Kg	24.9 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Lead	0.5 mg/Kg	8.4 mg/Kg
Dilution Factor : 5 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7421 on 19-MAR-1993 by MES		
Antimony	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Selenium	0.1 mg/Kg	< 0.1 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by RKD		
Thallium	0.2 mg/Kg	0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7841 on 19-MAR-1993 by RKD		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-2
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 9-MAR-1993 by KJS		
Arsenic	1 mg/Kg	3 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by MES		
Barium	1.0 mg/Kg	261 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	17.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	< 0.01 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7471 on 9-MAR-1993 by AH		

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BEAUMONT **DALLAS** **HOUSTON**

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DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-2
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYZED BY : JKA
ANALYZED ON : 11-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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Chief Executive Officer

014313

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-2
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 28-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	21.0 %
Liquid Limit	0.1 %	76.0 %
Plasticity Index	0.1 %	55.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-2
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 330 µg/Kg

NDRC Laboratories, Inc.

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-2
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	330 µg/Kg	339 µg/Kg
Di-n-octylphthalate	330 µg/Kg	< 330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	< 330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	< 330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	< 330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	< 330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	88.2 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	97.8 %
Terphenyl-d14 (SS)	50.0 µg/Kg	101 %

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2590-2
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		1140	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-2
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Bis(2-chloroethyl)ether	330	µg/Kg	< 330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
Benzyl alcohol	650	µg/Kg	< 650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	< 330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	< 330	µg/Kg
Hexachloroethane	330	µg/Kg	< 330	µg/Kg
Nitrobenzene	330	µg/Kg	< 330	µg/Kg
Isophorone	330	µg/Kg	< 330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	< 330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	< 330	µg/Kg
Naphthalene	330	µg/Kg	< 330	µg/Kg
4-Chloroaniline	650	µg/Kg	< 650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	< 330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	< 330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

014318

REPORT NUMBER : D93-2590-2
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	93.2 %
2-Fluorophenol (SS)	100 µg/Kg	94.3 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	108 %

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-2
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-2
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	98.3 %
Toluene-d8 (SS)	50.0 µg/Kg	101 %
Bromofluorobenzene (SS)	50.0 µg/Kg	96.3 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-2
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-2
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	79.4 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-2
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 10-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-2
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	89.6 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	95.8 %

NDRC Laboratories, Inc. David R. Godwin

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-2
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-1
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	< 10 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 9-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	48 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	17.7 %
Analyzed using ASTM D2216 on 11-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.08 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		5.9
Analyzed using EPA 9045 on 8-MAR-1993 by BWB		
Total Solids	0.01 %	82.3 %
Analyzed using EPA 160.3 on 11-MAR-1993 by KOB		
Sulfate	10 mg/Kg	110 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9038 on 8-MAR-1993 by MKS		

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	1.0 mg/Kg	4.4 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Lead	0.5 mg/Kg	8.5 mg/Kg
Dilution Factor : 5 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7421 on 19-MAR-1993 by MES		
Antimony	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Selenium	0.1 mg/Kg	0.4 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by RKD		
Thallium	0.2 mg/Kg	0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7841 on 19-MAR-1993 by RKD		

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-1
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 9-MAR-1993 by KJS		
Arsenic	1 mg/Kg	5 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by MES		
Barium	1.0 mg/Kg	60.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	12.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.03 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7471 on 9-MAR-1993 by AH		

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-1
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYZED BY : JKA
ANALYZED ON : 11-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-1
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 28-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	17.0 %
Liquid Limit	0.1 %	36.0 %
Plasticity Index	0.1 %	19.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-1
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 19-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	38.8 %
Silt (0.005 to 0.075 mm)	0.1 %	48.4 %
Clay/Colloids (< 0.005 mm)	0.1 %	12.8 %

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BEAUMONT **DALLAS** **HOUSTON**

014332

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-1
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-1
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 330 µg/Kg

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-1
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	330 µg/Kg	407 µg/Kg
Di-n-octylphthalate	330 µg/Kg	< 330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	< 330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	< 330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	< 330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	< 330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	89.6 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	88.7 %
Terphenyl-d14 (SS)	50.0 µg/Kg	102 %

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-1
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		971	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-1
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-1
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	82.4 %
2-Fluorophenol (SS)	100 µg/Kg	86.5 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	100 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

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DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-1
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-1
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
1,2-Dichloropropane	5.0	µg/Kg	<	5.0	µg/Kg
cis-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Trichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Chlorodibromomethane	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Benzene	5.0	µg/Kg	<	5.0	µg/Kg
trans-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Bromoform	5.0	µg/Kg	<	5.0	µg/Kg
2-Chloroethylvinyl ether	10.0	µg/Kg	<	10.0	µg/Kg
4-Methyl-2-pentanone	50.0	µg/Kg	<	50.0	µg/Kg
2-Hexanone	50.0	µg/Kg	<	50.0	µg/Kg
Tetrachloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Toluene	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2,2-Tetrachloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Chlorobenzene	5.0	µg/Kg	<	5.0	µg/Kg
Ethylbenzene	5.0	µg/Kg	<	5.0	µg/Kg
Styrene	5.0	µg/Kg	<	5.0	µg/Kg
Xylenes	5.0	µg/Kg	<	5.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
1,2-Dichloroethane-d4 (SS)	50.0	µg/Kg	101	%
Toluene-d8 (SS)	50.0	µg/Kg	102	%
Bromofluorobenzene (SS)	50.0	µg/Kg	101	%

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-8
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2590-1 (VOA)/2450-11 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Aldrin	2.7 µg/Kg		28 µg/Kg
Alpha-BHC	2.0 µg/Kg	<	2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	<	4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	<	6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg		27.1 µg/Kg
Chlordane	9.4 µg/Kg	<	9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	<	7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	<	2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg		45.0 µg/Kg
Dieldrin	1.3 µg/Kg		44.6 µg/Kg
Endosulfan I	9.4 µg/Kg	<	9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	<	2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	<	44.2 µg/Kg
Endrin	4.0 µg/Kg		47.6 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	<	15.4 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-7
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2590-1 (VOA)/2450-11 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	2.91 mg/Kg
2,4-DNT	0.250 mg/Kg	2.68 mg/Kg
2,6-DNT	0.250 mg/Kg	2.58 mg/Kg
HMX	0.500 mg/Kg	3.30 mg/Kg
NB	0.260 mg/Kg	2.74 mg/Kg
2-NT	0.250 mg/Kg	2.48 mg/Kg
3-NT	0.250 mg/Kg	2.30 mg/Kg
4-NT	0.250 mg/Kg	2.33 mg/Kg
RDX	0.500 mg/Kg	3.17 mg/Kg
Tetryl	0.500 mg/Kg	3.15 mg/Kg
1,3,5-TNB	0.250 mg/Kg	2.91 mg/Kg
2,4,6-TNT	0.250 mg/Kg	2.61 mg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-3
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (10-14)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYZED BY : JKA
ANALYZED ON : 11-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-3
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (10-14)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 28-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	17.0 %
Liquid Limit	0.1 %	43.0 %
Plasticity Index	0.1 %	26.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT **DALLAS** **HOUSTON**

014344

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-3
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (10-14)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 19-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	33.1 %
Silt (0.005 to 0.075 mm)	0.1 %	49.9 %
Clay/Colloids (< 0.005 mm)	0.1 %	17.0 %

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-3
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (10-14)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-3
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (10-14)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 330 µg/Kg

NDRC Laboratories, Inc.

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BEAUMONT **DALLAS** **HOUSTON**

ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg		435	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA			
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0	µg/Kg	84.9 %
2-Fluorobiphenyl (SS)	50.0	µg/Kg	96.7 %
Terphenyl-d14 (SS)	50.0	µg/Kg	105 %

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-3
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		1800	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-3
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (10-14)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-3
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	90.4 %
2-Fluorophenol (SS)	100 µg/Kg	90.1 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	108 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-3
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (10-14)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2590-3
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
1,2-Dichloropropane	5.0	µg/Kg	<	5.0	µg/Kg
cis-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Trichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Chlorodibromomethane	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Benzene	5.0	µg/Kg	<	5.0	µg/Kg
trans-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Bromoform	5.0	µg/Kg	<	5.0	µg/Kg
2-Chloroethylvinyl ether	10.0	µg/Kg	<	10.0	µg/Kg
4-Methyl-2-pentanone	50.0	µg/Kg	<	50.0	µg/Kg
2-Hexanone	50.0	µg/Kg	<	50.0	µg/Kg
Tetrachloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Toluene	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2,2-Tetrachloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Chlorobenzene	5.0	µg/Kg	<	5.0	µg/Kg
Ethylbenzene	5.0	µg/Kg	<	5.0	µg/Kg
Styrene	5.0	µg/Kg	<	5.0	µg/Kg
Xylenes	5.0	µg/Kg	<	5.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
1,2-Dichloroethane-d4 (SS)	50.0	µg/Kg	98.2	%
Toluene-d8 (SS)	50.0	µg/Kg	98.8	%
Bromofluorobenzene (SS)	50.0	µg/Kg	98.1	%

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-3
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (10-14)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-3
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	71.1 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-3
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (10-14)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 10-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-3
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	80.9 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	89.2 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-3
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (10-14)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2590-7
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chrysene	330 µg/Kg	< 330 µg/Kg
Bis(2-ethylhexyl)phthalate	330 µg/Kg	< 330 µg/Kg
Di-n-octylphthalate	330 µg/Kg	< 330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	< 330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	< 330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	< 330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	< 330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	91.5 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	88.4 %
Terphenyl-d14 (SS)	50.0 µg/Kg	116 %

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-7
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg		1400	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg		1390	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg	<	330	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg		1870	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-7
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2590-1 (VOA)/2450-11 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 4-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : MCS
ANALYZED ON : 5-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg		1460	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg		1690	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg		1540	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-7
ANALYSIS METHOD : EPA 8270

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	82.3 %
2-Fluorophenol (SS)	100 µg/Kg	79.5 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	84.5 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-7
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2590-1 (VOA)/2450-11 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 4-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : MCS
ANALYZED ON : 5-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg		2990	µg/Kg
2-Chlorophenol	330	µg/Kg		2970	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg		3070	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg		2780	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg		2870	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2590-7
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	47.2 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	51.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	51.7 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	49.7 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	102 %
Toluene-d8 (SS)	50.0 µg/Kg	101 %
Bromofluorobenzene (SS)	50.0 µg/Kg	103 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-7
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2590-1 (VOA)/2450-11 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	54.9 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-7
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	61.9 %

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BEAUMONT DALLAS HOUSTON

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DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-7
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2590-1 (VOA)/2450-11 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 4-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : RLP
ANALYZED ON : 4-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
2,4-D	1.2 µg/Kg	399 µg/Kg
2,4-DB	670 µg/Kg	< 670 µg/Kg
2,4,5-T	0.2 µg/Kg	387 µg/Kg
2,4,5-TP(Silvex)	0.2 µg/Kg	393 µg/Kg
Dalapon	3890 µg/Kg	< 3890 µg/Kg
Dicamba	201 µg/Kg	< 201 µg/Kg
Dichloroprop	469 µg/Kg	< 469 µg/Kg
Dinoseb	67.0 µg/Kg	< 67.0 µg/Kg
MCPA	168000 µg/Kg	< 168000 µg/Kg
MCPP	134000 µg/Kg	< 134000 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-7
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor	2.0 µg/Kg	27.2 µg/Kg
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	75.4 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	84.2 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-7
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2590-1 (VOA)/2450-11 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	29 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	28.9 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	48.7 µg/Kg
Dieldrin	1.3 µg/Kg	48.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	51.6 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-6
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24) QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	89 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 9-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	394 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	22.4 %
Analyzed using ASTM D2216 on 11-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	0.89 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.1
Analyzed using EPA 9045 on 8-MAR-1993 by BWB		
Total Solids	0.01 %	77.6 %
Analyzed using EPA 160.3 on 11-MAR-1993 by KOB		
Sulfate	10 mg/Kg	170 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9038 on 8-MAR-1993 by MKS		

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-6 PAGE 2

TOTAL METALS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Nickel	1.0 mg/Kg		7.9 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS			
Lead	0.5 mg/Kg		4.4 mg/Kg
Dilution Factor : 5 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7421 on 19-MAR-1993 by MES			
Antimony	1.0 mg/Kg	<	1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS			
Selenium	0.1 mg/Kg	<	0.1 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES			
Thallium	0.2 mg/Kg	<	0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7841 on 19-MAR-1993 by RKD			

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-6
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24) QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 9-MAR-1993 by KJS		
Arsenic	1 mg/Kg	3 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by MES		
Barium	1.0 mg/Kg	100 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	4.3 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	< 0.01 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7471 on 9-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2590-4
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	330 µg/Kg	495 µg/Kg
Di-n-octylphthalate	330 µg/Kg	< 330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	< 330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	< 330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	< 330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	< 330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	88.2 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	99.4 %
Terphenyl-d14 (SS)	50.0 µg/Kg	109 %

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-4
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		2470	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-4
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-4
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	94.8 %
2-Fluorophenol (SS)	100 µg/Kg	94.4 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	115 %

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-4
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2590-4
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
1,2-Dichloropropane	5.0	µg/Kg	<	5.0	µg/Kg
cis-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Trichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Chlorodibromomethane	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Benzene	5.0	µg/Kg	<	5.0	µg/Kg
trans-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Bromoform	5.0	µg/Kg	<	5.0	µg/Kg
2-Chloroethylvinyl ether	10.0	µg/Kg	<	10.0	µg/Kg
4-Methyl-2-pentanone	50.0	µg/Kg	<	50.0	µg/Kg
2-Hexanone	50.0	µg/Kg	<	50.0	µg/Kg
Tetrachloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Toluene	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2,2-Tetrachloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Chlorobenzene	5.0	µg/Kg	<	5.0	µg/Kg
Ethylbenzene	5.0	µg/Kg	<	5.0	µg/Kg
Styrene	5.0	µg/Kg	<	5.0	µg/Kg
Xylenes	5.0	µg/Kg	<	5.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
1,2-Dichloroethane-d4 (SS)	50.0	µg/Kg	102	%
Toluene-d8 (SS)	50.0	µg/Kg	97.3	%
Bromofluorobenzene (SS)	50.0	µg/Kg	97.5	%

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-4
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-4
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	81.9 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-4
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 10-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-4
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	81.5 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	93.9 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-4
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Aldrin	2.7	µg/Kg	<	2.7	µg/Kg
Alpha-BHC	2.0	µg/Kg	<	2.0	µg/Kg
Beta-BHC	4.0	µg/Kg	<	4.0	µg/Kg
Delta-BHC	6.0	µg/Kg	<	6.0	µg/Kg
Gamma-BHC(Lindane)	2.7	µg/Kg	<	2.7	µg/Kg
Chlordane	9.4	µg/Kg	<	9.4	µg/Kg
4,4'-DDD	7.4	µg/Kg	<	7.4	µg/Kg
4,4'-DDE	2.7	µg/Kg	<	2.7	µg/Kg
4,4'-DDT	8.0	µg/Kg	<	8.0	µg/Kg
Dieldrin	1.3	µg/Kg	<	1.3	µg/Kg
Endosulfan I	9.4	µg/Kg	<	9.4	µg/Kg
Endosulfan II	2.7	µg/Kg	<	2.7	µg/Kg
Endosulfan Sulfate	44.2	µg/Kg	<	44.2	µg/Kg
Endrin	4.0	µg/Kg	<	4.0	µg/Kg
Endrin Aldehyde	15.4	µg/Kg	<	15.4	µg/Kg
Heptachlor	2.0	µg/Kg	<	2.0	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-3
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (10-14)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	89 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 9-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	244 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	12.0 %
Analyzed using ASTM D2216 on 11-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.06 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		6.8
Analyzed using EPA 9045 on 8-MAR-1993 by BWB		
Total Solids	0.01 %	88.0 %
Analyzed using EPA 160.3 on 11-MAR-1993 by KOB		
Sulfate	20 mg/Kg	180 mg/Kg
Dilution Factor : 20 Analyzed using EPA 9038 on 8-MAR-1993 by MKS		

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-3 PAGE 2

TOTAL METALS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Nickel	1.0	mg/Kg	11.4	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS				
Lead	0.5	mg/Kg	5.8	mg/Kg
Dilution Factor : 5 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7421 on 19-MAR-1993 by MES				
Antimony	1.0	mg/Kg	< 1.0	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS				
Selenium	0.1	mg/Kg	< 0.1	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by RKD				
Thallium	0.2	mg/Kg	< 0.2	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7841 on 19-MAR-1993 by RKD				

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-3
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (10-14)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 9-MAR-1993 by KJS		
Arsenic	1 mg/Kg	3 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by MES		
Barium	1.0 mg/Kg	112 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	11.5 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.04 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7471 on 9-MAR-1993 by AH		

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-9
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		800	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-9
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2590-9
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	91.5 %
2-Fluorophenol (SS)	100 µg/Kg	92.3 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	104 %

NDRC Laboratories, Inc.

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-9
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-9
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	94.4 %
Toluene-d8 (SS)	50.0 µg/Kg	102 %
Bromofluorobenzene (SS)	50.0 µg/Kg	100 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-9
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-9
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	66.1 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-9
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : RLP
ANALYZED ON : 10-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES			
TEST REQUESTED	DETECTION LIMIT		RESULTS
2,4-D	800	µg/Kg	< 800 µg/Kg
2,4-DB	670	µg/Kg	< 670 µg/Kg
2,4,5-T	130	µg/Kg	< 130 µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	< 130 µg/Kg
Dalapon	3890	µg/Kg	< 3890 µg/Kg
Dicamba	200	µg/Kg	< 200 µg/Kg
Dichloroprop	470	µg/Kg	< 470 µg/Kg
Dinoseb	70	µg/Kg	< 70 µg/Kg
MCPA	168000	µg/Kg	< 168000 µg/Kg
MCPP	134000	µg/Kg	< 134000 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-9
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	98.5 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	107 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-9
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-8
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2590-1 (VOA)/2450-11 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	2.92 mg/Kg
2,4-DNT	0.250 mg/Kg	2.66 mg/Kg
2,6-DNT	0.250 mg/Kg	2.67 mg/Kg
HMX	0.500 mg/Kg	3.32 mg/Kg
NB	0.260 mg/Kg	2.77 mg/Kg
2-NT	0.250 mg/Kg	2.49 mg/Kg
3-NT	0.250 mg/Kg	2.31 mg/Kg
4-NT	0.250 mg/Kg	2.35 mg/Kg
RDX	0.500 mg/Kg	3.18 mg/Kg
Tetryl	0.500 mg/Kg	3.41 mg/Kg
1,3,5-TNB	0.250 mg/Kg	2.92 mg/Kg
2,4,6-TNT	0.250 mg/Kg	2.61 mg/Kg

NDRC Laboratories, Inc. David R. Godwin

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-8
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Chrysene	330	µg/Kg	<	330	µg/Kg
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	93.3	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	87.5	%
Terphenyl-d14 (SS)	50.0	µg/Kg	112	%

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-8
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg		1390	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg		1400	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg	<	330	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg		1780	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-8
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2590-1 (VOA)/2450-11 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 4-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : MCS
ANALYZED ON : 5-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Bis(2-chloroethyl)ether	330	µg/Kg	< 330 µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	< 330 µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	1440 µg/Kg
Benzyl alcohol	650	µg/Kg	< 650 µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	< 330 µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	< 330 µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	1780 µg/Kg
Hexachloroethane	330	µg/Kg	< 330 µg/Kg
Nitrobenzene	330	µg/Kg	< 330 µg/Kg
Isophorone	330	µg/Kg	< 330 µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	< 330 µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	1470 µg/Kg
Naphthalene	330	µg/Kg	< 330 µg/Kg
4-Chloroaniline	650	µg/Kg	< 650 µg/Kg
Hexachlorobutadiene	330	µg/Kg	< 330 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-8
ANALYSIS METHOD : EPA 8270

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	84.7 %
2-Fluorophenol (SS)	100 µg/Kg	80.7 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	83.1 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-8
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2590-1 (VOA)/2450-11 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 4-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : MCS
ANALYZED ON : 5-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg		2940	µg/Kg
2-Chlorophenol	330	µg/Kg		2990	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg		3130	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg		2850	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg		2770	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2590-8
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
1,2-Dichloropropane	5.0	µg/Kg	<	5.0	µg/Kg
cis-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Trichloroethene	5.0	µg/Kg		52.3	µg/Kg
Chlorodibromomethane	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Benzene	5.0	µg/Kg		55.4	µg/Kg
trans-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Bromoform	5.0	µg/Kg	<	5.0	µg/Kg
2-Chloroethylvinyl ether	10.0	µg/Kg	<	10.0	µg/Kg
4-Methyl-2-pentanone	50.0	µg/Kg	<	50.0	µg/Kg
2-Hexanone	50.0	µg/Kg	<	50.0	µg/Kg
Tetrachloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Toluene	5.0	µg/Kg		53.8	µg/Kg
1,1,2,2-Tetrachloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Chlorobenzene	5.0	µg/Kg		49.7	µg/Kg
Ethylbenzene	5.0	µg/Kg	<	5.0	µg/Kg
Styrene	5.0	µg/Kg	<	5.0	µg/Kg
Xylenes	5.0	µg/Kg	<	5.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
1,2-Dichloroethane-d4 (SS)	50.0	µg/Kg	106	%
Toluene-d8 (SS)	50.0	µg/Kg	101	%
Bromofluorobenzene (SS)	50.0	µg/Kg	98.4	%

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-8
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2590-1 (VOA)/2450-11 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	54.1 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	67.4 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-8
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2590-1 (VOA)/2450-11 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 4-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : RLP
ANALYZED ON : 4-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
2,4-D	1.2 µg/Kg	422 µg/Kg
2,4-DB	670 µg/Kg	< 670 µg/Kg
2,4,5-T	0.2 µg/Kg	394 µg/Kg
2,4,5-TP(Silvex)	0.2 µg/Kg	389 µg/Kg
Dalapon	3890 µg/Kg	< 3890 µg/Kg
Dicamba	201 µg/Kg	< 201 µg/Kg
Dichloroprop	469 µg/Kg	< 469 µg/Kg
Dinoseb	67.0 µg/Kg	< 67.0 µg/Kg
MCPA	168000 µg/Kg	< 168000 µg/Kg
MCPP	134000 µg/Kg	< 134000 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-6
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24) QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 28-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	25.0 %
Liquid Limit	0.1 %	30.0 %
Plasticity Index	0.1 %	5.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-6
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24) QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 19-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	68.5 %
Silt (0.005 to 0.075 mm)	0.1 %	22.5 %
Clay/Colloids (< 0.005 mm)	0.1 %	9.0 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-6
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24) QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-6
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24) QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 330 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2590-6
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg		485	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA			
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0	µg/Kg	76.9 %
2-Fluorobiphenyl (SS)	50.0	µg/Kg	90.2 %
Terphenyl-d14 (SS)	50.0	µg/Kg	98.5 %

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-6
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		2020	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-6
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24) QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	330 µg/Kg	< 330 µg/Kg
1,3-Dichlorobenzene	330 µg/Kg	< 330 µg/Kg
1,4-Dichlorobenzene	330 µg/Kg	< 330 µg/Kg
Benzyl alcohol	650 µg/Kg	< 650 µg/Kg
1,2-Dichlorobenzene	330 µg/Kg	< 330 µg/Kg
Bis(2-chloroisopropyl)ether	330 µg/Kg	< 330 µg/Kg
N-Nitroso-Di-N-propylamine	330 µg/Kg	< 330 µg/Kg
Hexachloroethane	330 µg/Kg	< 330 µg/Kg
Nitrobenzene	330 µg/Kg	< 330 µg/Kg
Isophorone	330 µg/Kg	< 330 µg/Kg
Bis(2-chloroethoxy)methane	330 µg/Kg	< 330 µg/Kg
1,2,4-Trichlorobenzene	330 µg/Kg	< 330 µg/Kg
Naphthalene	330 µg/Kg	< 330 µg/Kg
4-Chloroaniline	650 µg/Kg	< 650 µg/Kg
Hexachlorobutadiene	330 µg/Kg	< 330 µg/Kg
2-Methylnaphthalene	330 µg/Kg	< 330 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-6
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Phenol-d5 (SS)	100	µg/Kg	86.1	%
2-Fluorophenol (SS)	100	µg/Kg	86.2	%
2,4,6-Tribromophenol (SS)	100	µg/Kg	100	%

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-6
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24) QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Phenol	330 µg/Kg	< 330 µg/Kg
2-Chlorophenol	330 µg/Kg	< 330 µg/Kg
2-Methylphenol	330 µg/Kg	< 330 µg/Kg
4-Methylphenol	330 µg/Kg	< 330 µg/Kg
2-Nitrophenol	330 µg/Kg	< 330 µg/Kg
2,4-Dimethylphenol	330 µg/Kg	< 330 µg/Kg
Benzoic acid	1650 µg/Kg	< 1650 µg/Kg
2,4-Dichlorophenol	330 µg/Kg	< 330 µg/Kg
4-Chloro-3-methylphenol	650 µg/Kg	< 650 µg/Kg
2,4,6-Trichlorophenol	330 µg/Kg	< 330 µg/Kg
2,4,5-Trichlorophenol	1650 µg/Kg	< 1650 µg/Kg
2,4-Dinitrophenol	1650 µg/Kg	< 1650 µg/Kg
4-Nitrophenol	1650 µg/Kg	< 1650 µg/Kg
4,6-Dinitro-2-methylphenol	1650 µg/Kg	< 1650 µg/Kg
Pentachlorophenol	1650 µg/Kg	< 1650 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-6
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	97.7 %
Toluene-d8 (SS)	50.0 µg/Kg	102 %
Bromofluorobenzene (SS)	50.0 µg/Kg	100 %

NDRC Laboratories, Inc. David R. Godwin

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-6
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24) QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-6
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	90.7 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-6
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24) QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 10-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2590-6
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Heptachlor Epoxide	55.6	µg/Kg	<	55.6	µg/Kg
Methoxychlor	118	µg/Kg	<	118	µg/Kg
Toxaphene	161	µg/Kg	<	161	µg/Kg
Aroclor-1016	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1221	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1232	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1242	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1248	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1254	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1260	6.0	µg/Kg	<	6.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Decachlorobiphenyl (SS)	6.7	µg/Kg	74.8	%
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7	µg/Kg	89.3	%

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-6
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24) QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-5
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	106 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 9-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	386 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	20.6 %
Analyzed using ASTM D2216 on 11-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	0.98 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.4
Analyzed using EPA 9045 on 8-MAR-1993 by BWB		
Total Solids	0.01 %	79.4 %
Analyzed using EPA 160.3 on 11-MAR-1993 by KOB		
Sulfate	20 mg/Kg	220 mg/Kg
Dilution Factor : 20 Analyzed using EPA 9038 on 8-MAR-1993 by MKS		

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	1.0 mg/Kg	10.7 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Lead	0.5 mg/Kg	4.5 mg/Kg
Dilution Factor : 5 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7421 on 19-MAR-1993 by MES		
Antimony	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Selenium	0.1 mg/Kg	< 0.1 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES		
Thallium	0.2 mg/Kg	< 0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7841 on 19-MAR-1993 by RKD		

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-5
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 9-MAR-1993 by KJS		
Arsenic	1 mg/Kg	3 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by MES		
Barium	1.0 mg/Kg	95.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	7.7 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 6010 on 8-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	< 0.01 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 8-MAR-1993 by CCM Analyzed using EPA 7471 on 9-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-5
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYZED BY : JKA
ANALYZED ON : 12-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-5
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 28-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	23.0 %
Liquid Limit	0.1 %	28.0 %
Plasticity Index	0.1 %	5.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-5
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 19-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	66.8 %
Silt (0.005 to 0.075 mm)	0.1 %	25.7 %
Clay/Colloids (< 0.005 mm)	0.1 %	7.5 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-5
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-5
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 330 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

014425

REPORT NUMBER : D93-2590-5
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	330 µg/Kg	545 µg/Kg
Di-n-octylphthalate	330 µg/Kg	< 330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	< 330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	< 330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	< 330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	< 330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	81.7 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	95.3 %
Terphenyl-d14 (SS)	50.0 µg/Kg	104 %

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2590-5
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		1840	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-5
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-5
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Phenol-d5 (SS)	100	µg/Kg	82.6	%
2-Fluorophenol (SS)	100	µg/Kg	85.9	%
2,4,6-Tribromophenol (SS)	100	µg/Kg	108	%

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-5
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	99.1 %
Toluene-d8 (SS)	50.0 µg/Kg	103 %
Bromofluorobenzene (SS)	50.0 µg/Kg	102 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

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DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-5
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Chloromethane	10.0	µg/Kg	<	10.0	µg/Kg
Bromomethane	10.0	µg/Kg	<	10.0	µg/Kg
Vinyl chloride	10.0	µg/Kg	<	10.0	µg/Kg
Chloroethane	10.0	µg/Kg	<	10.0	µg/Kg
Methylene chloride	5.0	µg/Kg	<	5.0	µg/Kg
Acetone	100	µg/Kg	<	100	µg/Kg
Carbon disulfide	5.0	µg/Kg	<	5.0	µg/Kg
1,1-Dichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
1,1-Dichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
1,2-Dichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Chloroform	5.0	µg/Kg	<	5.0	µg/Kg
1,2-Dichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
2-Butanone	50	µg/Kg	<	50	µg/Kg
1,1,1-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Carbon tetrachloride	5.0	µg/Kg	<	5.0	µg/Kg
Vinyl acetate	50.0	µg/Kg	<	50.0	µg/Kg
Bromodichloromethane	5.0	µg/Kg	<	5.0	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-5
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	75.0 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-5
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB07 (20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 4-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 10-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-5
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	75.5 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	92.5 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2590-9
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	330 µg/Kg	455 µg/Kg
Di-n-octylphthalate	330 µg/Kg	< 330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	< 330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	< 330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	< 330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	< 330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	89.4 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	88.8 %
Terphenyl-d14 (SS)	50.0 µg/Kg	106 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-9
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : BJC
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 330 µg/Kg

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-9
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-9
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : JKA
ANALYZED ON : 11-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-10
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Blank Spike
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Aldrin	2.7 µg/Kg		32 µg/Kg
Alpha-BHC	2.0 µg/Kg	<	2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	<	4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	<	6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg		31.2 µg/Kg
Chlordane	9.4 µg/Kg	<	9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	<	7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	<	2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg		47.3 µg/Kg
Dieldrin	1.3 µg/Kg		50.1 µg/Kg
Endosulfan I	9.4 µg/Kg	<	9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	<	2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	<	44.2 µg/Kg
Endrin	4.0 µg/Kg		51.4 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	<	15.4 µg/Kg
Heptachlor	2.0 µg/Kg		28.7 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2590-10
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Heptachlor Epoxide	55.6	µg/Kg	<	55.6	µg/Kg
Methoxychlor	118	µg/Kg	<	118	µg/Kg
Toxaphene	161	µg/Kg	<	161	µg/Kg
Aroclor-1016	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1221	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1232	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1242	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1248	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1254	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1260	6.0	µg/Kg	<	6.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Decachlorobiphenyl (SS)	6.7	µg/Kg	75.1	%
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7	µg/Kg	91.0	%

NDRC Laboratories, Inc. David R. Godwin

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

14445

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-10
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Blank Spike
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 4-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : RLP
ANALYZED ON : 4-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
2,4-D	1.2 µg/Kg	395 µg/Kg
2,4-DB	670 µg/Kg	< 670 µg/Kg
2,4,5-T	0.2 µg/Kg	379 µg/Kg
2,4,5-TP(Silvex)	0.2 µg/Kg	390 µg/Kg
Dalapon	3890 µg/Kg	< 3890 µg/Kg
Dicamba	201 µg/Kg	< 201 µg/Kg
Dichloroprop	469 µg/Kg	< 469 µg/Kg
Dinoseb	67.0 µg/Kg	< 67.0 µg/Kg
MCPA	168000 µg/Kg	< 168000 µg/Kg
MCPP	134000 µg/Kg	< 134000 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2590-10
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	63.5 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 5-MAR-1993

REPORT NUMBER : D93-2590-10
REPORT DATE : 30-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Blank Spike
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	2.94 mg/Kg
2,4-DNT	0.250 mg/Kg	2.68 mg/Kg
2,6-DNT	0.250 mg/Kg	2.68 mg/Kg
HMX	0.500 mg/Kg	3.34 mg/Kg
NB	0.260 mg/Kg	2.78 mg/Kg
2-NT	0.250 mg/Kg	2.55 mg/Kg
3-NT	0.250 mg/Kg	2.32 mg/Kg
4-NT	0.250 mg/Kg	2.36 mg/Kg
RDX	0.500 mg/Kg	3.27 mg/Kg
Tetryl	0.500 mg/Kg	3.21 mg/Kg
1,3,5-TNB	0.250 mg/Kg	2.94 mg/Kg
2,4,6-TNT	0.250 mg/Kg	2.63 mg/Kg

NDRC Laboratories, Inc. David R. Godwin

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 5-MAR-1993

REPORT NUMBER: D93-2590

REPORT DATE: 30-MAR-1993

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Chloride	Conductivity	Moisture Oven	Nitrate	pH	Total Solids
BATCH No.	----	----	----	----	----	----
MATRIX	Soil	Soil	Soil	Soil	Soil	Soil
PREP METHOD	----	----	----	----	----	----
PREP DATE	----	----	----	----	----	----
PREP TECHNICIAN	----	----	----	----	----	----
ANALYSIS METHOD	EPA 9252	EPA 9050	ASTM D2216	EPA 353.3	EPA 9045	EPA 160.3
ANALYSIS DATE	3/9/93	3/11/93	3/11/93	3/8/93	3/8/93	3/11/93
ANALYST	BWB	MKS	RJS	BAF	BWB	KOB
METHOD BLANK	< 1.0 mg/Kg	----	----	< 0.01 mg/Kg	----	----
MS % RECOVERY	100	----	----	98	----	----
LCS % RECOVERY	99	----	----	101	----	----
DUPLICATE RPD	0.0	0.0	0.2	3.6	1.3	0.2
MS/MSD RPD	0.0	----	----	4.9	----	----
SPIKE LEVEL	868.5 mg/Kg	----	----	1.0 mg/Kg	----	----
SPIKED SAMPLE ID No.	D93-2590-6	----	----	D93-2590-1	----	----
DUPLICATE SAMPLE ID No.	D93-2590-1	D93-2590-2	D93-2589-11	D93-2590-1	D93-2648-4	D93-2589-11

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 5-MAR-1993 REPORT NUMBER: D93-2590

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Arsenic	Mercury	Selenium	Lead	Thallium
BATCH No.	529	529	529	529	529
MATRIX	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 3051	EPA 3051	EPA 3051	EPA 3051	EPA 3051
PREP DATE	3/8/93	3/8/93	3/8/93	3/8/93	3/8/93
PREP TECHNICIAN	CCM	CCM	CCM	CCM	CCM
ANALYSIS METHOD	EPA 7062	EPA 7471	EPA 7740	EPA 7421	EPA 7841
ANALYSIS DATE	3/9/93	3/9/93	3/17/93	3/19/93	3/19/93
ANALYST	AH	AH	RKD	MES	RKD
METHOD BLANK	< 0.1 mg/Kg	< 0.01 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.2 mg/Kg
MS % RECOVERY	*	88	68 **	---- **	88
LCS % RECOVERY	92	93	104	90	95
DUPLICATE RPD	0.0	----	----	----	----
MS/MSD RPD	----	1	0.0	13	4
SPIKE LEVEL	1.5 mg/Kg	1.69 mg/Kg	1.5 mg/Kg	1.5 mg/Kg	1.5 mg/Kg
SPIKED SAMPLE ID No.	D93-2590-3	D93-2590-3	D93-2590-3	D93-2590-3	D93-2590-3
DUPLICATE SAMPLE ID No.	D93-2590-3	D93-2590-3	D93-2590-3	D93-2590-3	D93-2590-3

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS: *Strong matrix interference. MS and MSD spikes were not recovered.

**Duplicate matrix spikes indicate the presence of a matrix interference in the QC sample.

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 5-MAR-1993 REPORT NUMBER: D93-2590

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Gamma-BHC	Heptachlor	Aldrin	Dieldrin	Endrin	pp-DDT
BATCH No.	002	002	002	002	002	002
MATRIX	Soil	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 3540	EPA 3540	EPA 3540	EPA 3540	EPA 3540	EPA 3540
PREP DATE	3/8/93	3/8/93	3/8/93	3/8/93	3/8/93	3/8/93
PREP TECHNICIAN	TLR	TLR	TLR	TLR	TLR	TLR
ANALYSIS METHOD	EPA 8080	EPA 8080	EPA 8080	EPA 8080	EPA 8080	EPA 8080
ANALYSIS DATE	3/12/93	3/12/93	3/12/93	3/12/93	3/12/93	3/12/93
ANALYST	SRW	SRW	SRW	SRW	SRW	SRW
METHOD BLANK	< 2.68 µg/Kg	< 2.01 µg/Kg	< 2.68 µg/Kg	< 1.34 µg/Kg	< 4.02 µg/Kg	< 8.04 µg/Kg
MS % RECOVERY	86.7	81.8	87.9	72.5	77.4	73.1
LCS % RECOVERY	93.6	86.3	95.5	75.1	77.1	70.9
DUPLICATE RPD	----	----	----	----	----	----
MS/MSD RPD	6.3	6.8	4.8	8.2	8.1	7.9
SPIKE LEVEL	33.3 µg/Kg	33.3 µg/Kg	33.3 µg/Kg	66.7 µg/Kg	66.7 µg/Kg	66.7 µg/Kg
SPIKED SAMPLE ID No.	D93-2590-1	D93-2590-1	D93-2590-1	D93-2590-1	D93-2590-1	D93-2590-1
DUPLICATE SAMPLE ID No.	----	----	----	----	----	----

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 5-MAR-1993

REPORT NUMBER: D93-2590

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	HMX	RDX	TNT	2,6-DNT	Nitrobenzene	m-Nitrotoluene
BATCH No.	----	----	----	----	----	----
MATRIX	Soil	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330
PREP DATE	3/10/93	3/10/93	3/10/93	3/10/93	3/10/93	3/10/93
PREP TECHNICIAN	RR	RR	RR	RR	RR	RR
ANALYSIS METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330
ANALYSIS DATE	3/11/93	3/11/93	3/11/93	3/11/93	3/11/93	3/11/93
ANALYST	JS	JS	JS	JS	JS	JS
METHOD BLANK	< 0.5 mg/Kg	< 0.5 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg
MS % RECOVERY	132	127	104	110	103	92
LCS % RECOVERY	134	131	105	111	107	93
DUPLICATE RPD	----	----	----	----	----	----
MS/MSD RPD	0.8	0.0	0.0	0.9	3.8	0.0
SPIKE LEVEL	2.5 mg/Kg	2.5 mg/Kg	2.5 mg/Kg	2.5 mg/Kg	2.5 mg/Kg	2.5 mg/Kg
SPIKED SAMPLE ID No.	D93-2590-1	D93-2590-1	D93-2590-1	D93-2590-1	D93-2590-1	D93-2590-1
DUPLICATE SAMPLE ID No.	----	----	----	----	----	----

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 5-MAR-1993 REPORT NUMBER: D93-2590

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	2,4-D	2,4,5-TP	2,4,5-T	Gradation	Plastic Limit	Liquid Limit
BATCH No.	001	001	001	----	----	----
MATRIX	Soil	Soil	Soil	----	----	----
PREP METHOD	EPA 8150	EPA 8150	EPA 8150	----	----	----
PREP DATE	3/4/93	3/4/93	3/4/93	----	----	----
PREP TECHNICIAN	TLR	TLR	TLR	----	----	----
ANALYSIS METHOD	EPA 8150	EPA 8150	EPA 8150	ASTM D421/D422	ASTM D4318	ASTM D4318
ANALYSIS DATE	3/4/93	3/4/93	3/4/93	3/19/93	3/28/93	3/28/93
ANALYST	SRW	SRW	SRW	NJK	DL	JRW
METHOD BLANK	< 80.4 µg/Kg	< 134 µg/Kg	< 134 µg/Kg	----	----	----
MS % RECOVERY	79.9	78.7	77.4	----	----	----
LCS % RECOVERY	79.0	78.1	75.8	----	----	----
DUPLICATE RPD	----	----	----	13.0	0.0	11.0
MS/MSD RPD	5.4	1.3	1.9	----	----	----
SPIKE LEVEL	500 µg/Kg	500 µg/Kg	500 µg/Kg	----	----	----
SPIKED SAMPLE ID No.	D93-2313-1	D93-2313-1	D93-2313-1	----	----	----
DUPLICATE SAMPLE ID No.	----	----	----	D93-2590-3	D93-2590-4	D93-2590-4

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

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BEAUMONT **DALLAS** **HOUSTON**

014453

DATE RECEIVED: 5-MAR-1993

REPORT NUMBER: D93-2590

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Sulfate	Silver
BATCH No.	----	528
MATRIX	Soil	Soil
PREP METHOD	----	EPA 3051
PREP DATE	----	3/8/93
PREP TECHNICIAN	----	CCM
ANALYSIS METHOD	EPA 9038	EPA 6010
ANALYSIS DATE	3/8/93	3/9/93
ANALYST	MKS	KJS
METHOD BLANK	< 1.0 mg/Kg	< 1.0 mg/Kg
MS % RECOVERY	108	95
LCS % RECOVERY	94	98
DUPLICATE RPD	0.0	----
MS/MSD RPD	1.8	3.1
SPIKE LEVEL	20 mg/Kg	5.0 mg/Kg
SPIKED SAMPLE ID No.	D93-2589-5	D93-2590-3
DUPLICATE SAMPLE ID No.	D93-2490-6	D93-2590-3

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 5-MAR-1993 REPORT NUMBER: D93-2590

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ICP METALS SCAN

BATCH No.	528	MATRIX	Soil
PREP METHOD	EPA 3051	ANALYSIS METHOD	EPA 6010
PREP DATE	3/8/93	ANALYSIS DATE	3/8/93
PREP TECHNICIAN	CCM	ANALYST	KJS
SPIKED SAMPLE ID No.	D93-2590-3	DUPLICATE SAMPLE ID No.	D93-2590-3

ANALYTE	Barium	Cadmium	Chromium	Nickel	Lead	Antimony	Thallium
METHOD BLANK	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg	<1.0mg/Kg
MS % RECOVERY	83	85	91	87	96	---- *	80
LCS % RECOVERY	94	88	91	89	100	79	91
DUPLICATE RPD	0.4	2.1	3.7	1.6	13.3	----	----
MS/MSD RPD	0.6	0.7	1.1	0	0.5	----	0.7
SPIKE LEVEL	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS: *Strong matrix interference. MS and MSD spikes were not recovered.

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name:NDRC Contract: 8270_B001

Lab Code: HP003 Case No.: AD-76 SAS No.E 3/4/93 SDG No.A 3/5/93

2450-11

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	#	QC LIMITS REC.
Phenol	3330.00	0.00	2990.00	90		26- 90
2-Chlorophenol	3330.00	0.00	2970.00	89		25-102
1,4-Dichlorobenzene	1670.00	0.00	1460.00	88		28-104
N-Nitroso-di-n-prop.(1)	1670.00	0.00	1690.00	100		41-126
1,2,4-Trichlorobenzene	1670.00	0.00	1540.00	92		38-107
4-Chloro-3-methylphenol	3330.00	0.00	3070.00	92		26-103
Acenaphthene	1670.00	0.00	1400.00	84		31-137
4-Nitrophenol	3330.00	0.00	2780.00	83		11-114
2,4-Dinitrotoluene	1670.00	0.00	1390.00	83		28- 89
Pentachlorophenol	3330.00	0.00	2870.00	86		17-109
Pyrene	1670.00	0.00	1870.00	110		35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
Phenol	3330.00	2940.00	88		2		35	26- 90
2-Chlorophenol	3330.00	2990.00	90		1		50	25-102
1,4-Dichlorobenzene	1670.00	1440.00	87		1		27	28-104
N-Nitroso-di-n-prop.(1)	1670.00	1780.00	110		9		38	41-126
1,2,4-Trichlorobenzene	1670.00	1470.00	88		4		23	38-107
4-Chloro-3-methylphenol	3330.00	3130.00	94		2		33	26-103
Acenaphthene	1670.00	1390.00	83		1		19	31-137
4-Nitrophenol	3330.00	2850.00	86		3		50	11-114
2,4-Dinitrotoluene	1670.00	1400.00	84		1		47	28- 89
Pentachlorophenol	3330.00	2770.00	83		3		47	17-109
Pyrene	1670.00	1780.00	110		0		36	35-142

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

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

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

COMMENTS: SW-846 EPA METHOD 8270

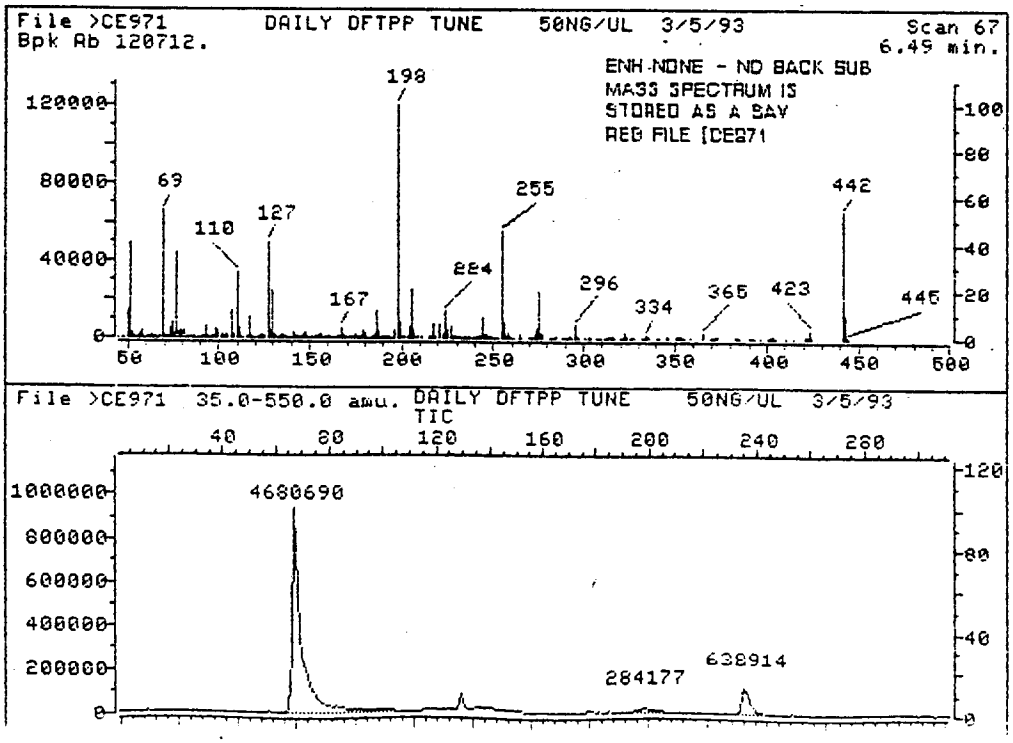
014456

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

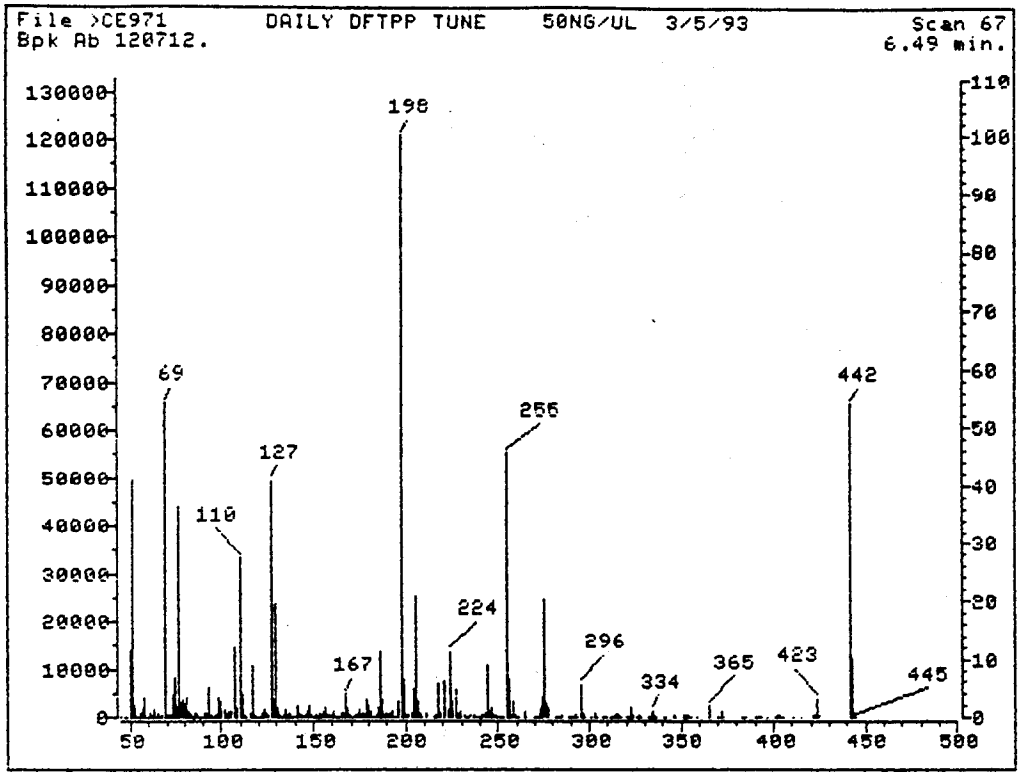
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	41.10	41.10	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	54.36	54.36	Ok
70	Less than 2% of mass 69	.36	.65	Ok
127	40-60% of mass 198	41.00	41.00	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.39	6.39	Ok
275	10-30% of mass 198	20.35	20.35	Ok
365	Greater than 1% of mass 198	2.10	2.10	Ok
441	0-100% of mass 443	8.48	84.25	Ok
442	Greater than 40% of mass 198	54.10	54.10	Ok
443	17-23% of mass 442	10.07	18.61	Ok

Injection Date: 03/05/93
Injection Time: 14:03
Data File: >CE971
Scan: 67



Instrument ID: ABN3 Analyzed on: 3/05/93 14:03

014457



Instrument ID: ABN3 Analyzed on: 3/05/93 14:03

014458

>CE971 DAILY DFTPP TUNE 50NG/UL 3/5/93
67 NRM

File: >CE971 Scan #: 67 Retn. time: 6.49

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.05	.044	99.00	2.943	163.15	.112	234.15	.313	315.05	.595
37.05	.231	100.00	.234	164.15	.115	235.05	.343	316.15	.362
38.10	.740	101.10	1.565	165.05	.814	236.05	.178	317.15	.070
39.10	4.169	102.10	.086	166.15	.597	237.05	.287	319.95	.025
40.00	.519	103.10	.528	167.05	4.098	238.10	.047	321.05	.153
41.10	.896	104.10	1.166	168.05	1.662	239.10	.216	322.05	.106
42.10	.245	105.10	1.036	169.05	.289	240.00	.174	323.15	1.891
43.10	.798	107.10	11.894	170.15	.156	241.10	.325	324.05	.362
44.00	.385	108.10	1.732	170.95	.225	242.10	.577	326.15	.041
45.00	.165	110.10	27.769	172.05	.371	243.10	.709	327.05	.349
47.10	.044	111.10	3.783	173.05	.582	244.10	8.958	328.05	.160
48.20	.043	112.10	.454	174.05	.731	245.10	1.169	332.05	.170
50.10	11.501	113.05	.162	175.05	1.506	246.10	1.806	333.15	.166
51.10	41.096	115.05	.088	176.05	.526	247.10	.356	334.15	1.183
52.10	2.020	116.05	.685	177.05	.801	248.10	.130	335.15	.329
53.10	.233	117.05	8.912	178.15	.274	249.10	.343	336.15	.048
54.10	.130	118.05	.582	179.05	3.082	250.00	.076	341.10	.177
55.10	.877	119.05	.130	180.05	2.029	251.10	.103	342.10	.069
56.10	1.488	120.05	.134	181.15	1.029	252.00	.067	346.00	.312
57.10	3.433	121.15	.087	182.15	.160	253.00	.188	347.10	.085
58.10	.274	122.05	.873	183.15	.118	255.10	45.563	351.10	.054
59.10	.180	123.05	1.382	184.05	.265	256.10	6.637	352.10	.543
60.00	.154	124.05	.701	185.15	1.620	257.10	.485	353.10	.370
61.10	.649	125.15	.584	186.15	11.255	258.10	2.723	354.10	.521
62.10	.558	127.05	40.997	187.15	3.231	259.10	.379	355.10	.078
63.05	1.550	128.05	3.174	188.10	.317	260.10	.044	356.20	.020
64.05	.248	129.05	19.829	189.10	.722	261.10	.051	359.10	.059
65.05	.717	130.05	1.668	191.10	.300	265.05	1.093	365.05	2.095
66.05	.070	131.15	.292	192.00	.871	266.05	.152	366.05	.279
67.15	.292	132.15	.133	193.10	.993	269.85	.065	370.35	.062
69.05	54.357	132.95	.086	194.10	.172	271.15	.158	371.05	.157
70.05	.355	134.05	.454	195.10	.162	272.05	.165	372.15	.949
71.15	.299	135.05	1.378	196.10	2.948	273.05	1.370	373.15	.256
71.95	.042	136.05	.559	198.00	100.000	274.05	3.619	383.05	.251
73.15	.379	137.15	.714	199.00	6.395	275.05	20.353	384.05	.077
74.05	3.923	138.10	.210	200.10	.431	276.05	2.570	384.95	.026
75.05	6.684	139.00	.117	201.60	.512	277.05	1.694	390.10	.125
76.15	1.834	140.10	.202	203.10	.631	278.05	.364	391.10	.088
77.05	36.503	141.00	2.262	204.10	2.933	281.95	.064	391.90	.055
78.15	2.488	142.10	.863	205.10	4.785	283.15	.178	393.00	.027
79.05	3.056	143.10	.451	206.10	21.068	284.15	.200	397.00	.027
80.05	2.329	144.10	.124	207.10	2.805	285.15	.350	400.70	.038
81.05	3.355	145.10	.135	208.10	.667	289.10	.085	400.90	.036
82.05	.952	146.10	.402	209.10	.220	290.10	.076	402.10	.352
83.15	.870	147.00	1.112	211.10	.915	291.10	.072	403.10	.536
84.15	.220	148.00	2.189	215.05	.239	292.00	.077	404.10	.210
85.15	.706	149.10	.526	216.05	.472	293.10	.369	404.80	.027
86.15	.798	150.10	.142	217.05	5.824	294.10	.099	410.20	.018
87.05	.408	151.10	.292	218.05	.688	296.10	5.632	415.05	.037

89.00	.100	153.10	.606	223.05	1.340	298.30	.054	422.05	.443
89.80	.021	154.10	.571	224.15	11.302	301.10	.083	423.15	3.230
91.00	.885	155.10	1.058	225.15	2.856	303.10	.645	424.15	.572
92.10	.740	156.10	1.775	227.05	4.811	304.10	.183	425.05	.050
93.00	5.144	157.20	.430	228.05	.646	308.00	.052	441.20	8.482
94.00	.379	158.00	.424	229.15	.983	309.20	.056	442.10	54.099
95.10	.195	159.10	.357	230.15	.124	310.10	.077	443.10	10.068
96.00	.282	160.10	.651	231.15	.385	312.10	.034	444.10	.896
97.10	.300	161.10	1.054	232.15	.065	313.15	.056	445.10	.039
98.00	3.604	162.10	.211	233.05	.111	314.05	.296		

014459

Instrument ID: ABN3 Analyzed on: 3/05/93 14:03

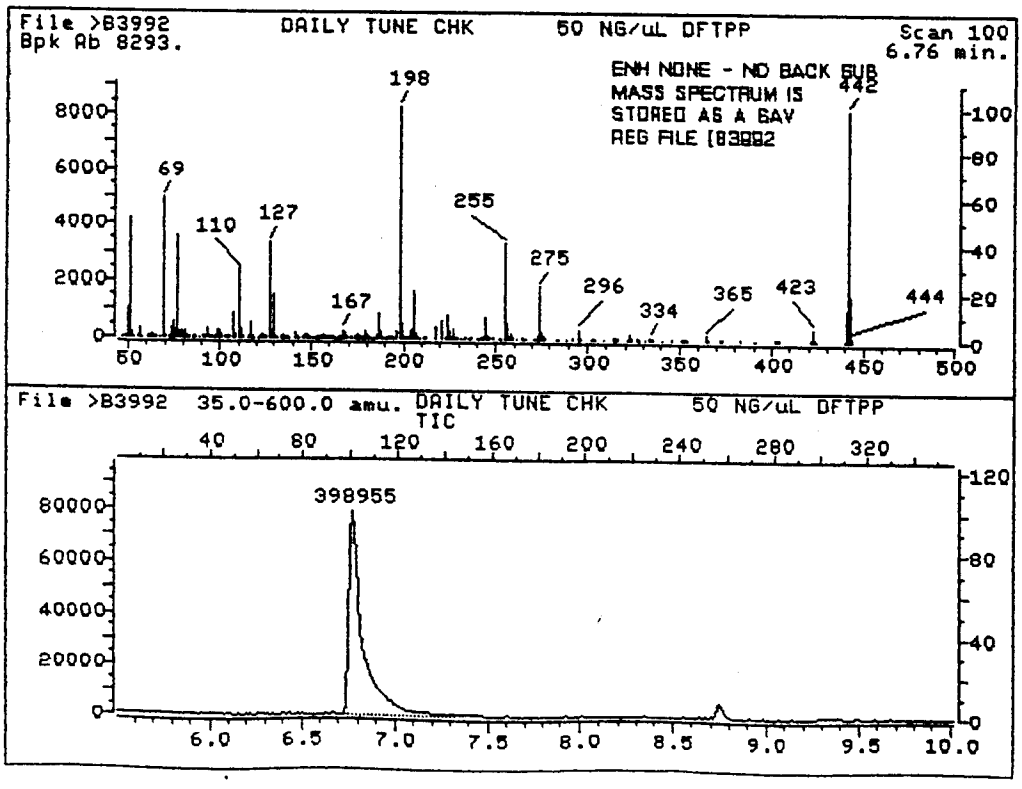
014460

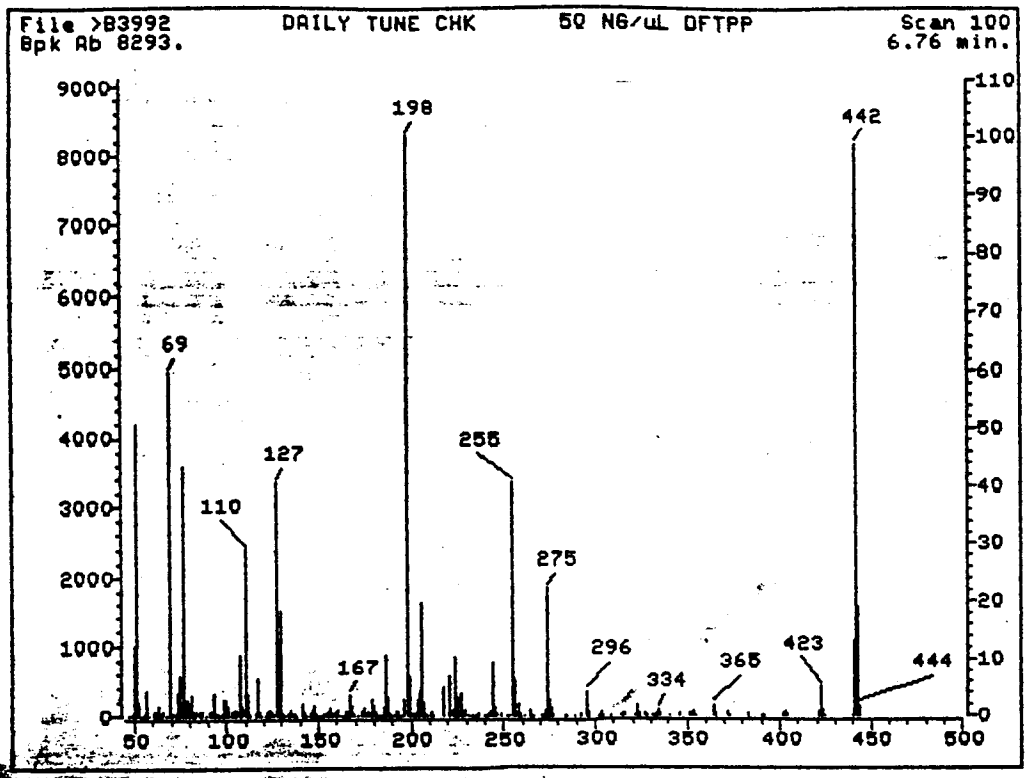
GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	50.65	50.65	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	59.45	59.45	Ok
70	Less than 2% of mass 69	.28	.47	Ok
127	40-60% of mass 198	40.62	40.62	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.91	6.91	Ok
275	10-30% of mass 198	22.39	22.39	Ok
365	Greater than 1% of mass 198	1.92	1.92	Ok
441	0-100% of mass 443	12.85	67.64	Ok
442	Greater than 40% of mass 198	98.87	98.87	Ok
443	17-23% of mass 442	19.00	19.22	Ok

Injection Date: 03/13/93
Injection Time: 11:25
Data File: >B3992
Scan: 100





Instrument ID: ABN2 Analyzed on: 3/13/93 11:25

014462

>B3992 DAILY TUNE CHK 50 NG/uL DFTPP
100 NRM

File: >B3992 Scan #: 100 Retn. time: 6.76

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
38.10	.928	100.95	1.700	157.90	.374	206.95	2.605	284.85	.217
39.10	4.534	103.05	.639	159.00	.314	208.05	.531	288.85	.072
40.00	.519	103.85	.965	159.90	.663	208.95	.157	292.95	.398
41.10	.434	104.95	.977	160.90	.989	210.95	.736	295.85	4.281
43.00	.326	106.95	10.394	161.70	.217	211.75	.229	296.85	.687
44.00	1.724	108.05	1.869	162.00	.229	216.95	4.679	302.05	.096
46.90	.157	109.95	29.024	163.10	.133	217.95	.724	302.85	.639
49.10	.434	111.05	3.666	163.90	.169	220.95	6.994	303.95	.217
50.10	12.010	111.95	.398	165.00	.603	222.95	.977	309.15	.072
51.10	50.645	115.85	.470	166.00	.699	223.90	10.129	313.75	.241
52.10	2.580	116.05	.482	167.00	3.497	224.90	3.147	314.85	.506
53.80	.060	117.05	6.656	167.90	1.917	225.90	.374	315.95	.362
55.00	.326	117.95	.724	169.00	.301	226.90	3.654	321.95	.109
56.10	1.797	119.15	.096	171.00	.229	227.90	.675	323.00	1.893
57.00	4.076	120.85	.096	173.00	.398	228.90	.965	323.90	.374
58.10	.145	122.05	.615	173.90	.832	229.80	.121	326.90	.289
61.10	.687	122.95	1.061	174.95	1.495	231.90	.096	327.80	.181
62.00	.567	123.95	.639	175.95	.567	234.00	.241	331.70	.121
63.00	1.712	125.00	.494	176.95	.856	235.60	.169	332.90	.277
64.10	.277	125.70	.157	177.95	.265	236.90	.338	333.90	1.025
65.10	.892	127.00	40.625	178.95	2.858	240.00	.109	335.00	.350
67.10	.109	128.00	3.195	179.85	1.712	240.60	.145	340.90	.217
69.00	59.448	129.00	18.305	180.95	.736	241.90	.555	345.90	.277
70.20	.277	130.00	1.447	181.95	.193	242.90	.627	351.90	.555
73.00	.277	131.00	.289	182.35	.133	243.90	9.249	352.90	.289
74.10	3.798	131.80	.084	182.65	.181	245.00	1.266	353.90	.627
74.95	6.789	132.10	.145	183.75	.169	245.90	1.278	354.90	.133
76.05	2.279	133.90	.555	184.95	1.399	246.90	.289	364.80	1.917
77.05	43.446	135.00	1.061	185.95	10.455	248.90	.314	365.80	.314
78.05	2.713	136.00	.446	186.95	3.087	251.90	.084	371.90	.820
78.95	2.858	137.20	.506	188.05	.241	252.90	.193	372.65	.253
79.95	2.074	137.90	.169	188.95	.543	254.90	40.516	372.85	.253
80.95	3.316	140.90	1.978	189.65	.084	255.90	6.198	382.75	.277
81.95	.711	141.90	.736	189.85	.084	256.80	.494	389.85	.193
83.05	.736	142.90	.519	190.85	.241	257.90	2.267	390.85	.072
85.05	.615	143.90	.157	191.85	.687	258.80	.362	391.75	.109
86.05	.880	146.00	.362	192.95	.844	261.00	.096	401.85	.289
87.05	.289	146.90	1.158	193.95	.253	264.90	1.049	402.95	.711
88.95	.072	148.00	1.628	194.95	.109	265.90	.133	403.85	.265
90.95	.724	148.90	.398	195.15	.109	267.00	.072	420.95	.687
92.05	.784	150.00	.157	195.95	2.870	270.90	.072	421.85	.567
92.95	3.895	150.40	.084	197.95	100.000	272.00	.145	422.80	5.028
93.85	.277	151.00	.205	198.95	6.909	272.90	1.194	423.80	1.037
94.85	.265	151.50	.193	199.95	.362	273.85	3.714	424.70	.109
95.95	.217	152.90	.579	201.45	.434	274.85	22.392	439.10	.084
96.85	.350	153.90	.482	202.85	.543	275.85	2.906	440.80	12.854
97.95	2.954	155.00	.844	203.95	2.882	276.85	1.399	441.80	98.867
99.05	2.785	156.00	1.531	204.95	4.257	277.85	.289	442.90	19.004
99.95	.350	157.10	.314	205.95	19.776	283.85	.109	443.80	1.857

Instrument ID: ABN2 Analyzed on: 3/13/93 11:25

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

014463

Lab Name: New CLP Forms Contract: NDRC-DALLAS

Lab Code: HP003 Case No.: AD-76 SAS No.: JKA SDG No.: 03/11/93

Matrix Spike - EPA Sample No.: D93-2590-01 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	0.00	54.9	110	59-172
Trichloroethene	50	0.00	47.2	94.4	62-137
Benzene	50	0.00	51.0	102	66-142
Toluene	50	0.00	51.7	104	59-139
Chlorobenzene	50	0.00	49.7	99.4	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	54.1	108	2	22	59-172
Trichloroethene	50	52.3	105	11	24	62-137
Benzene	50	55.4	111	8	21	66-142
Toluene	50	53.8	108	4	21	59-139
Chlorobenzene	50	49.7	99.4	0	21	60-133

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

* Values outside of qc limits

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

COMMENTS: SW-846 METHOD 8240

014464

LABORATORY CONTROL SAMPLE

Lab Name:New CLP Forms Contract:NDRC DALLAS

Lab Code: HP003 Case No.: AD-76 SAS No.: JKA SDG No.: 03/11/93

Matrix Spike - EPA Sample No.: LCS

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	48.2	96.4	61-145
Trichloroethene	50	44.9	89.8	71-120
Benzene	50	47.9	95.8	76-127
Toluene	50	48.4	96.8	76-125
Chlorobenzene	50	47.0	94.0	75-130

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS: METHOD 8240

GC/MS PERFORMANCE STANDARD

014465

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	16.93	16.93	Ok
75	30-60% of mass 95	57.98	57.98	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.66	8.66	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	86.46	86.46	Ok
175	5-9% of mass 174	7.56	8.74	Ok
176	95-101% of mass 174	86.05	99.53	Ok
177	5-9% of mass 176	4.47	5.19	Ok

Injection Date: 03/11/93
Injection Time: 17:29
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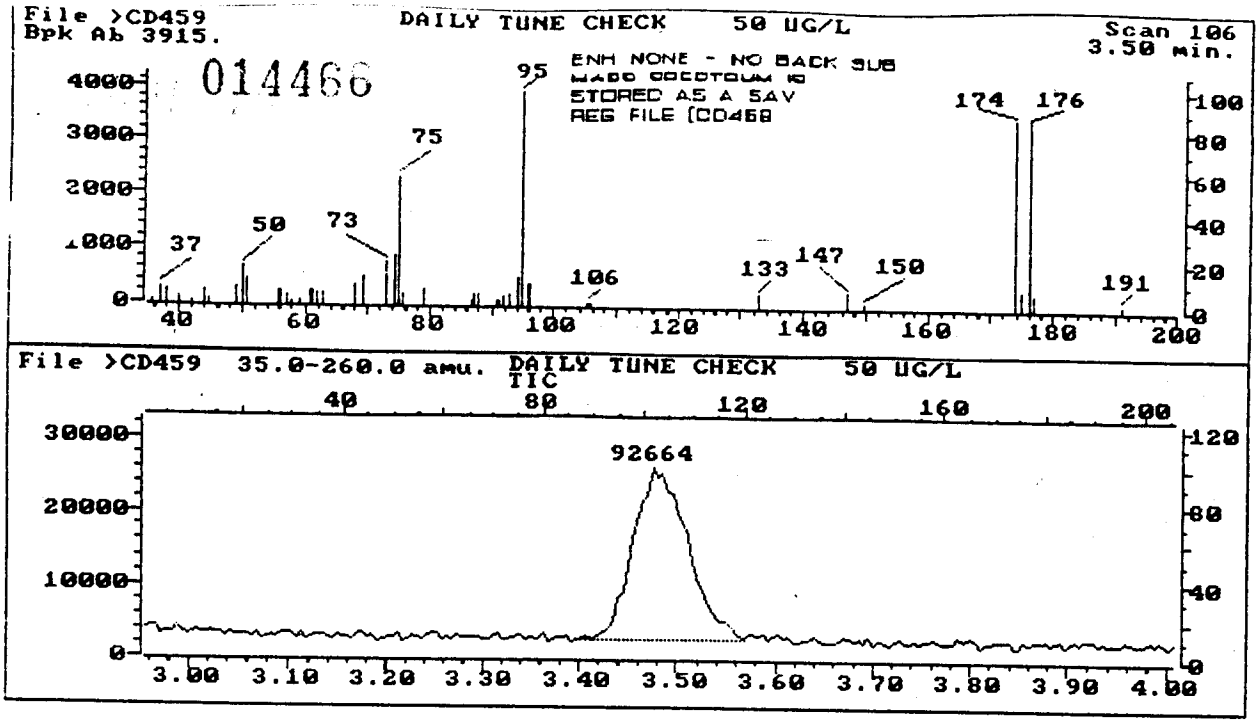
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DAILY TUNE CHECK 50 UG/L
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014466
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75
174
176
50
73
37
106
133
147
150
191
4000
3000
2000
1000
0
100
80
60
40
20
0
40
60
80
100
120
140
160
180
200

File >CD459 35.0-260.0 amu. DAILY TUNE CHECK 50 UG/L
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20000
10000
0
120
80
40
0
40
80
120
160
200
3.00
3.10
3.20
3.30
3.40
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3.70
3.80
3.90
4.00

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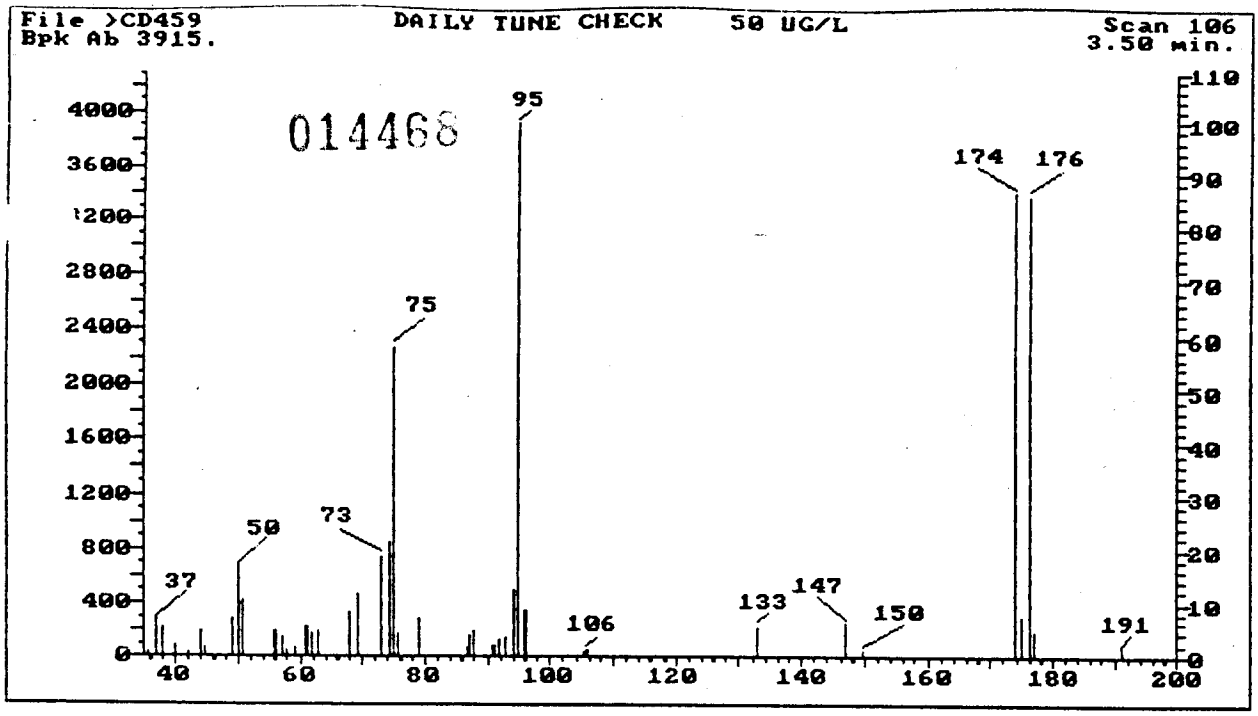
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174
176
75
73
50
37
106
133
147
150
191
4000
3600
2800
2400
2000
1600
1200
800
400
0
110
100
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60
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20
10
0
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60
80
100
120
140
160
180
200

Instrument ID: V0A3 Analyzed on: 3/11/93 17:29

014469

>CD459 DAILY TUNE CHECK 50 UG/L
106 NRM

014470

File: >CD459 Scan #: 106 Retn. time: 3.50

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
35.50	.868	56.00	4.700	74.10	21.456	93.95	12.593	175.05	7.561
37.00	6.769	57.00	3.321	74.95	57.982	94.95	100.000	175.95	86.054
37.90	5.390	57.70	.971	75.95	4.112	95.95	8.659	176.95	4.470
40.10	1.916	59.00	1.533	78.85	6.692	105.25	.894	190.95	1.737
42.00	.664	61.00	5.390	86.55	1.456	105.75	1.022	205.75	.562
44.00	4.700	61.90	4.215	87.05	3.780	133.05	5.568	207.15	16.884
44.80	1.328	63.00	4.368	87.95	4.393	147.05	6.156	208.05	3.346
49.00	7.203	68.00	8.225	90.95	1.788	149.85	1.175	209.15	4.521
50.00	16.935	69.00	11.520	91.85	3.040	173.95	86.462	248.90	1.430
51.00	10.575	73.00	18.697	92.95	3.602				

Instrument ID: V0A3 Analyzed on: 3/11/93 17:29

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014471

SAMPLE PRESERVATION INFORMATION SHEET

Field Sampling ☐ Incoming Samples ☐

GENERAL

Company: Enseco Job No: 2590-1-10

No. of Cooler(s): 1 Temperature of Cooler(s): <4°C

PRESERVATION INFORMATION

Sample No.	Temperature of Sample	Sample Container	Volume	Preservation used *	Initial pH	Final pH	Bottles generated	Comments

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-1
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-1
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
Unidentified amide	30.70	ABN	430 µg/Kg

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

014474

REPORT NUMBER : D93-2685-1
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Bis(2-ethylhexyl)phthalate	330 µg/Kg	<	330 µg/Kg
Di-n-octylphthalate	330 µg/Kg	<	330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	<	330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	<	330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	<	330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	<	330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	<	330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	<	330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	99.0 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	105 %
Terphenyl-d14 (SS)	50.0 µg/Kg	109 %

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-1
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg	<	330	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-1
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Bis(2-chloroethyl)ether	330	µg/Kg	< 330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
Benzyl alcohol	650	µg/Kg	< 650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	< 330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	< 330	µg/Kg
Hexachloroethane	330	µg/Kg	< 330	µg/Kg
Nitrobenzene	330	µg/Kg	< 330	µg/Kg
Isophorone	330	µg/Kg	< 330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	< 330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	< 330	µg/Kg
Naphthalene	330	µg/Kg	< 330	µg/Kg
4-Chloroaniline	650	µg/Kg	< 650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	< 330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	< 330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	88.9 %
2-Fluorophenol (SS)	100 µg/Kg	90.0 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	94.6 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-1
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-1
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
1,2-Dichloropropane	5.0	µg/Kg	<	5.0	µg/Kg
cis-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Trichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Chlorodibromomethane	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Benzene	5.0	µg/Kg	<	5.0	µg/Kg
trans-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Bromoform	5.0	µg/Kg	<	5.0	µg/Kg
2-Chloroethylvinyl ether	10.0	µg/Kg	<	10.0	µg/Kg
4-Methyl-2-pentanone	50.0	µg/Kg	<	50.0	µg/Kg
2-Hexanone	50.0	µg/Kg	<	50.0	µg/Kg
Tetrachloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Toluene	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2,2-Tetrachloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Chlorobenzene	5.0	µg/Kg	<	5.0	µg/Kg
Ethylbenzene	5.0	µg/Kg	<	5.0	µg/Kg
Styrene	5.0	µg/Kg	<	5.0	µg/Kg
Xylenes	5.0	µg/Kg	<	5.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
1,2-Dichloroethane-d4 (SS)	50.0	µg/Kg	92.0	%
Toluene-d8 (SS)	50.0	µg/Kg	103	%
Bromofluorobenzene (SS)	50.0	µg/Kg	100	%

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-1
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-1
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	76.0 %

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-1
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-1
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Heptachlor Epoxide	55.6	µg/Kg	<	55.6	µg/Kg
Methoxychlor	118	µg/Kg	<	118	µg/Kg
Toxaphene	161	µg/Kg	<	161	µg/Kg
Aroclor-1016	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1221	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1232	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1242	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1248	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1254	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1260	6.0	µg/Kg	<	6.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Decachlorobiphenyl (SS)	6.7	µg/Kg	98.3	%
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7	µg/Kg	97.4	%

NDRC Laboratories, Inc.

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

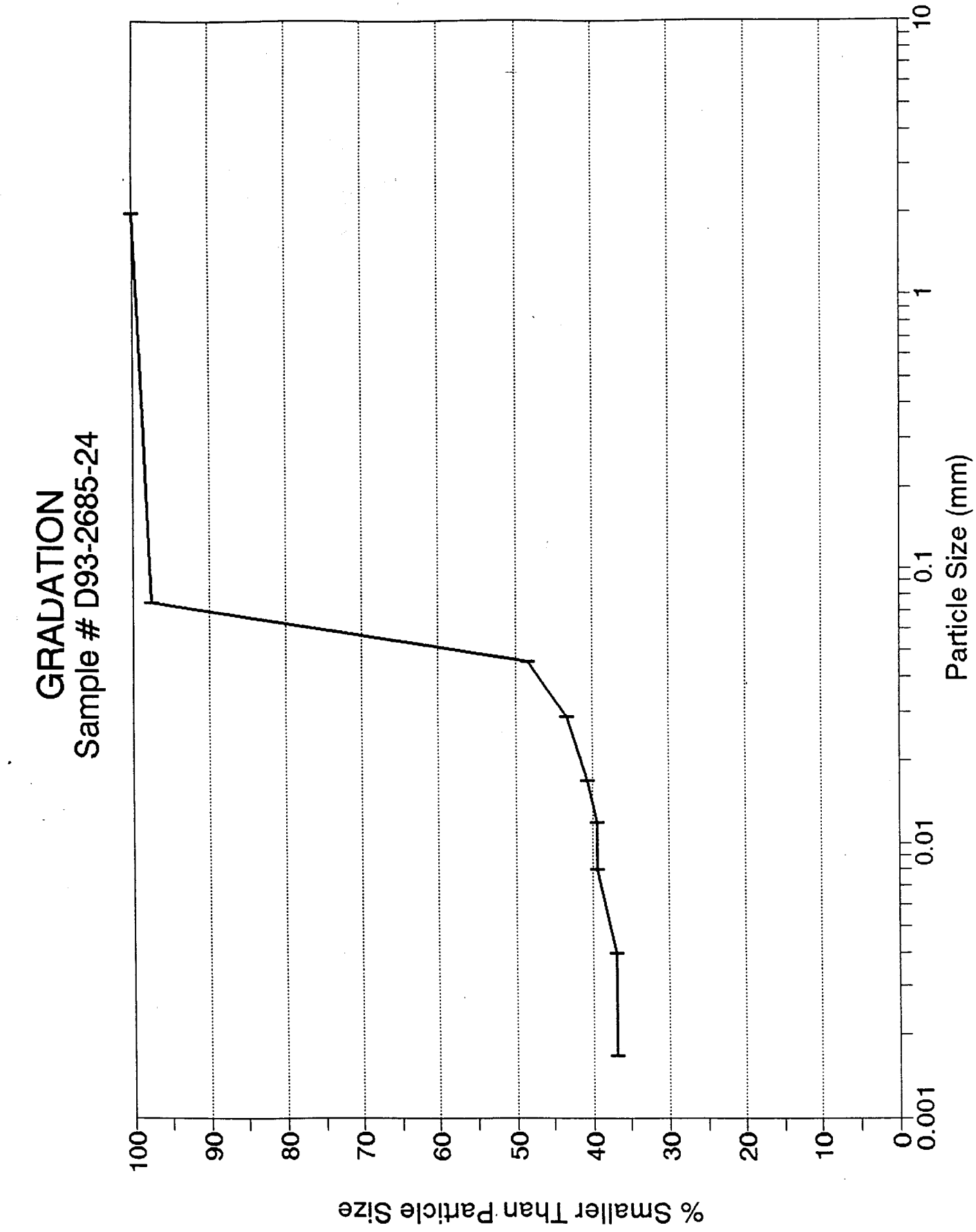
REPORT NUMBER : D93-2685-1
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

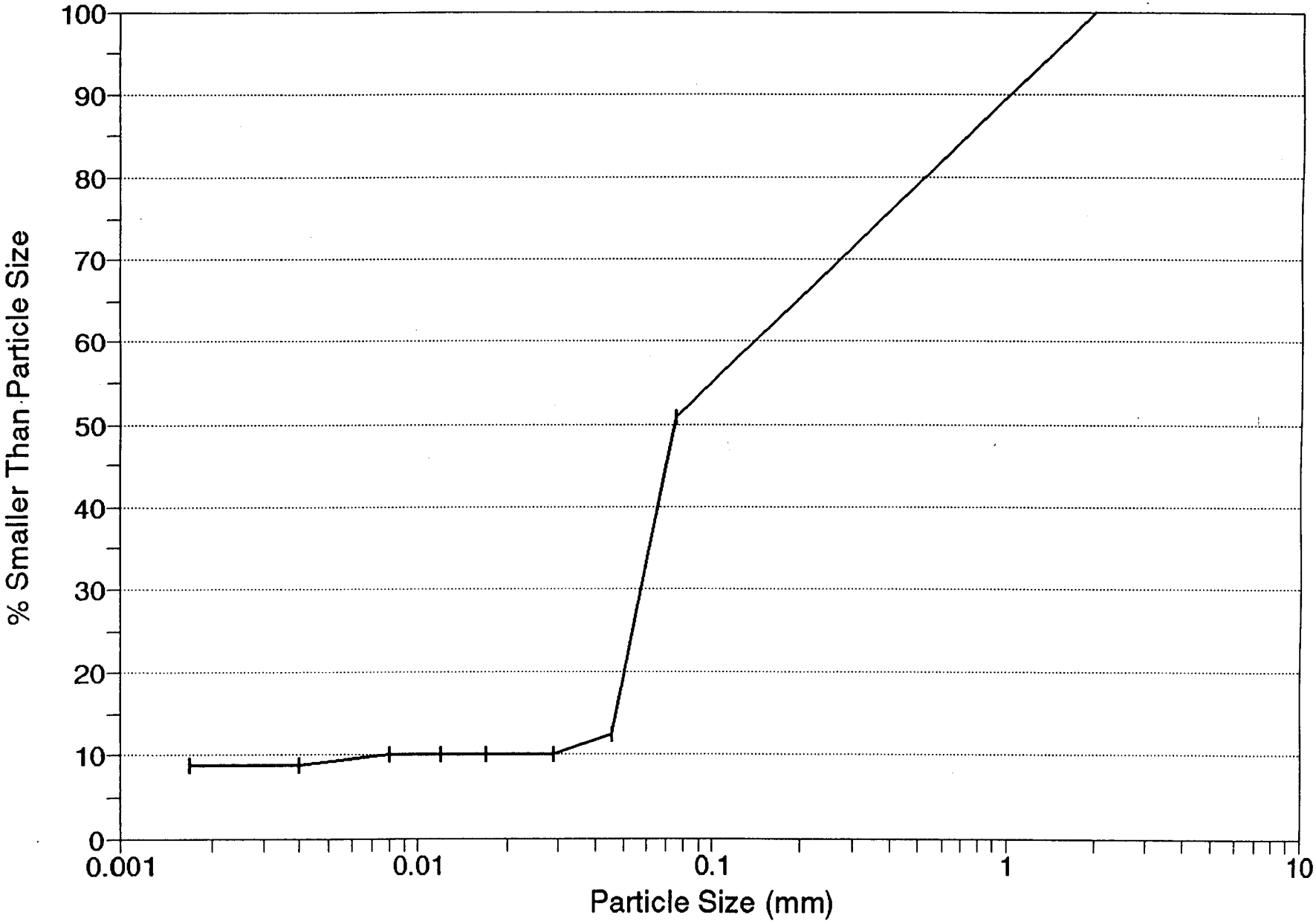
SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

014485

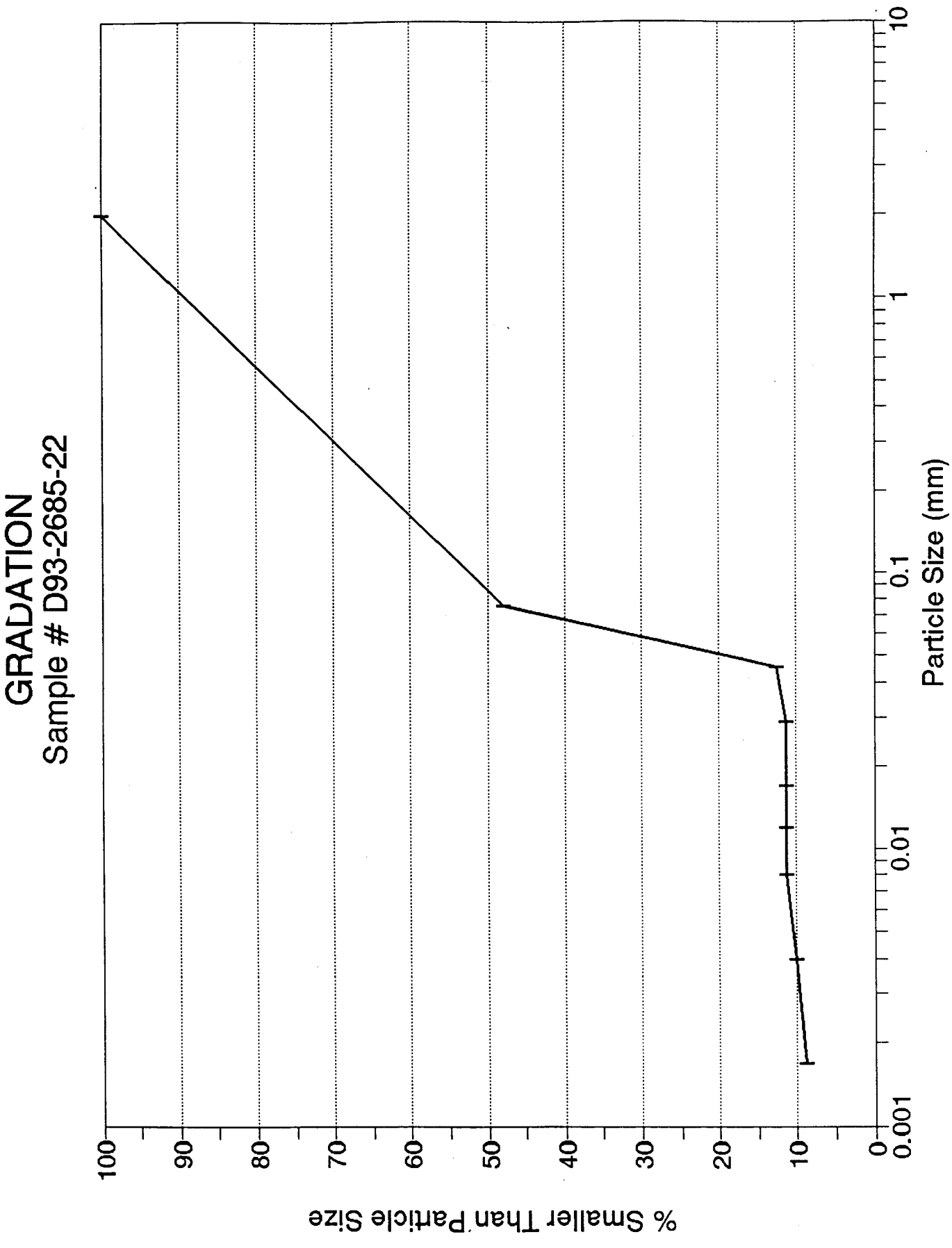

GRADATION
Sample # D93-2685-24
% Smaller Than Particle Size
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
Particle Size (mm)

GRADATION
Sample # D93-2685-23

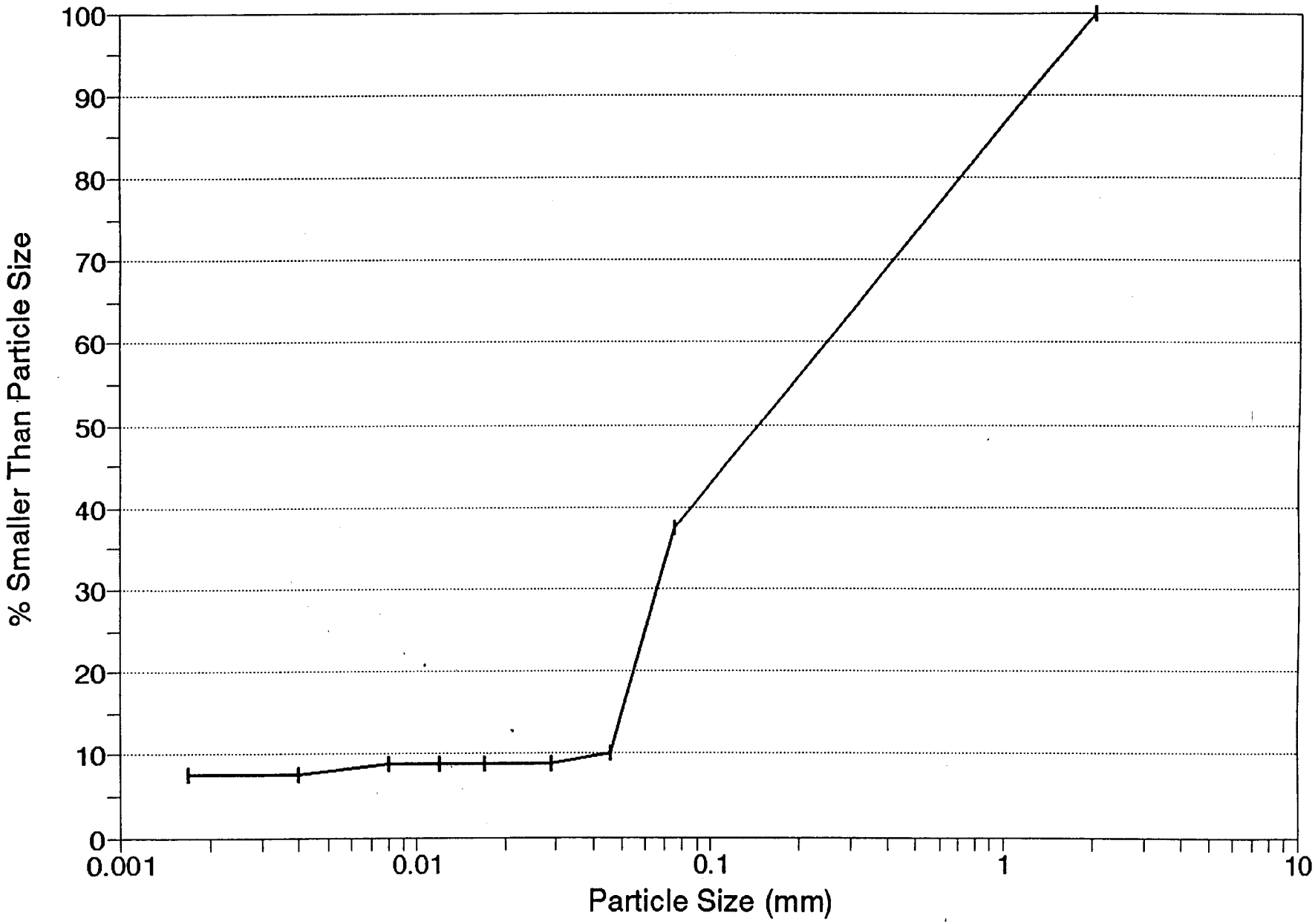


014480

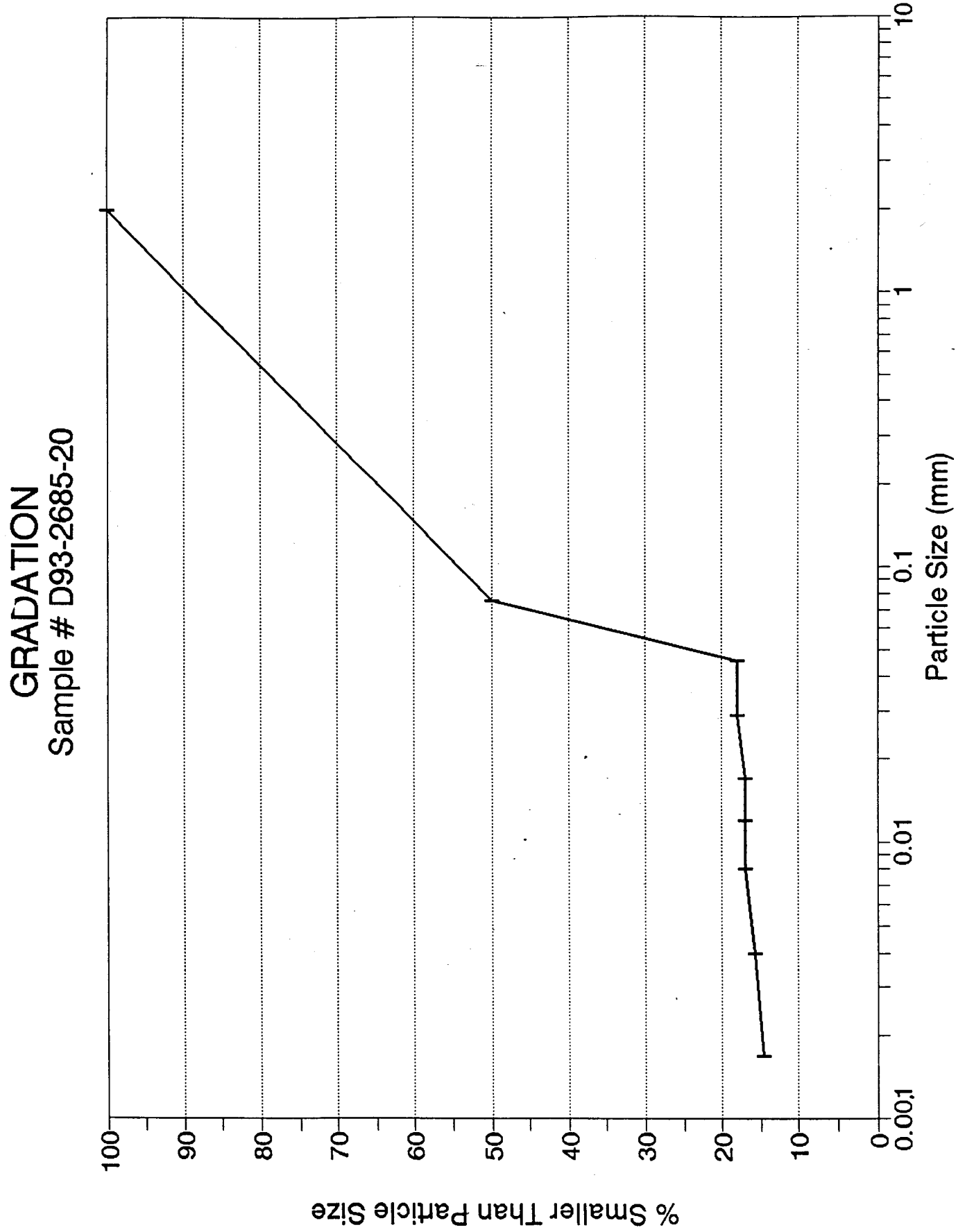
014487


GRADATION
Sample # D93-2685-22
% Smaller Than Particle Size
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
Particle Size (mm)

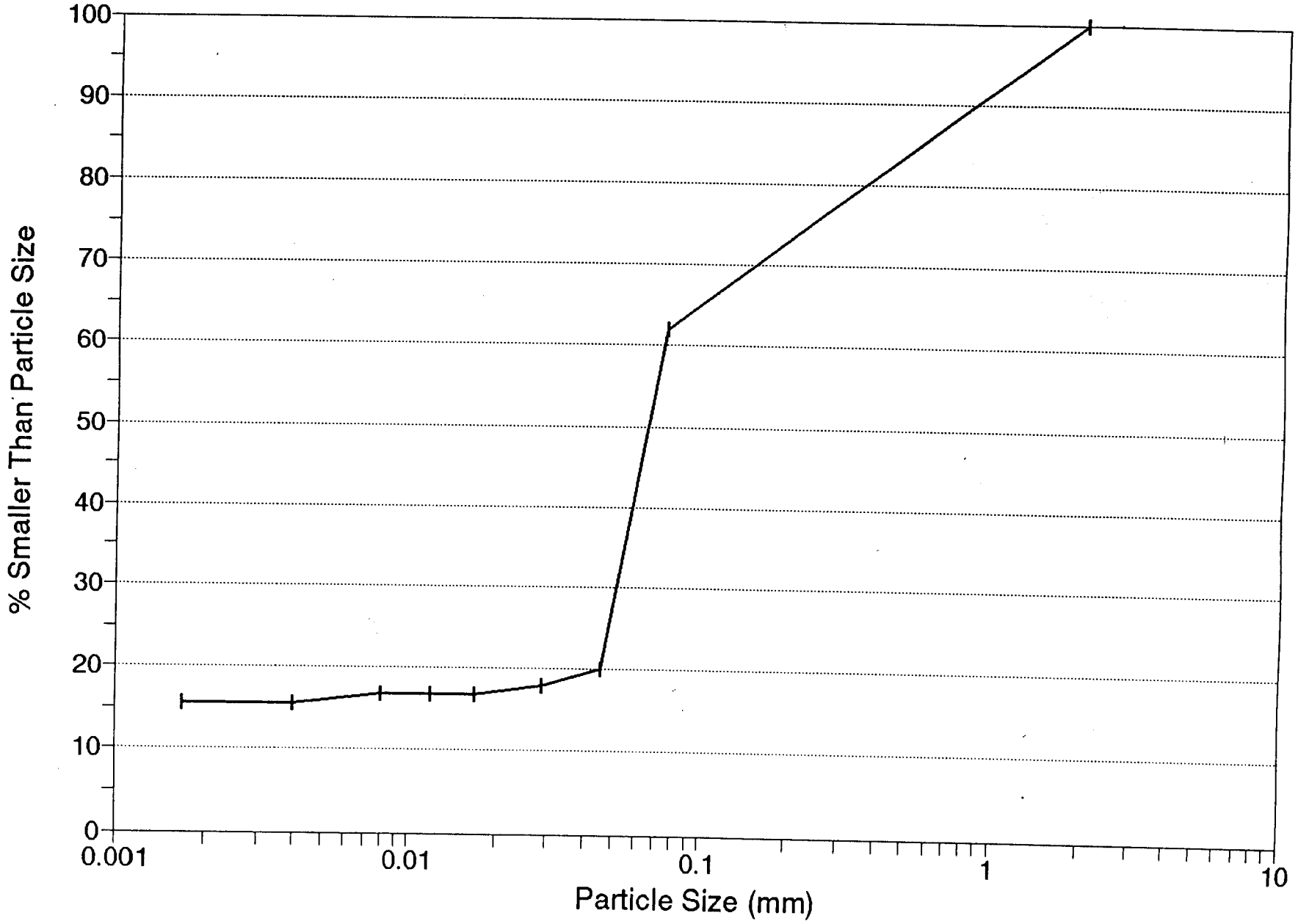
GRADATION
Sample # D93-2685-21



014486

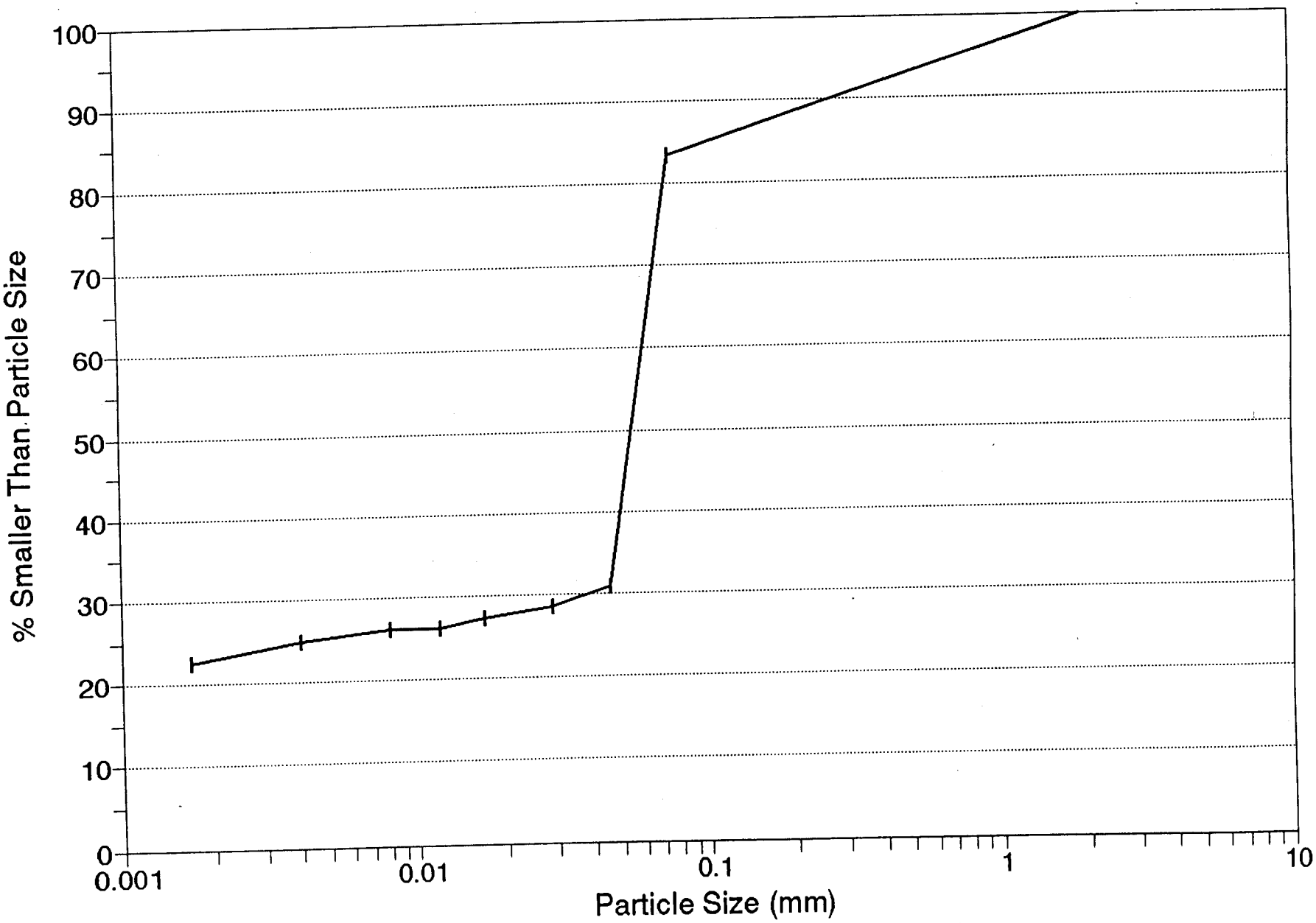

GRADATION
Sample # D93-2685-20
% Smaller Than Particle Size
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
Particle Size (mm)

GRADATION
Sample # D93-2685-19



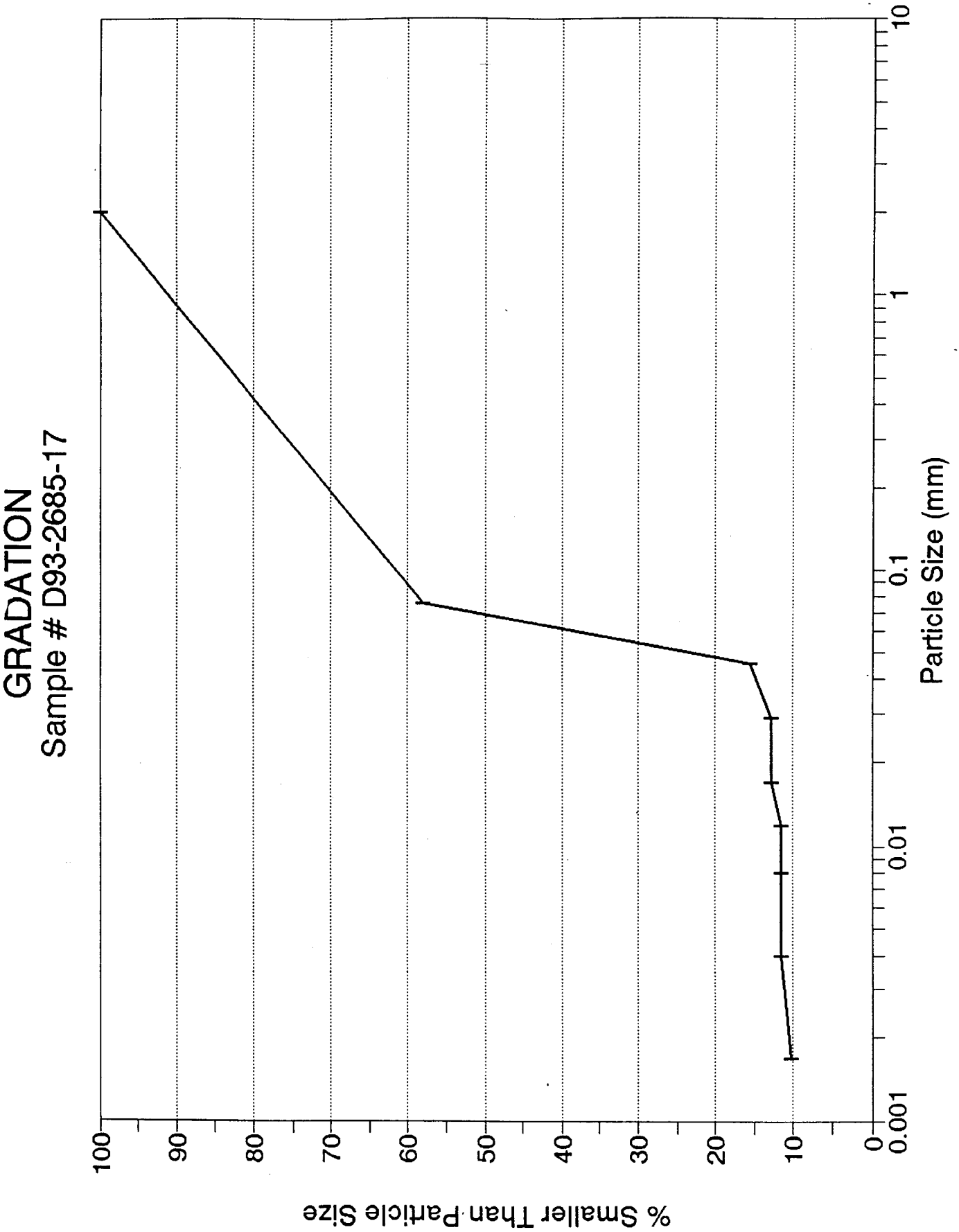
GRADATION

Sample # D93-2685-18



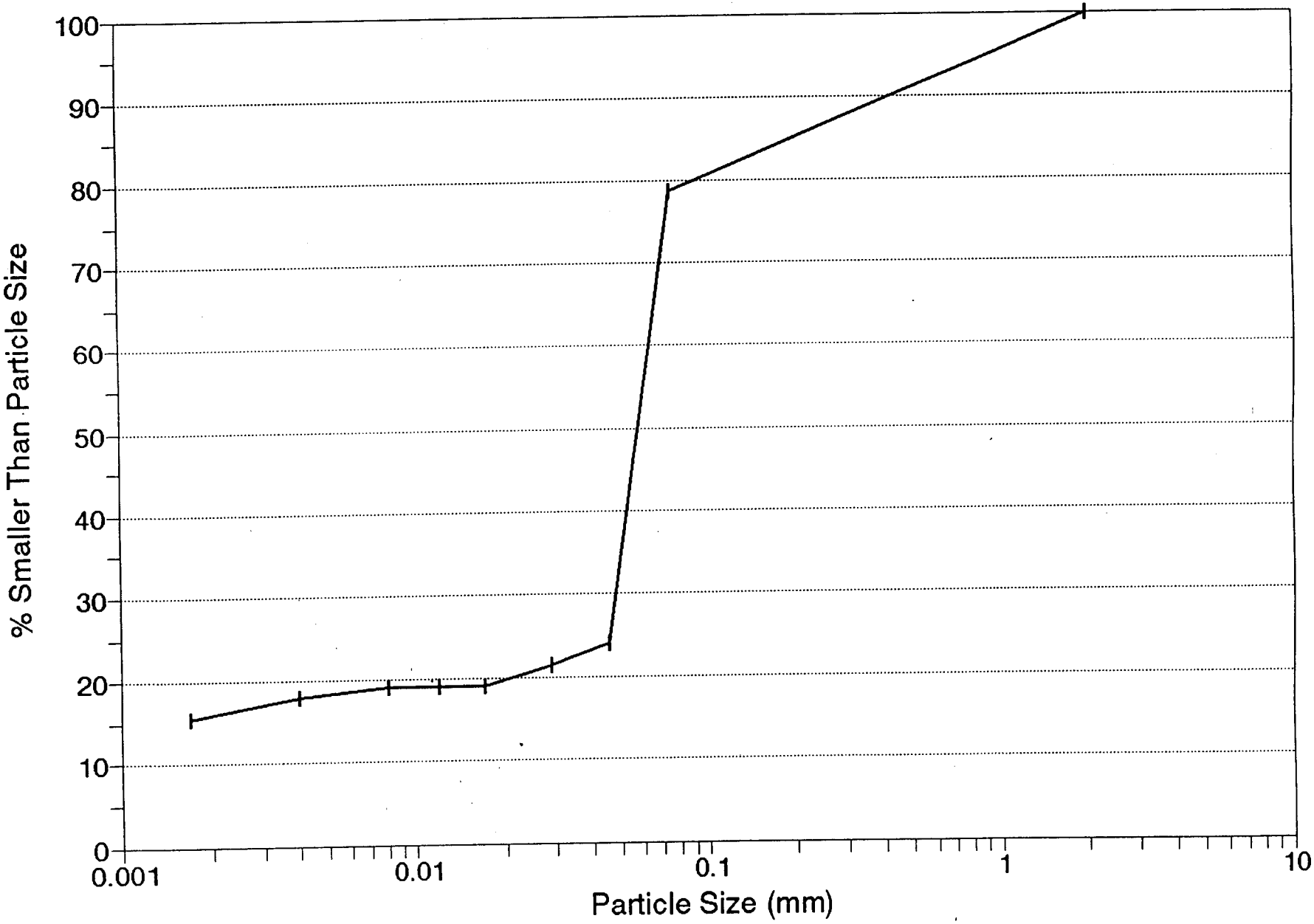
014491

014492


GRADATION
Sample # D93-2685-17
% Smaller Than Particle Size
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
Particle Size (mm)

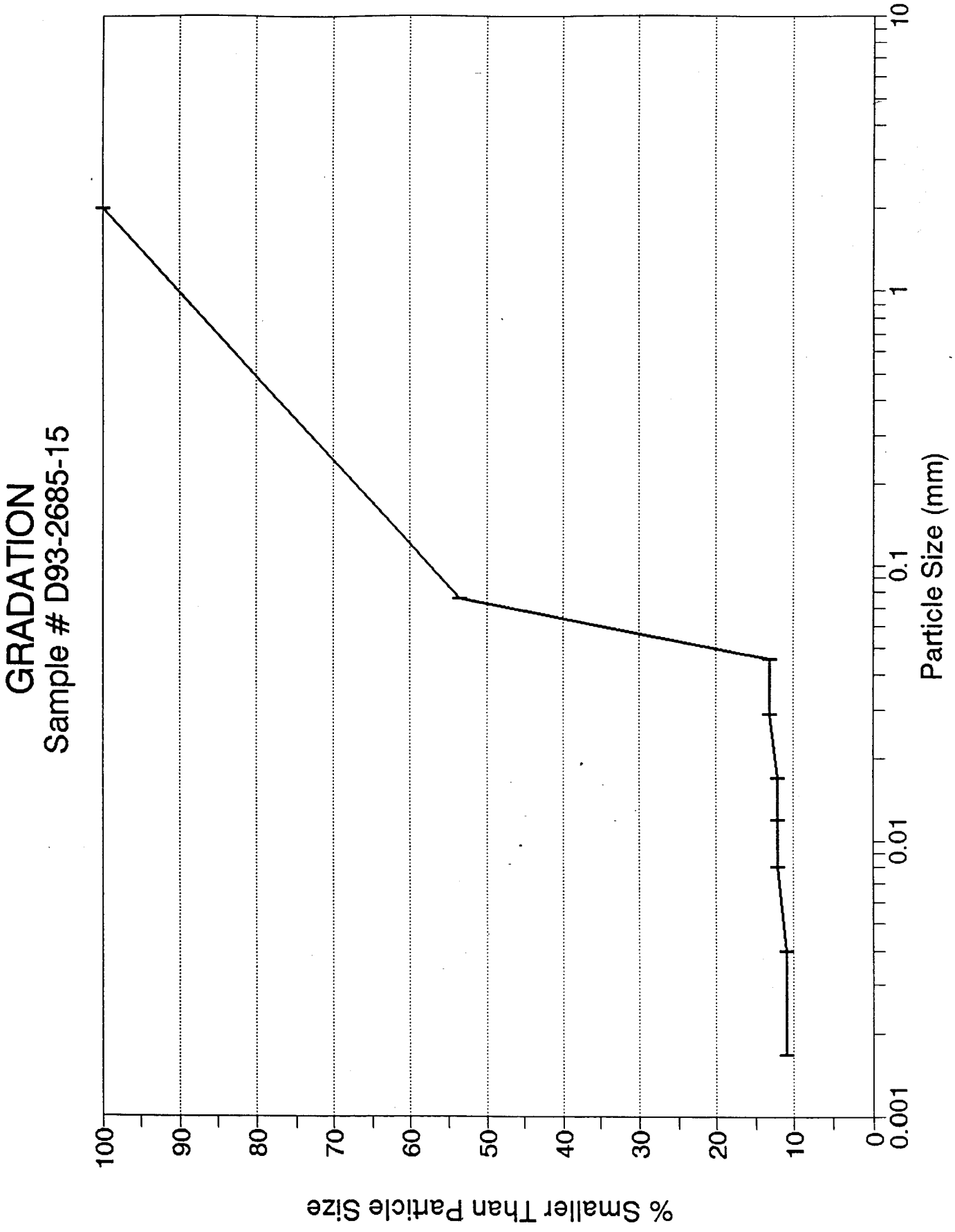
GRADATION

Sample # D93-2685-16



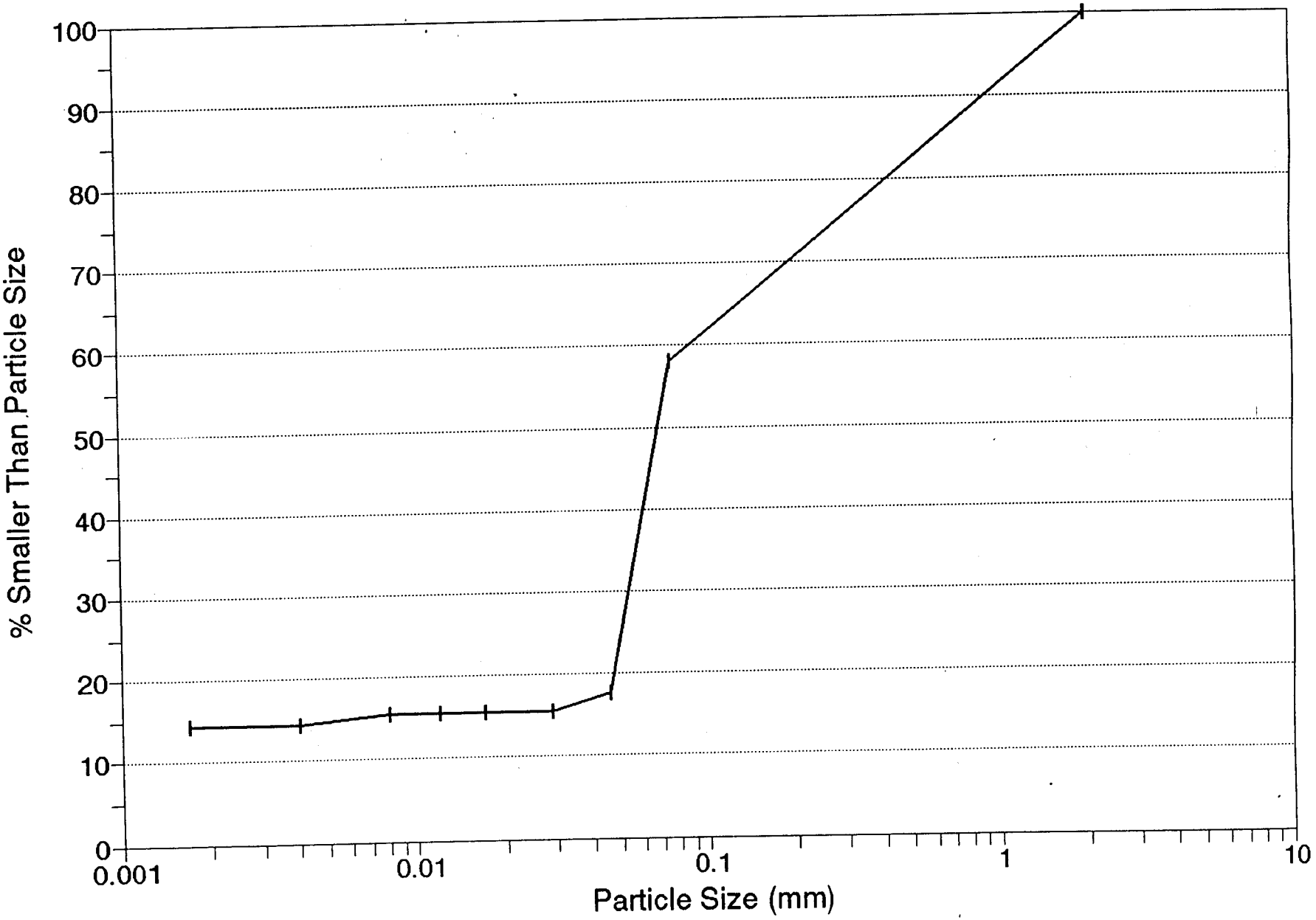
014493

014494


GRADATION
Sample # D93-2685-15
% Smaller Than Particle Size
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
Particle Size (mm)

GRADATION

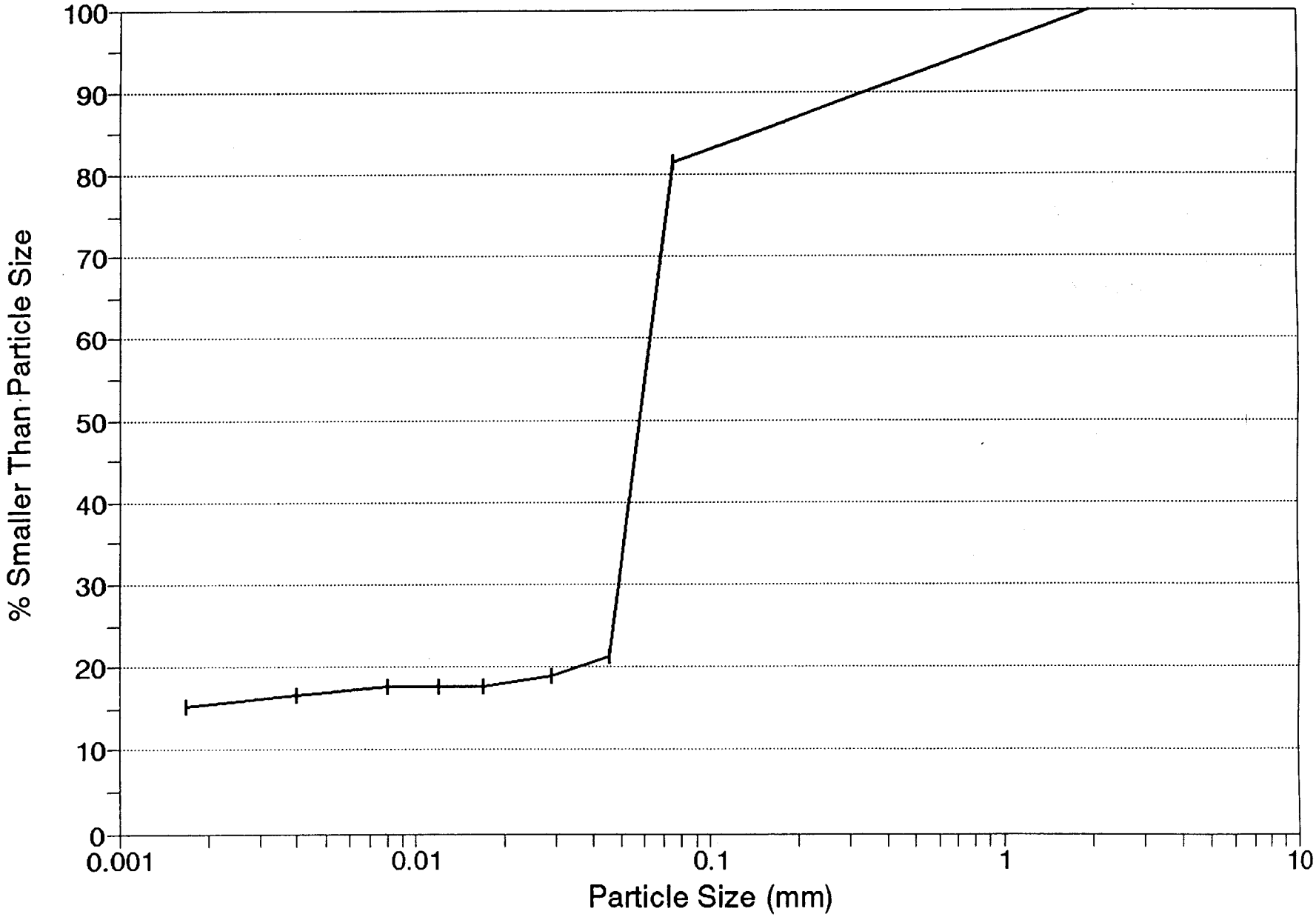
Sample # D93-2685-14



014495

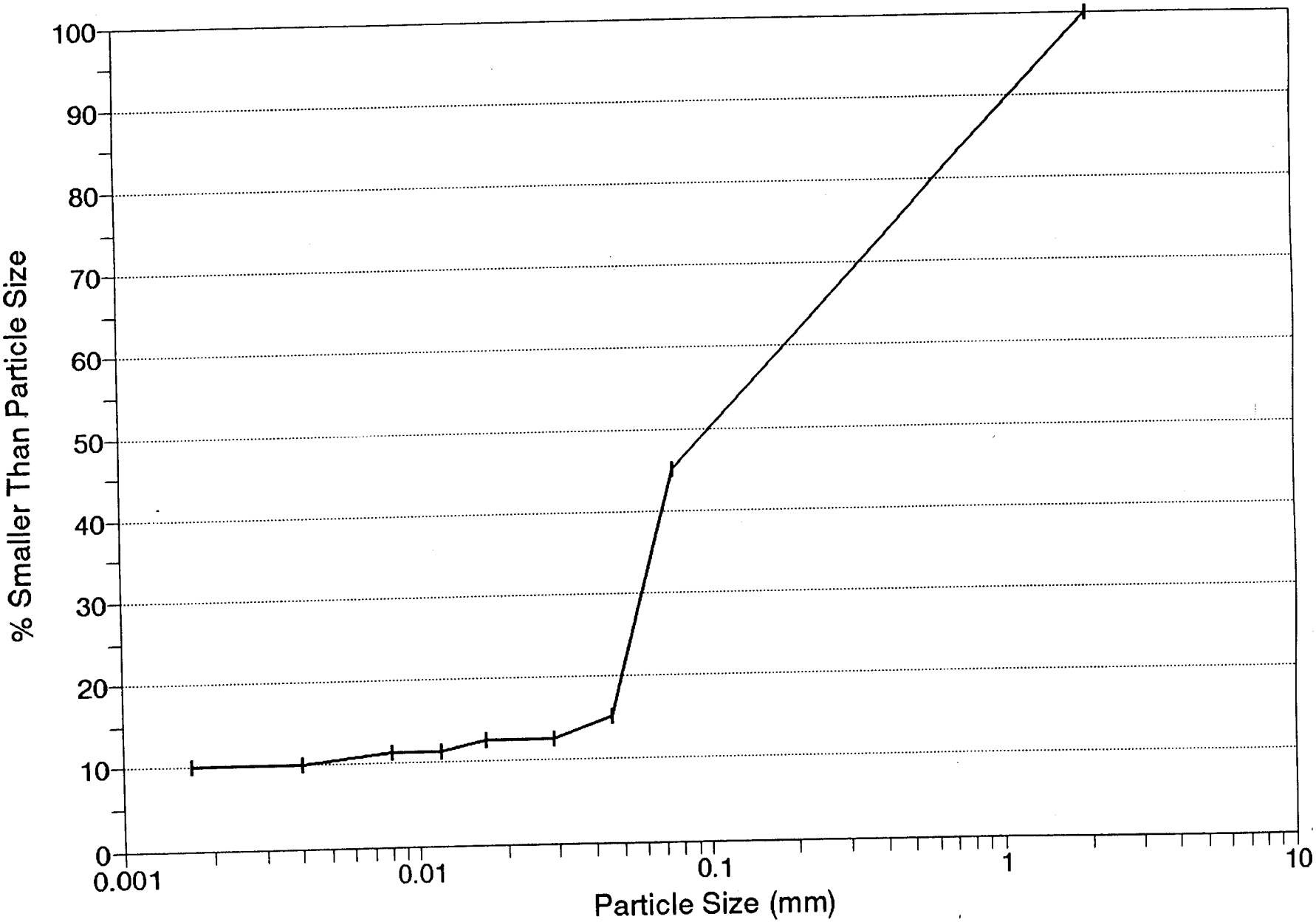
GRADATION

Sample # D93-2685-13



014496

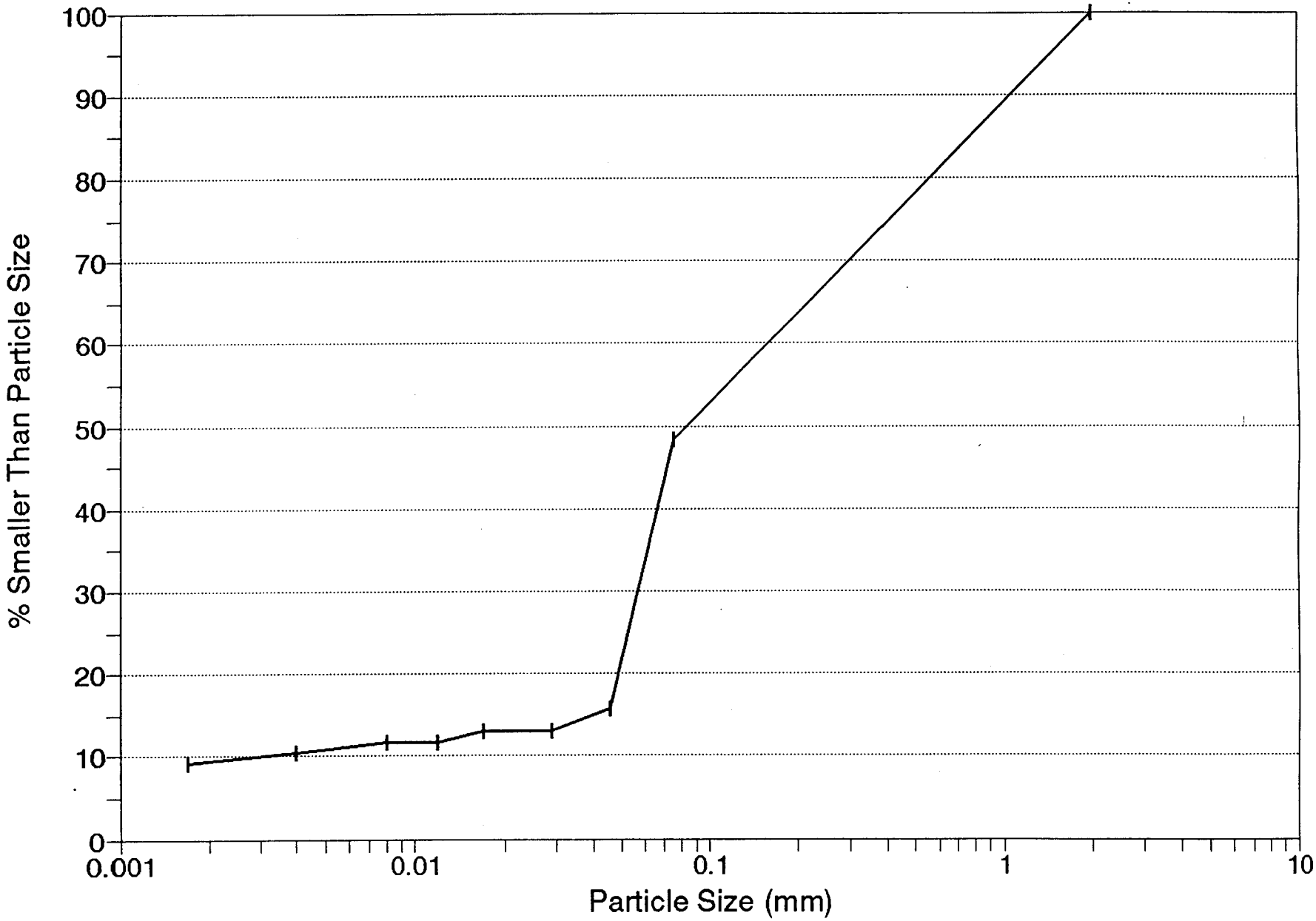
GRADATION
Sample # D93-2685-12



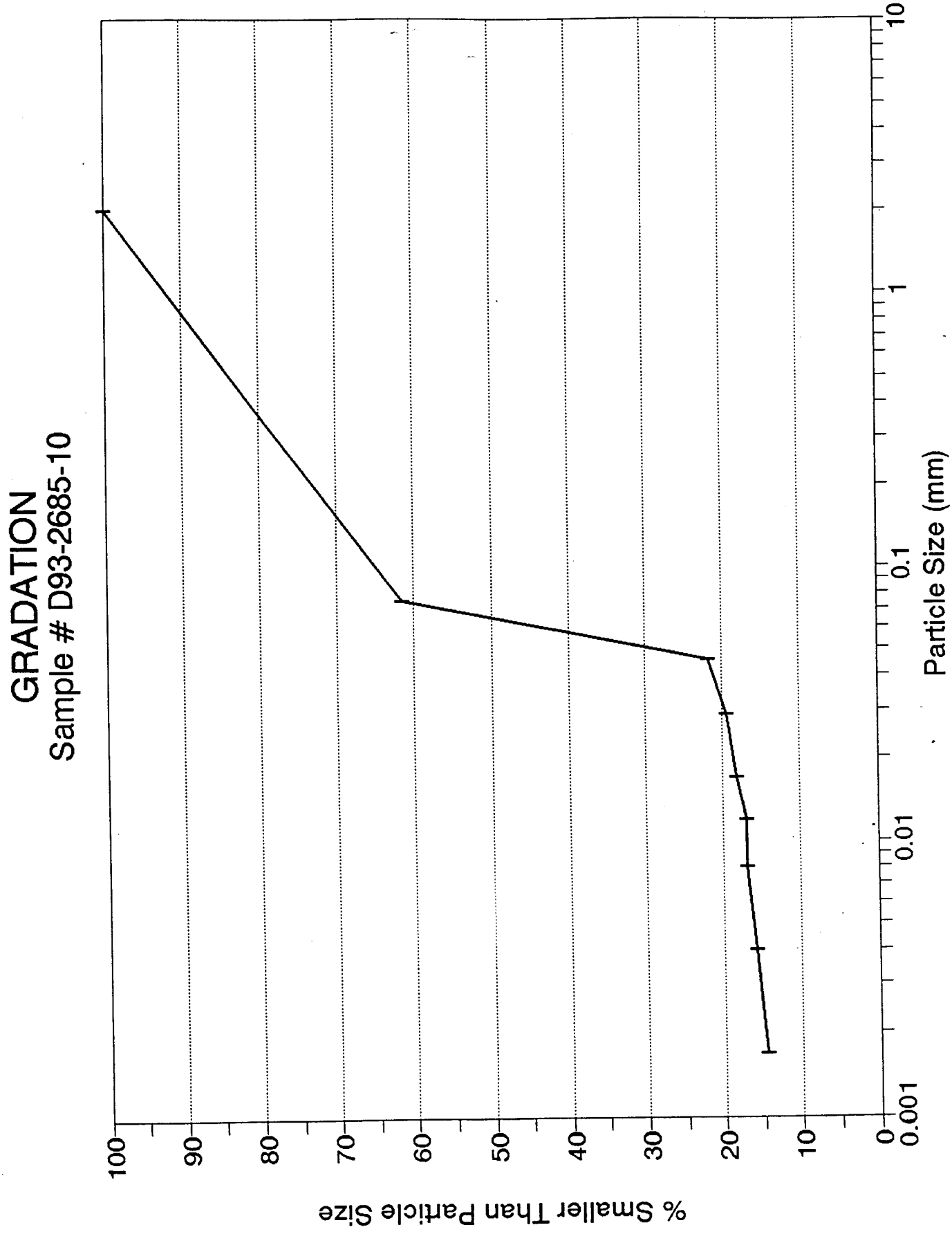
014491

GRADATION

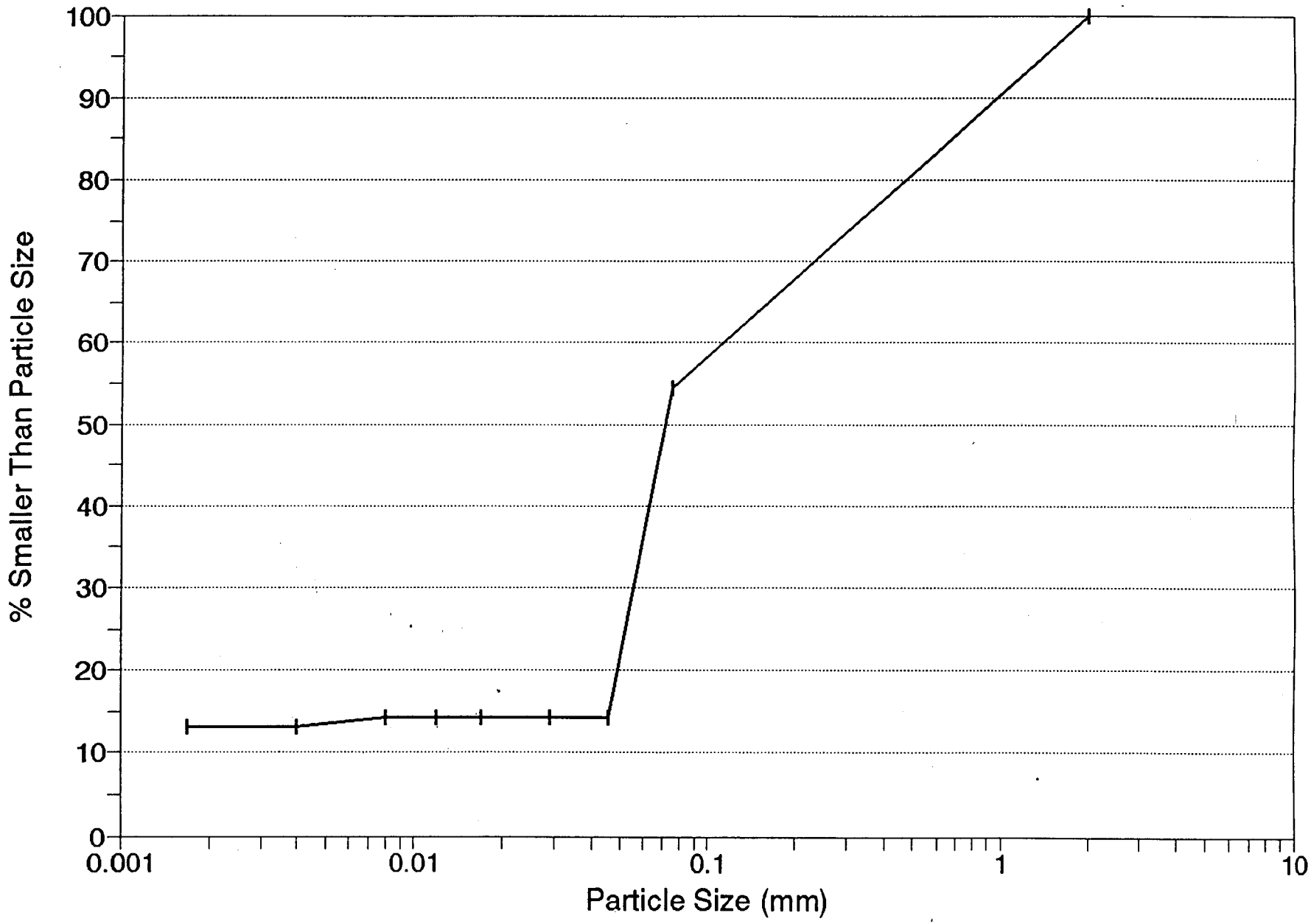
Sample # D93-2685-11



014495

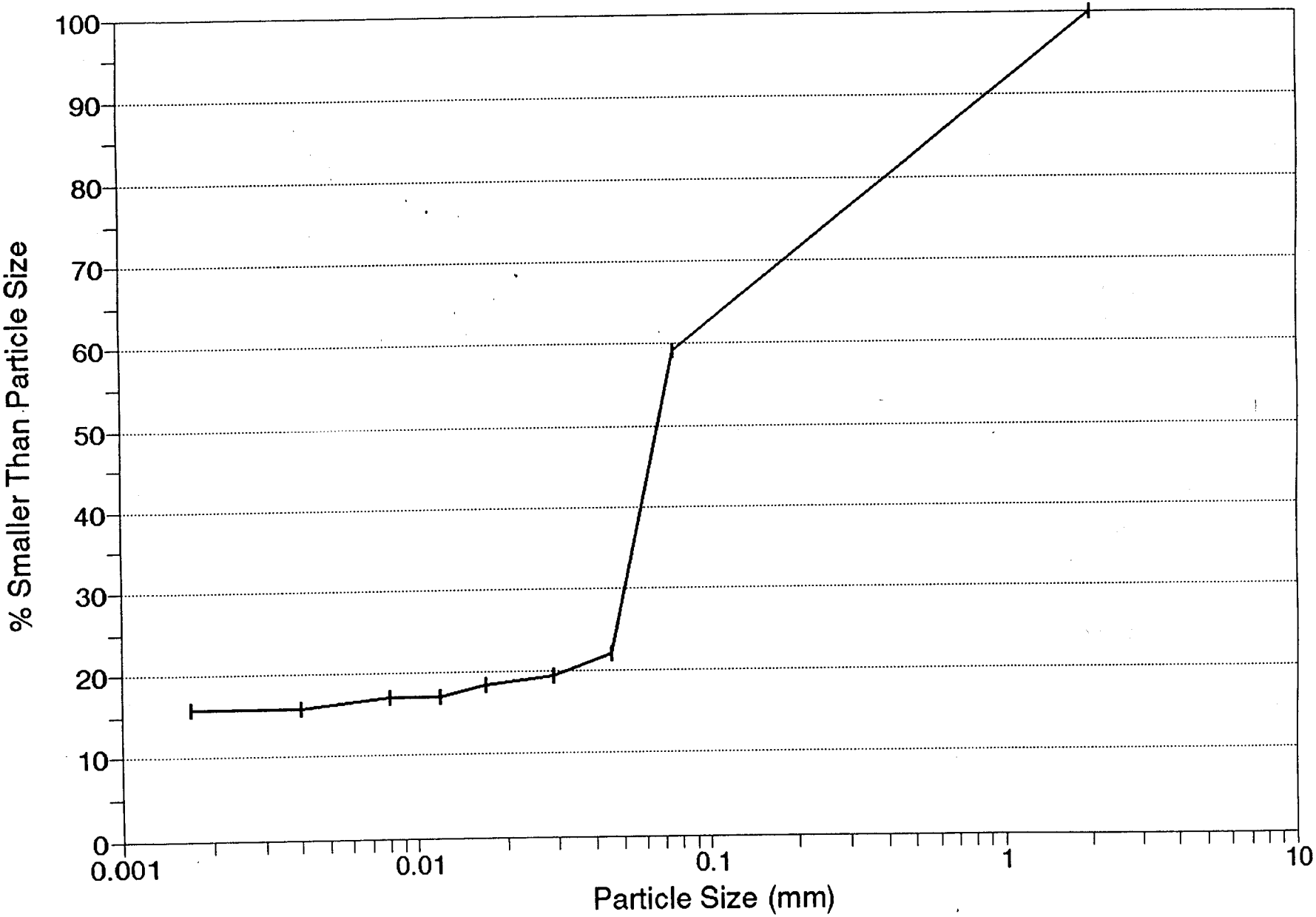

GRADATION
Sample # D93-2685-10
% Smaller Than Particle Size
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
Particle Size (mm)

GRADATION
Sample # D93-2685-9



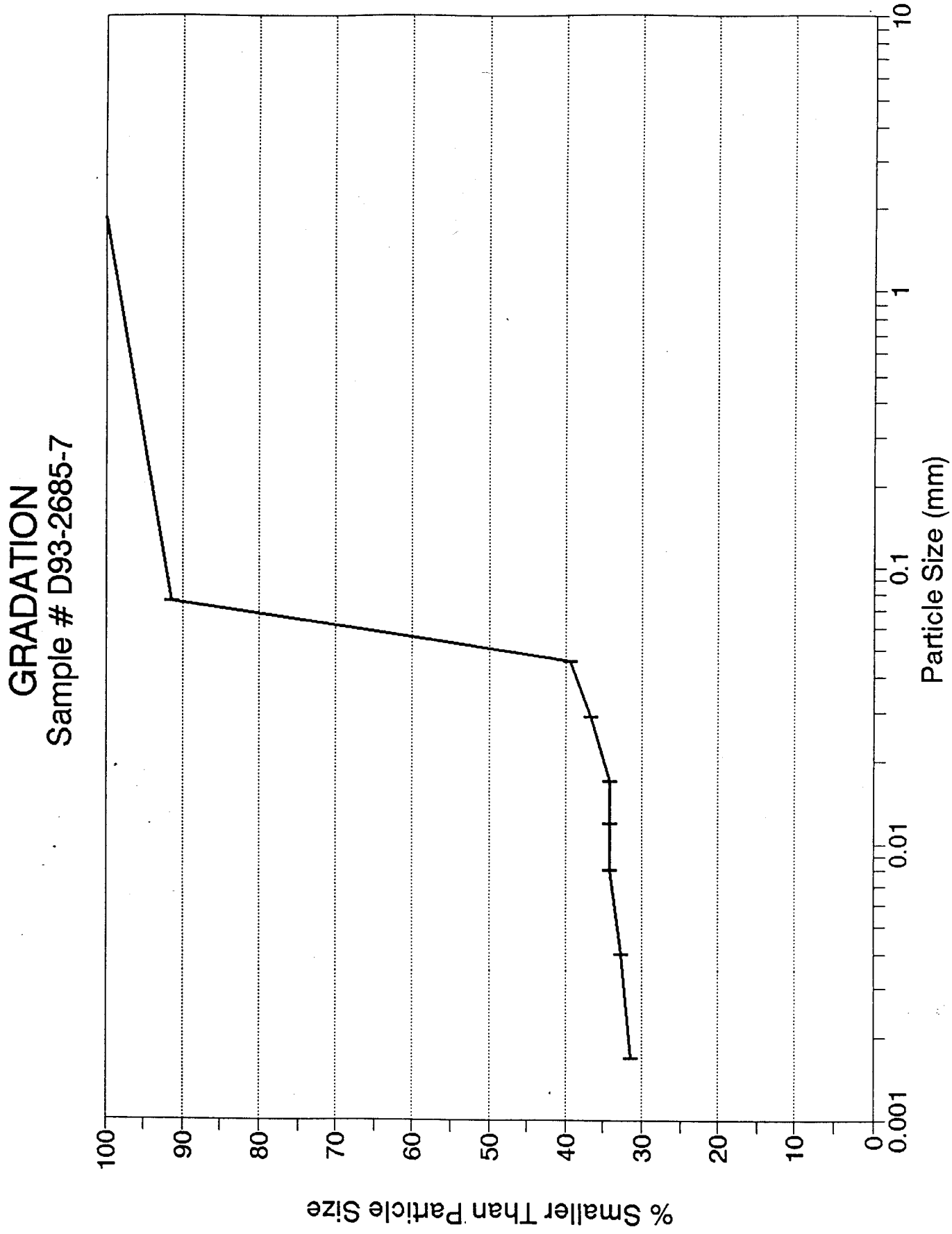
014500

GRADATION
Sample # D93-2685-8



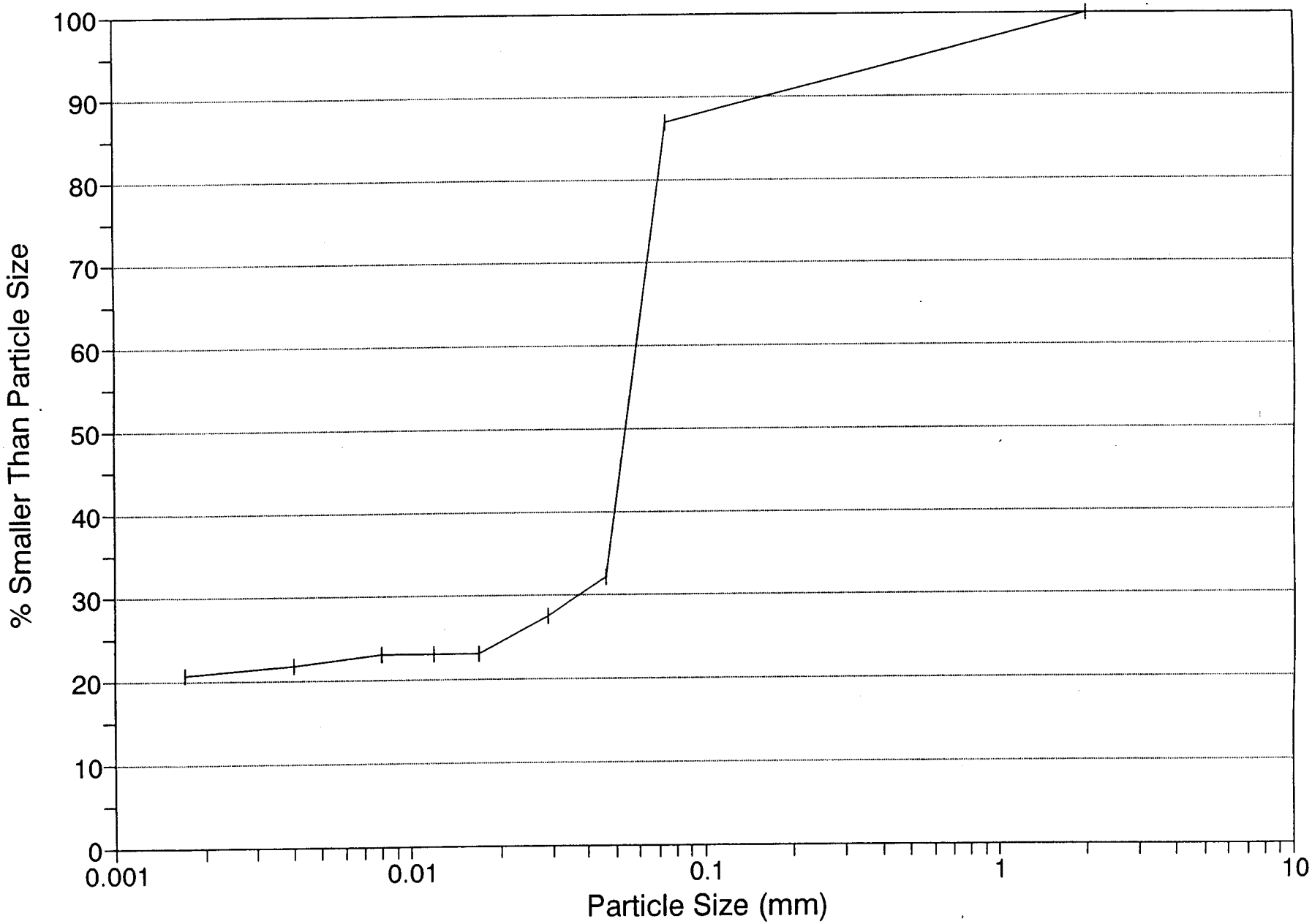
014501

014502


GRADATION
Sample # D93-2685-7
% Smaller Than Particle Size
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
Particle Size (mm)

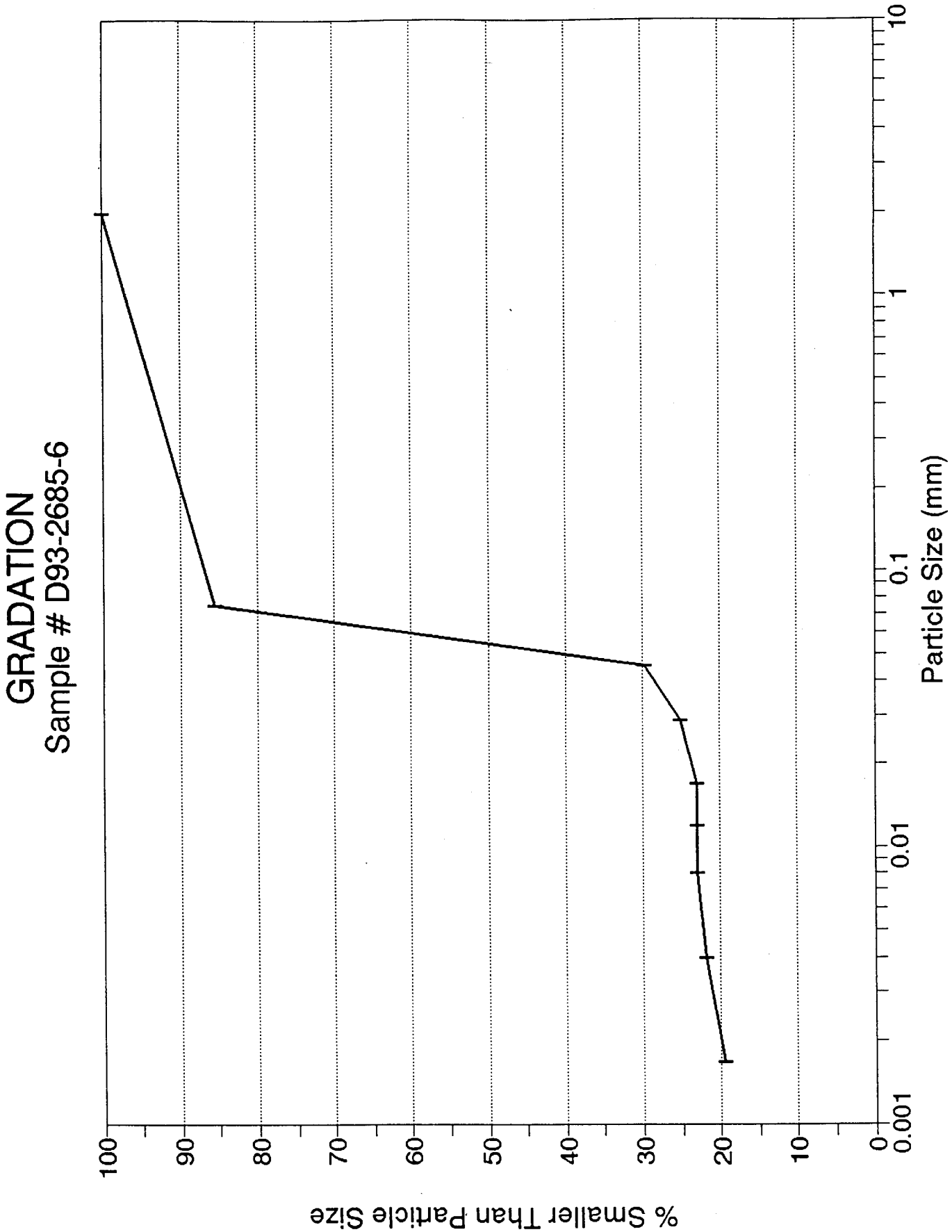
GRADATION

Sample # D93-2685-6 DUP



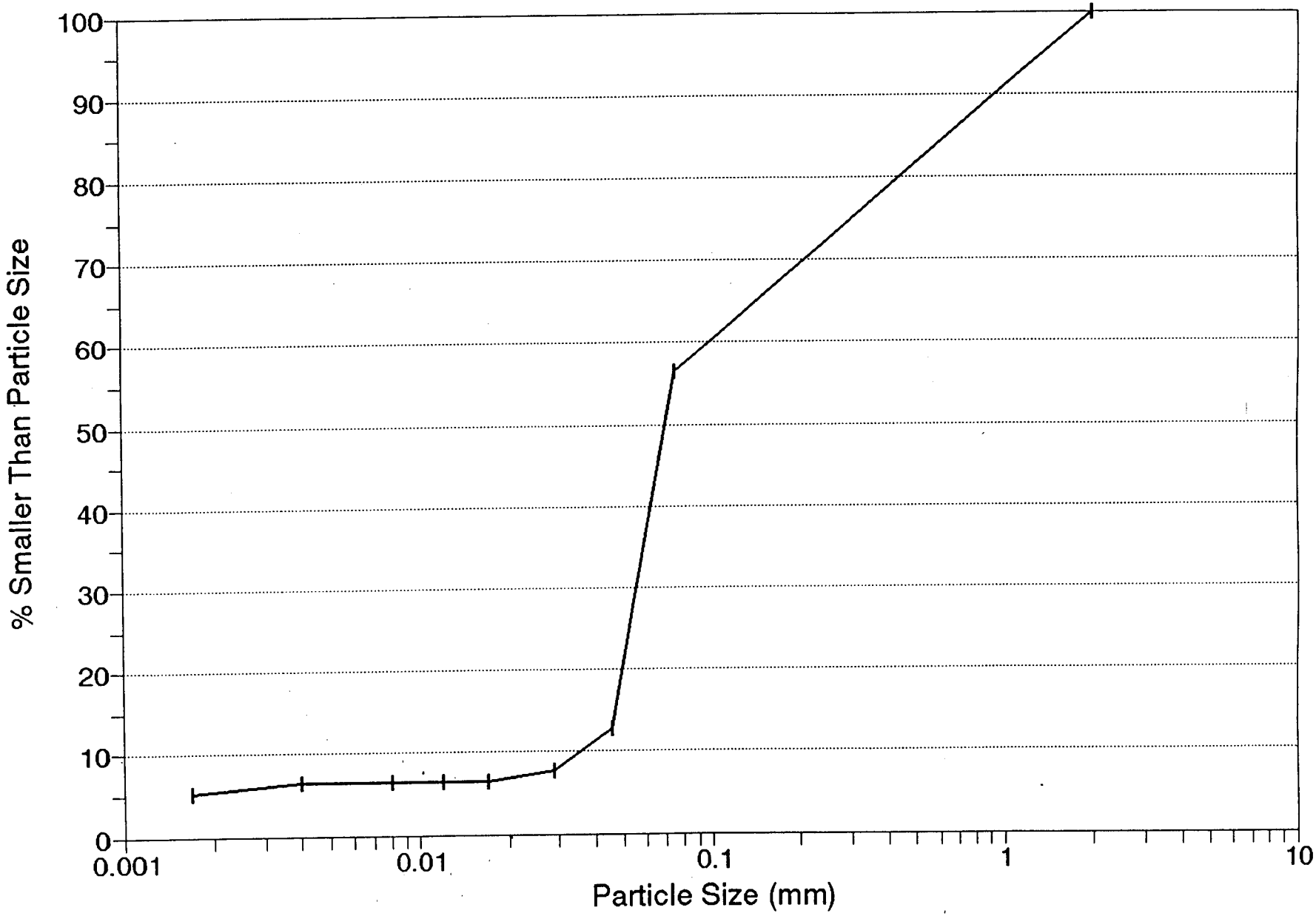
014503

014504


GRADATION
Sample # D93-2685-6
% Smaller Than Particle Size
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
Particle Size (mm)

GRADATION

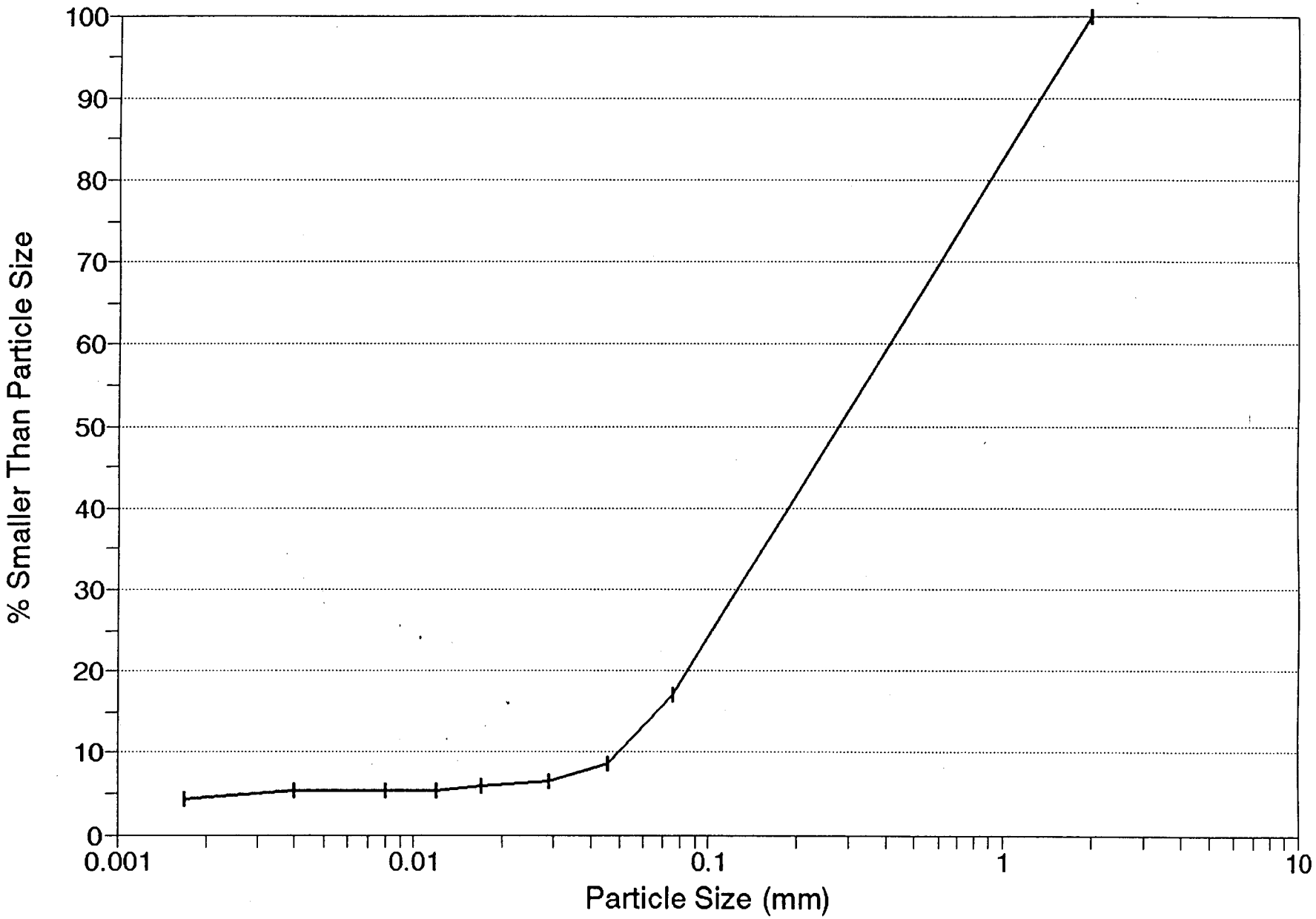
Sample # D93-2685-5



014503

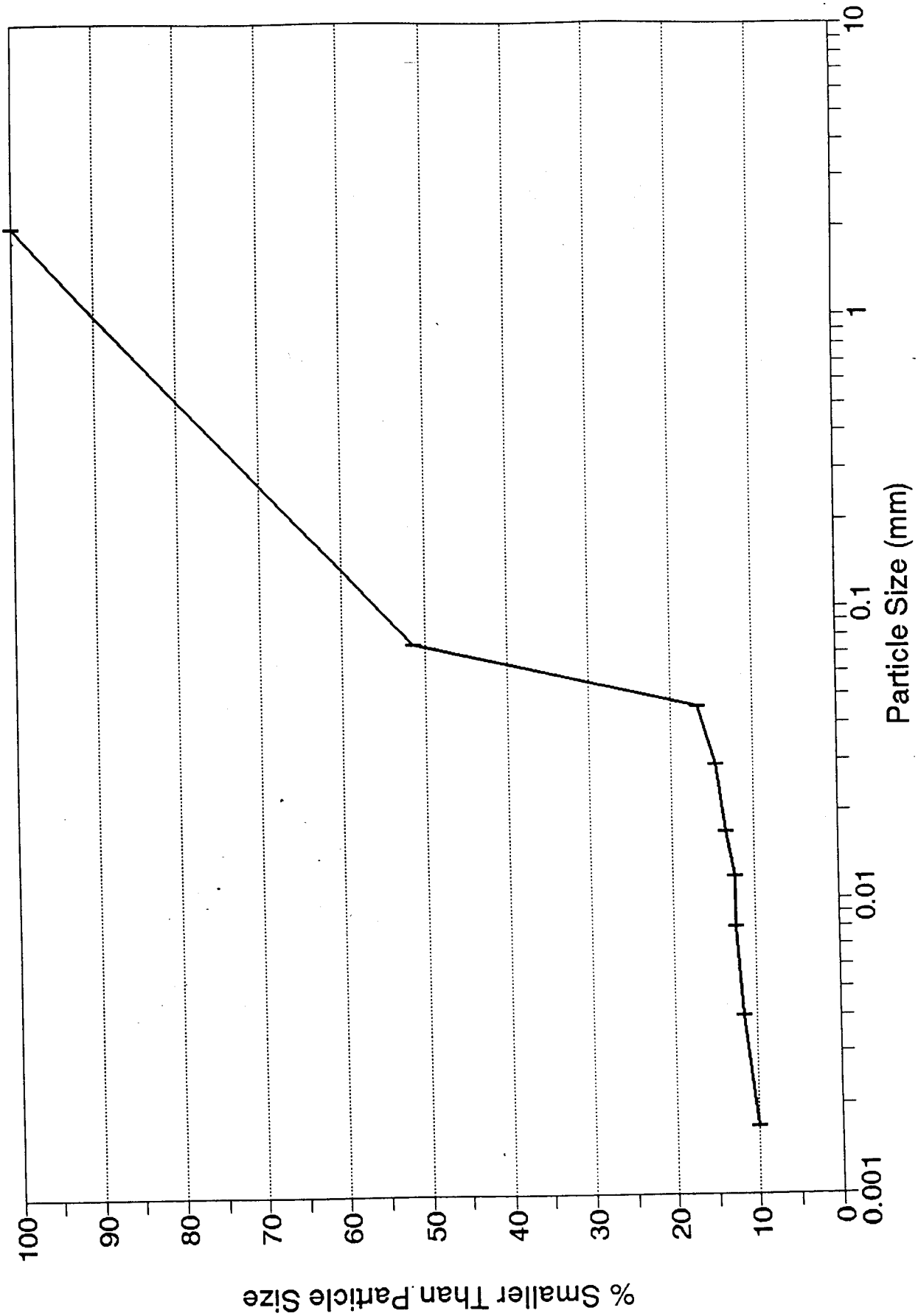
GRADATION

Sample # D93-2685-4

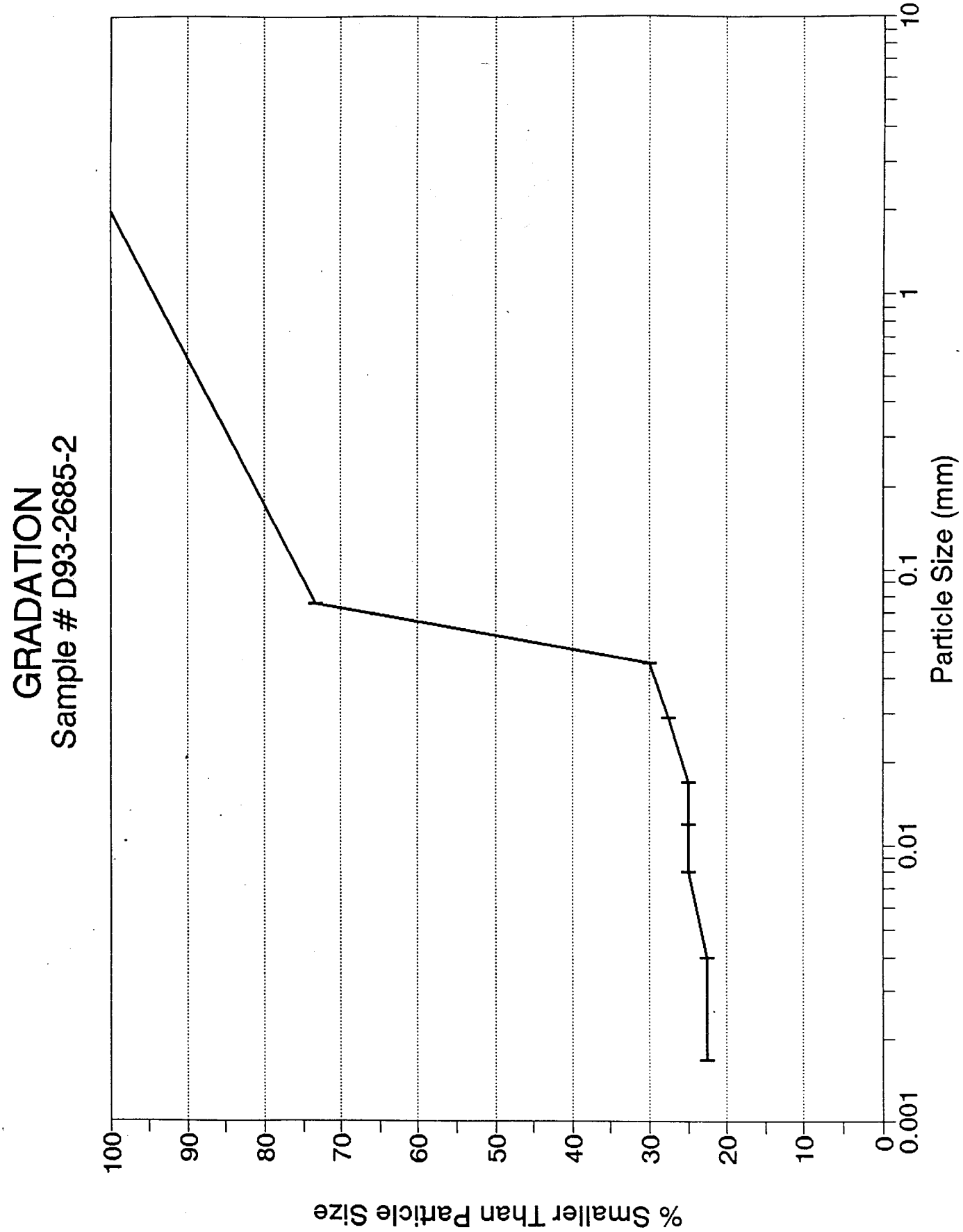


014506

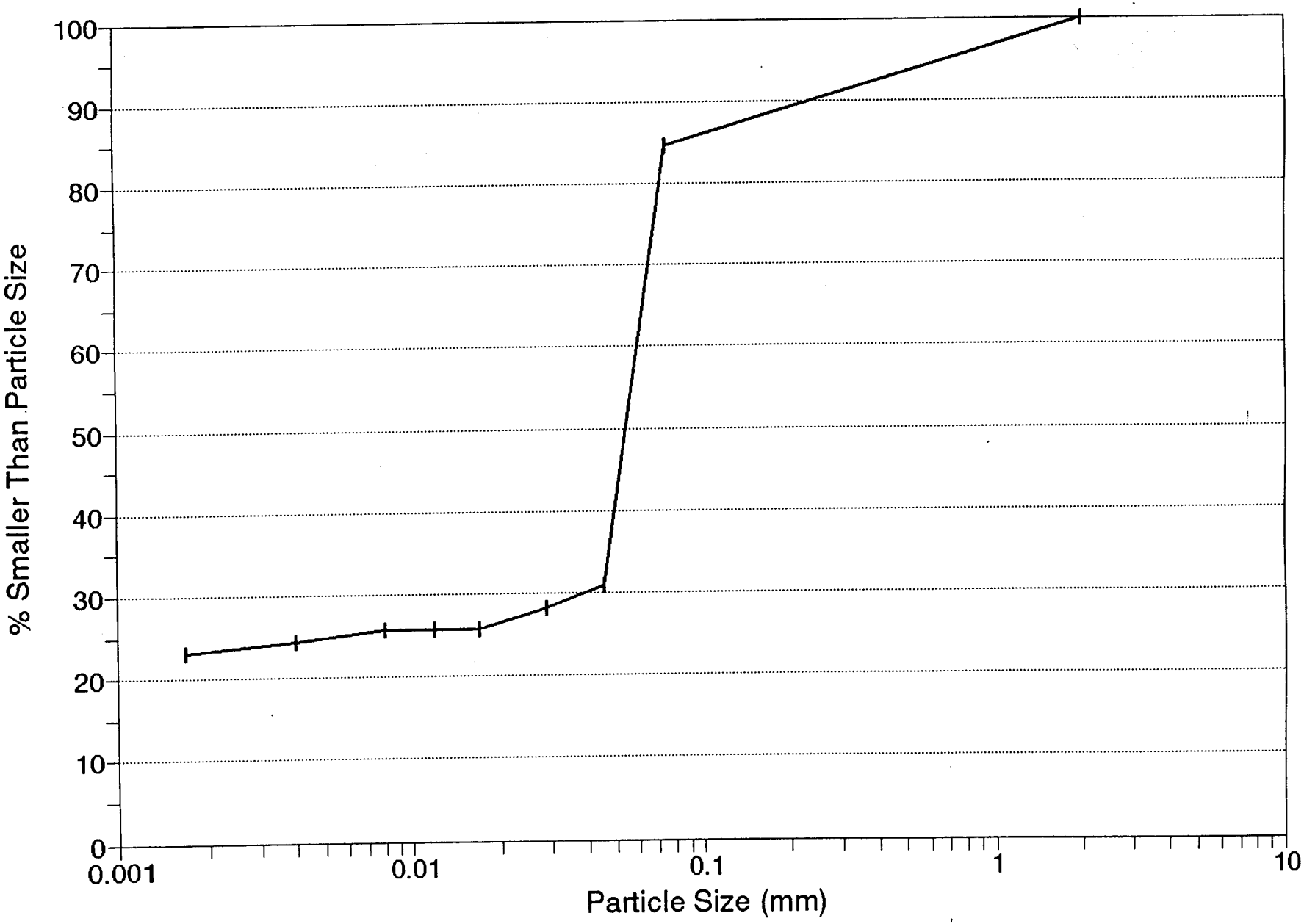
GRADATION
Sample # D93-2685-3



014508


GRADATION
Sample # D93-2685-2
% Smaller Than Particle Size
100
90
80
70
60
50
40
30
20
10
0
0.001
0.01
0.1
1
10
Particle Size (mm)

GRADATION
Sample # D93-2685-1



014509

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-32 DATE SAMPLED : 8-MAR-1993
ID MARKS : Blank Spike

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	14-MAR-1993
EXPLOS_S			JS	16-MAR-1993

ANALYSIS ID	DESCRIPTION
8080_S	Chlorinated Pesticides/PCBs, Solid Matrix
8150_S	Chlorinated Herbicides, Solid Matix
8240_FL_S	Volatile Organics, Full List, Solid Matrix
8270A_FL_S	Acid Extractables, Full List, Solid Matrix
8270B_FL_S	Base-Neutral Extractables, Full List, Solid
ABN_TIC	Tentatively Identified Compounds - ABN
CHLORIDE_S	Chloride, Solid Matrix, Titration
CONDUCT_S	Conductivity, Solid Matrix
EXPLOS_S	Explosives, Solid Matrix, HPLC Method 8330
GRADATION	Gradation, Method ASTM D421/D422
L_P_LIMIT	Liquid/Plastic Limit ASTM D4318
MOIST_OVEN	Moisture by Drying Oven
M_AG_T_S_I	Silver, Total, Solid, by ICP
M_AS_T_S_F	Arsenic, Total, Solid, By GFAA
M_BA_T_S_I	Barium, Total, Solid, by ICP
M_CD_T_S_I	Cadmium, Total, Solid, by ICP
M_CR_T_S_I	Chromium, Total, Solid, by ICP
M_HG_T_S_V	Mercury, Total, Solid, by GVAA
M_NI_T_S_I	Nickel, Total, Solid, by ICP
M_PB_T_S_F	Lead, Total, Solid, by GFAA
M_SB_T_S_I	Antimony, Total, Solid, by ICP
M_SE_T_S_F	Selenium, Total, Solid, by GFAA
M_TL_T_S_F	Thallium, Total, Solid, by Graphite Furnace
NITR_N_I_S	Nitrate-Nitrite Nitrogen as N, Solid
PH_S	pH Determination by Meter, Solid Matrix
SOLID_TPER	Total Solids by OVEN
SUL_9038_S	Sulfate, Solid Matrix
VOA_TIC	Tentatively Identified Compounds - VOA

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-28 DATE SAMPLED : 8-MAR-1993
ID MARKS : Blank Spike

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	8-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
EXPLOS_S			JS	16-MAR-1993

SAMPLE ID : D93-2685-29 DATE SAMPLED : 8-MAR-1993
ID MARKS : MS 2685-17 (VOA)/2685-6 (ABN)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JKA	14-MAR-1993
8270A_FL_S	TLR	9-MAR-1993	WSW	13-MAR-1993
8270B_FL_S	TLR	9-MAR-1993	WSW	13-MAR-1993
EXPLOS_S			JS	16-MAR-1993

SAMPLE ID : D93-2685-30 DATE SAMPLED : 8-MAR-1993
ID MARKS : MSD 2685-17 (VOA)/2685-6 (ABN)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JKA	14-MAR-1993
8270A_FL_S	TLR	9-MAR-1993	WSW	13-MAR-1993
8270B_FL_S	TLR	9-MAR-1993	WSW	13-MAR-1993
EXPLOS_S			JS	16-MAR-1993

SAMPLE ID : D93-2685-31 DATE SAMPLED : 8-MAR-1993
ID MARKS : Method Blank

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	14-MAR-1993
8240_FL_S			JKA	13-MAR-1993
8270A_FL_S	TLR	9-MAR-1993	WSW	13-MAR-1993
8270B_FL_S	TLR	9-MAR-1993	WSW	13-MAR-1993
ABN_TIC			WSW	13-MAR-1993
EXPLOS_S			JS	16-MAR-1993
VOA_TIC			JKA	13-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-24 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB11(30-32)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
SOLID_TPER			KOB	15-MAR-1993

SAMPLE ID : D93-2685-25 DATE SAMPLED : 8-MAR-1993
ID MARKS : MS 2685-6 (VOA)/2685-17 (ABN)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	8-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	12-MAR-1993
8240_FL_S			JK	12-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
EXPLOS_S			JS	16-MAR-1993

SAMPLE ID : D93-2685-26 DATE SAMPLED : 8-MAR-1993
ID MARKS : MSD 2685-6 (VOA)/2685-17 (ABN)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	8-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	12-MAR-1993
8240_FL_S			JK	12-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
EXPLOS_S			JS	16-MAR-1993

SAMPLE ID : D93-2685-27 DATE SAMPLED : 8-MAR-1993
ID MARKS : Method Blank

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	12-MAR-1993
8240_FL_S			JK	12-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
ABN_TIC			WSW	13-MAR-1993
EXPLOS_S			JS	16-MAR-1993
VOA_TIC			JK	12-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-21 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB11(20-22)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	14-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	22-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	11-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

SAMPLE ID : D93-2685-22 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB11(25-27)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
SOLID_TPER			KOB	15-MAR-1993

SAMPLE ID : D93-2685-23 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB11(25-27)-QC

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
SOLID_TPER			KOB	15-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-20 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB11(15-17)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	14-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	22-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	11-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	MES	19-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

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CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-19 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB11(10-12.5)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	14-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	22-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	11-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-18 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB11(5-7)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	14-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	22-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	11-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-17 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB10(20-24)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	14-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
ABN_TIC			WSW	13-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	22-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	11-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-16 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB10(15-17)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	14-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	22-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	11-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-15 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB10(10-12)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	14-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	22-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	11-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-14 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB10(5-7)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	17-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	22-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	10-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-13 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB10(0-2)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	21-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	10-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-12 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB09(20-24.5)-QC

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	21-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	10-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-11 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB09(20-24.5)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	21-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	10-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

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CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-10 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB09(15-17)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JRW	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	21-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	10-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-9 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB09(10-12)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JAO	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	21-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	10-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-8 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB09(5-7)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JAO	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	21-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	10-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-7 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB09(0-2)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JAO	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	21-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	15-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-6 DATE SAMPLED : 5-MAR-1993
ID MARKS : LH13-SB11(0-3)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JKA	12-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
ABN_TIC			WSW	13-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JAO	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	RKD	21-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	15-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JKA	12-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-5 DATE SAMPLED : 5-MAR-1993
ID MARKS : LH13-SB08(20-23)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JK	12-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
ABN_TIC			WSW	13-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JAO	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	MES	21-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	15-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	12-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-4 DATE SAMPLED : 5-MAR-1993
ID MARKS : LH13-SB08(15-17)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JK	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JAO	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	MES	21-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	15-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	19-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	13-MAR-1993

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CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-3 DATE SAMPLED : 5-MAR-1993
ID MARKS : LH13-SB08(10-12)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JK	12-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
ABN_TIC			WSW	13-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JAO	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	MES	21-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	15-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	19-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	12-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-2 DATE SAMPLED : 5-MAR-1993
ID MARKS : LH13-SB08(5-7)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	13-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JK	12-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	13-MAR-1993
ABN_TIC			WSW	13-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JAO	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	MES	21-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	15-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	19-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JK	12-MAR-1993

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CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2685-1 DATE SAMPLED : 5-MAR-1993
ID MARKS : LH13-SB08(0-2)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_S	TLR	9-MAR-1993	SRW	12-MAR-1993
8150_S	TLR	10-MAR-1993	SRW	13-MAR-1993
8240_FL_S			JKA	13-MAR-1993
8270A_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
8270B_FL_S	TLR	10-MAR-1993	WSW	14-MAR-1993
ABN_TIC			WSW	14-MAR-1993
CHLORIDE_S			BWB	10-MAR-1993
CONDUCT_S			MKS	11-MAR-1993
EXPLOS_S			JS	16-MAR-1993
GRADATION			NJK	12-MAR-1993
L_P_LIMIT			JAO	29-MAR-1993
MOIST_OVEN			RJS	15-MAR-1993
M_AG_T_S_I	CCM	10-MAR-1993	KJS	11-MAR-1993
M_AS_T_S_F	CCM	10-MAR-1993	MES	21-MAR-1993
M_BA_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CD_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_CR_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_HG_T_S_V	CCM	10-MAR-1993	AH	15-MAR-1993
M_NI_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_PB_T_S_F	CCM	10-MAR-1993	RKD	20-MAR-1993
M_SB_T_S_I	CCM	10-MAR-1993	KJS	10-MAR-1993
M_SE_T_S_F	CCM	10-MAR-1993	MES	17-MAR-1993
M_TL_T_S_F	CCM	10-MAR-1993	RKD	19-MAR-1993
NITR_N_I_S			BAF	8-MAR-1993
PH_S			MKS	9-MAR-1993
SOLID_TPER			KOB	15-MAR-1993
SUL_9038_S			JCH	9-MAR-1993
VOA_TIC			JKA	13-MAR-1993

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2685
REPORT DATE: 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
Dallas, TX 75201
ATTENTION : Ms. Kay Hawthorne

PROJECT : Longhorn

DATE SAMPLED : 5-MAR-1993

CASE NARRATIVE COMMENTS:

The matrix spike recoveries for Arsenic, Barium, Antimony, Lead, and Selenium, were affected by matrix interferences or high concentrations of the compounds within the samples. The laboratory control samples analyzed with each set of quality control were used to validate the data for the batch.

Di-n-butylphthalate and two tentatively identified compounds, an unidentified phthalate ester and a hexanedioic acid ester were detected in the method blank, quality control samples and field samples during the Semi-Volatile Organics analysis, EPA 8270, within this job. These compounds are common laboratory contaminants in this analysis and caused by sample preparation techniques.

No further problems were encountered during the sample analysis for this project.

Please refer to the attached Case Narrative Summary for a comparison of sample identifications and analytical requests.

NDRC Laboratories, Inc. Belinda Feuerbacher

Belinda Feuerbacher
Project Manager

NDRC LABORATORIES, INC.

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-4
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	91.3 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	101 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-4
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-3
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	< 10 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	287 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	10.7 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.85 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		8.0
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	89.3 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	50 mg/Kg	640 mg/Kg
Dilution Factor : 50 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-3

TOTAL METALS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Nickel	1.0 mg/Kg		11.8 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS			
Lead	1 mg/Kg		6 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD			
Antimony	1.0 mg/Kg	<	1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS			
Selenium	0.1 mg/Kg	<	0.1 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES			
Thallium	0.2 mg/Kg	<	0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 19-MAR-1993 by RKD			

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-3
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	3 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by MES		
Barium	1.0 mg/Kg	101 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	9.9 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.02 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 15-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-3
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 12-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-3
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JAO
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	19.0 %
Liquid Limit	0.1 %	35.0 %
Plasticity Index	0.1 %	16.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-3
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	46.7 %
Silt (0.005 to 0.075 mm)	0.1 %	41.5 %
Clay/Colloids (< 0.005 mm)	0.1 %	11.8 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-3
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-3
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 330 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-3
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	95.1	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	118	%
Terphenyl-d14 (SS)	50.0	µg/Kg	107	%

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-3
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg	<	330	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-3
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Bis(2-chloroethyl)ether	330	µg/Kg	< 330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
Benzyl alcohol	650	µg/Kg	< 650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	< 330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	< 330	µg/Kg
Hexachloroethane	330	µg/Kg	< 330	µg/Kg
Nitrobenzene	330	µg/Kg	< 330	µg/Kg
Isophorone	330	µg/Kg	< 330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	< 330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	< 330	µg/Kg
Naphthalene	330	µg/Kg	< 330	µg/Kg
4-Chloroaniline	650	µg/Kg	< 650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	< 330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	< 330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-3
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	86.0 %
2-Fluorophenol (SS)	100 µg/Kg	87.2 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	96.6 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-3
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-3
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
1,2-Dichloropropane	5.0 µg/Kg	<	5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	<	5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	<	5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	<	5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	<	5.0 µg/Kg
Benzene	5.0 µg/Kg	<	5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	<	5.0 µg/Kg
Bromoform	5.0 µg/Kg	<	5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	<	10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	<	50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	<	50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	<	5.0 µg/Kg
Toluene	5.0 µg/Kg	<	5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	<	5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	<	5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	<	5.0 µg/Kg
Styrene	5.0 µg/Kg	<	5.0 µg/Kg
Xylenes	5.0 µg/Kg	<	5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	95.9 %
Toluene-d8 (SS)	50.0 µg/Kg	101 %
Bromofluorobenzene (SS)	50.0 µg/Kg	101 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-3
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-3
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	80.3 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-3
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
2,4-D	800	µg/Kg	< 800	µg/Kg
2,4-DB	670	µg/Kg	< 670	µg/Kg
2,4,5-T	130	µg/Kg	< 130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	< 130	µg/Kg
Dalapon	3890	µg/Kg	< 3890	µg/Kg
Dicamba	200	µg/Kg	< 200	µg/Kg
Dichloroprop	470	µg/Kg	< 470	µg/Kg
Dinoseb	70	µg/Kg	< 70	µg/Kg
MCPA	168000	µg/Kg	< 168000	µg/Kg
MCPP	134000	µg/Kg	< 134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-3
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	53.2 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	96.2 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-3
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Aldrin	2.7	µg/Kg	<	2.7	µg/Kg
Alpha-BHC	2.0	µg/Kg	<	2.0	µg/Kg
Beta-BHC	4.0	µg/Kg	<	4.0	µg/Kg
Delta-BHC	6.0	µg/Kg	<	6.0	µg/Kg
Gamma-BHC(Lindane)	2.7	µg/Kg	<	2.7	µg/Kg
Chlordane	9.4	µg/Kg	<	9.4	µg/Kg
4,4'-DDD	7.4	µg/Kg	<	7.4	µg/Kg
4,4'-DDE	2.7	µg/Kg	<	2.7	µg/Kg
4,4'-DDT	8.0	µg/Kg	<	8.0	µg/Kg
Dieldrin	1.3	µg/Kg	<	1.3	µg/Kg
Endosulfan I	9.4	µg/Kg	<	9.4	µg/Kg
Endosulfan II	2.7	µg/Kg	<	2.7	µg/Kg
Endosulfan Sulfate	44.2	µg/Kg	<	44.2	µg/Kg
Endrin	4.0	µg/Kg	<	4.0	µg/Kg
Endrin Aldehyde	15.4	µg/Kg	<	15.4	µg/Kg
Heptachlor	2.0	µg/Kg	<	2.0	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-2
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	44 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	845 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	20.0 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	2.44 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.7
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	80.0 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	10 mg/Kg	100 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-2 PAGE 2

TOTAL METALS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Nickel	1.0	mg/Kg	15.9	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS				
Lead	1	mg/Kg	7	mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD				
Antimony	1.0	mg/Kg	< 1.0	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS				
Selenium	0.1	mg/Kg	< 0.1	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES				
Thallium	0.2	mg/Kg	< 0.2	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 19-MAR-1993 by RKD				

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-2
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	5 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by MES		
Barium	1.0 mg/Kg	71.4 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	13.6 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	< 0.01 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 15-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-2
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 12-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-2
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JAO
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	17.0 %
Liquid Limit	0.1 %	34.0 %
Plasticity Index	0.1 %	17.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-2
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	26.7 %
Silt (0.005 to 0.075 mm)	0.1 %	50.8 %
Clay/Colloids (< 0.005 mm)	0.1 %	22.5 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-2
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-2
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 330 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-2
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Bis(2-ethylhexyl)phthalate	330 µg/Kg	<	330 µg/Kg
Di-n-octylphthalate	330 µg/Kg	<	330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	<	330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	<	330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	<	330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	<	330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	<	330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	<	330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	99.2 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	114 %
Terphenyl-d14 (SS)	50.0 µg/Kg	106 %

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-2
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg	<	330	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-2
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	330 µg/Kg	< 330 µg/Kg
1,3-Dichlorobenzene	330 µg/Kg	< 330 µg/Kg
1,4-Dichlorobenzene	330 µg/Kg	< 330 µg/Kg
Benzyl alcohol	650 µg/Kg	< 650 µg/Kg
1,2-Dichlorobenzene	330 µg/Kg	< 330 µg/Kg
Bis(2-chloroisopropyl)ether	330 µg/Kg	< 330 µg/Kg
N-Nitroso-Di-N-propylamine	330 µg/Kg	< 330 µg/Kg
Hexachloroethane	330 µg/Kg	< 330 µg/Kg
Nitrobenzene	330 µg/Kg	< 330 µg/Kg
Isophorone	330 µg/Kg	< 330 µg/Kg
Bis(2-chloroethoxy)methane	330 µg/Kg	< 330 µg/Kg
1,2,4-Trichlorobenzene	330 µg/Kg	< 330 µg/Kg
Naphthalene	330 µg/Kg	< 330 µg/Kg
4-Chloroaniline	650 µg/Kg	< 650 µg/Kg
Hexachlorobutadiene	330 µg/Kg	< 330 µg/Kg
2-Methylnaphthalene	330 µg/Kg	< 330 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-2
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	89.9 %
2-Fluorophenol (SS)	100 µg/Kg	89.7 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	101 %

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-2
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-2
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	96.0 %
Toluene-d8 (SS)	50.0 µg/Kg	104 %
Bromofluorobenzene (SS)	50.0 µg/Kg	94.0 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-2
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-2
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	78.8 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-2
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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REPORT NUMBER : D93-2685-2
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	90.4 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	99.7 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-2
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Aldrin	2.7 µg/Kg	<	2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	<	2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	<	4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	<	6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	<	2.7 µg/Kg
Chlordane	9.4 µg/Kg	<	9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	<	7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	<	2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	<	8.0 µg/Kg
Dieldrin	1.3 µg/Kg	<	1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	<	9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	<	2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	<	44.2 µg/Kg
Endrin	4.0 µg/Kg	<	4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	<	15.4 µg/Kg
Heptachlor	2.0 µg/Kg	<	2.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-1
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	< 10 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	5240 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	22.1 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	2.85 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.1
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	77.9 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	50 mg/Kg	1600 mg/Kg
Dilution Factor : 50 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	1.0 mg/Kg	10.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Lead	1 mg/Kg	7 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD		
Antimony	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Selenium	0.1 mg/Kg	0.3 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES		
Thallium	0.2 mg/Kg	< 0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 19-MAR-1993 by RKD		

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-1
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	4 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by MES		
Barium	1.0 mg/Kg	75.9 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	15.5 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.06 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 15-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-1
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : JKA
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-1
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JAO
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	13.0 %
Liquid Limit	0.1 %	57.0 %
Plasticity Index	0.1 %	44.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-1
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	15.4 %
Silt (0.005 to 0.075 mm)	0.1 %	60.2 %
Clay/Colloids (< 0.005 mm)	0.1 %	24.4 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-6
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(0-3)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JAO
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	14.0 %
Liquid Limit	0.1 %	47.0 %
Plasticity Index	0.1 %	13.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-6
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(0-3)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	14.4 %
Silt (0.005 to 0.075 mm)	0.1 %	63.9 %
Clay/Colloids (< 0.005 mm)	0.1 %	21.5 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-6
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(0-3)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-6
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(0-3)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 330 µg/Kg

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-6
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	106	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	111	%
Terphenyl-d14 (SS)	50.0	µg/Kg	121	%

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-6
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		1590	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-6
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(0-3)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-6
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	93.9 %
2-Fluorophenol (SS)	100 µg/Kg	92.4 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	101 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-6
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(0-3)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-6
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	96.5 %
Toluene-d8 (SS)	50.0 µg/Kg	99.1 %
Bromofluorobenzene (SS)	50.0 µg/Kg	97.0 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-6
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(0-3)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-6
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	76.4 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-6
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(0-3)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-6
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Heptachlor Epoxide	55.6	µg/Kg	<	55.6	µg/Kg
Methoxychlor	118	µg/Kg	<	118	µg/Kg
Toxaphene	161	µg/Kg	<	161	µg/Kg
Aroclor-1016	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1221	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1232	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1242	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1248	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1254	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1260	6.0	µg/Kg	<	6.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Decachlorobiphenyl (SS)	6.7	µg/Kg	94.6	%
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7	µg/Kg	99.7	%

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-6
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(0-3)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Aldrin	2.7	µg/Kg	<	2.7	µg/Kg
Alpha-BHC	2.0	µg/Kg	<	2.0	µg/Kg
Beta-BHC	4.0	µg/Kg	<	4.0	µg/Kg
Delta-BHC	6.0	µg/Kg	<	6.0	µg/Kg
Gamma-BHC(Lindane)	2.7	µg/Kg	<	2.7	µg/Kg
Chlordane	9.4	µg/Kg	<	9.4	µg/Kg
4,4'-DDD	7.4	µg/Kg	<	7.4	µg/Kg
4,4'-DDE	2.7	µg/Kg	<	2.7	µg/Kg
4,4'-DDT	8.0	µg/Kg	<	8.0	µg/Kg
Dieldrin	1.3	µg/Kg	<	1.3	µg/Kg
Endosulfan I	9.4	µg/Kg	<	9.4	µg/Kg
Endosulfan II	2.7	µg/Kg	<	2.7	µg/Kg
Endosulfan Sulfate	44.2	µg/Kg	<	44.2	µg/Kg
Endrin	4.0	µg/Kg	<	4.0	µg/Kg
Endrin Aldehyde	15.4	µg/Kg	<	15.4	µg/Kg
Heptachlor	2.0	µg/Kg	<	2.0	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-5
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(20-23)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	266 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	977 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	21.2 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.61 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.3
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	78.8 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	10 mg/Kg	< 10 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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TOTAL METALS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Nickel	1.0	mg/Kg	7.9	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS				
Lead	1	mg/Kg	5	mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD				
Antimony	1.0	mg/Kg	< 1.0	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS				
Selenium	0.1	mg/Kg	< 0.1	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES				
Thallium	0.2	mg/Kg	< 0.2	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD				

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-5
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(20-23)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	1 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by MES		
Barium	1.0 mg/Kg	70.5 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	10.4 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.02 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 15-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-5
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(20-23)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 12-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

NDRC Laboratories, Inc.

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-5
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(20-23)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JAO
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	17.0 %
Liquid Limit	0.1 %	21.0 %
Plasticity Index	0.1 %	4.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-5
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(20-23)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	43.7 %
Silt (0.005 to 0.075 mm)	0.1 %	50.0 %
Clay/Colloids (< 0.005 mm)	0.1 %	6.3 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-5
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(20-23)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-5
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(20-23)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 330 µg/Kg

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

014604

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-5
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	93.3	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	116	%
Terphenyl-d14 (SS)	50.0	µg/Kg	104	%

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-5
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		2310	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-5
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(20-23)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-5
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Phenol-d5 (SS)	100	µg/Kg	84.1	%
2-Fluorophenol (SS)	100	µg/Kg	82.3	%
2,4,6-Tribromophenol (SS)	100	µg/Kg	93.6	%

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-5
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(20-23)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

1609

REPORT NUMBER : D93-2685-5
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	105 %
Toluene-d8 (SS)	50.0 µg/Kg	99.8 %
Bromofluorobenzene (SS)	50.0 µg/Kg	98.6 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

014610

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-5
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(20-23)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

014611

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-5
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	80.5 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-5
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(20-23)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

David R. Forbes

014613

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-5
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Heptachlor Epoxide	55.6	µg/Kg	<	55.6	µg/Kg
Methoxychlor	118	µg/Kg	<	118	µg/Kg
Toxaphene	161	µg/Kg	<	161	µg/Kg
Aroclor-1016	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1221	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1232	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1242	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1248	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1254	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1260	6.0	µg/Kg	<	6.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Decachlorobiphenyl (SS)	6.7	µg/Kg	75.3	%
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7	µg/Kg	82.3	%

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

014614

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-5
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(20-23)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Aldrin	2.7	µg/Kg	<	2.7	µg/Kg
Alpha-BHC	2.0	µg/Kg	<	2.0	µg/Kg
Beta-BHC	4.0	µg/Kg	<	4.0	µg/Kg
Delta-BHC	6.0	µg/Kg	<	6.0	µg/Kg
Gamma-BHC(Lindane)	2.7	µg/Kg	<	2.7	µg/Kg
Chlordane	9.4	µg/Kg	<	9.4	µg/Kg
4,4'-DDD	7.4	µg/Kg	<	7.4	µg/Kg
4,4'-DDE	2.7	µg/Kg	<	2.7	µg/Kg
4,4'-DDT	8.0	µg/Kg	<	8.0	µg/Kg
Dieldrin	1.3	µg/Kg	<	1.3	µg/Kg
Endosulfan I	9.4	µg/Kg	<	9.4	µg/Kg
Endosulfan II	2.7	µg/Kg	<	2.7	µg/Kg
Endosulfan Sulfate	44.2	µg/Kg	<	44.2	µg/Kg
Endrin	4.0	µg/Kg	<	4.0	µg/Kg
Endrin Aldehyde	15.4	µg/Kg	<	15.4	µg/Kg
Heptachlor	2.0	µg/Kg	<	2.0	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-4
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	< 10 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	197 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	6.60 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.06 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		8.1
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	93.4 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	10 mg/Kg	< 10 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

014616

REPORT NUMBER : D93-2685-4

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	1.0 mg/Kg	7.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Lead	1 mg/Kg	4 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD		
Antimony	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Selenium	0.1 mg/Kg	< 0.1 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES		
Thallium	0.2 mg/Kg	< 0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 19-MAR-1993 by RKD		

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-4
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	3 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by MES		
Barium	1.0 mg/Kg	50.4 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	5.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.02 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 15-MAR-1993 by AH		

014618

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-4
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-4
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JAO
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	< 0.1 %
Liquid Limit	0.1 %	< 0.1 %
Plasticity Index	0.1 %	< 0.1 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-4
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	82.8 %
Silt (0.005 to 0.075 mm)	0.1 %	11.8 %
Clay/Colloids (< 0.005 mm)	0.1 %	5.3 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-4
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-4
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
Unidentified diene	31.24	ABN	440 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-4
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	102	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	108	%
Terphenyl-d14 (SS)	50.0	µg/Kg	112	%

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BEAUMONT **DALLAS** **HOUSTON**

214824

REPORT NUMBER : D93-2685-4
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg	<	330	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-4
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-4
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Phenol-d5 (SS)	100	µg/Kg	90.4	%
2-Fluorophenol (SS)	100	µg/Kg	90.1	%
2,4,6-Tribromophenol (SS)	100	µg/Kg	101	%

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-4
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Phenol	330	µg/Kg	< 330 µg/Kg
2-Chlorophenol	330	µg/Kg	< 330 µg/Kg
2-Methylphenol	330	µg/Kg	< 330 µg/Kg
4-Methylphenol	330	µg/Kg	< 330 µg/Kg
2-Nitrophenol	330	µg/Kg	< 330 µg/Kg
2,4-Dimethylphenol	330	µg/Kg	< 330 µg/Kg
Benzoic acid	1650	µg/Kg	< 1650 µg/Kg
2,4-Dichlorophenol	330	µg/Kg	< 330 µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	< 650 µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	< 330 µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	< 1650 µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	< 1650 µg/Kg
4-Nitrophenol	1650	µg/Kg	< 1650 µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	< 1650 µg/Kg
Pentachlorophenol	1650	µg/Kg	< 1650 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-4
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	104 %
Toluene-d8 (SS)	50.0 µg/Kg	98.0 %
Bromofluorobenzene (SS)	50.0 µg/Kg	100 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-4
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-4
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	79.9 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-4
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB08(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-9
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	330 µg/Kg	< 330 µg/Kg
1,3-Dichlorobenzene	330 µg/Kg	< 330 µg/Kg
1,4-Dichlorobenzene	330 µg/Kg	< 330 µg/Kg
Benzyl alcohol	650 µg/Kg	< 650 µg/Kg
1,2-Dichlorobenzene	330 µg/Kg	< 330 µg/Kg
Bis(2-chloroisopropyl)ether	330 µg/Kg	< 330 µg/Kg
N-Nitroso-Di-N-propylamine	330 µg/Kg	< 330 µg/Kg
Hexachloroethane	330 µg/Kg	< 330 µg/Kg
Nitrobenzene	330 µg/Kg	< 330 µg/Kg
Isophorone	330 µg/Kg	< 330 µg/Kg
Bis(2-chloroethoxy)methane	330 µg/Kg	< 330 µg/Kg
1,2,4-Trichlorobenzene	330 µg/Kg	< 330 µg/Kg
Naphthalene	330 µg/Kg	< 330 µg/Kg
4-Chloroaniline	650 µg/Kg	< 650 µg/Kg
Hexachlorobutadiene	330 µg/Kg	< 330 µg/Kg
2-Methylnaphthalene	330 µg/Kg	< 330 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-9
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		2410	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

014634

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-9
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-9
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	91.3 %
2-Fluorophenol (SS)	100 µg/Kg	94.7 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	110 %

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BEAUMONT DALLAS HOUSTON

014636

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-9
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-9
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	95.6 %
Toluene-d8 (SS)	50.0 µg/Kg	102 %
Bromofluorobenzene (SS)	50.0 µg/Kg	97.1 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-9
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-9
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	62.7 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-9
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Aldrin	2.7	µg/Kg	<	2.7	µg/Kg
Alpha-BHC	2.0	µg/Kg	<	2.0	µg/Kg
Beta-BHC	4.0	µg/Kg	<	4.0	µg/Kg
Delta-BHC	6.0	µg/Kg	<	6.0	µg/Kg
Gamma-BHC(Lindane)	2.7	µg/Kg	<	2.7	µg/Kg
Chlordane	9.4	µg/Kg	<	9.4	µg/Kg
4,4'-DDD	7.4	µg/Kg	<	7.4	µg/Kg
4,4'-DDE	2.7	µg/Kg	<	2.7	µg/Kg
4,4'-DDT	8.0	µg/Kg	<	8.0	µg/Kg
Dieldrin	1.3	µg/Kg	<	1.3	µg/Kg
Endosulfan I	9.4	µg/Kg	<	9.4	µg/Kg
Endosulfan II	2.7	µg/Kg	<	2.7	µg/Kg
Endosulfan Sulfate	44.2	µg/Kg	<	44.2	µg/Kg
Endrin	4.0	µg/Kg	<	4.0	µg/Kg
Endrin Aldehyde	15.4	µg/Kg	<	15.4	µg/Kg
Heptachlor	2.0	µg/Kg	<	2.0	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-9
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Heptachlor Epoxide	55.6	µg/Kg	<	55.6	µg/Kg
Methoxychlor	118	µg/Kg	<	118	µg/Kg
Toxaphene	161	µg/Kg	<	161	µg/Kg
Aroclor-1016	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1221	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1232	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1242	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1248	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1254	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1260	6.0	µg/Kg	<	6.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Decachlorobiphenyl (SS)	6.7	µg/Kg	83.9	%
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7	µg/Kg	85.8	%

NDRC Laboratories, Inc. David R. Godwin

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BEAUMONT **DALLAS** **HOUSTON**

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REPORT NUMBER : D93-2685-8 PAGE 2

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	1.0 mg/Kg	13.6 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Lead	1 mg/Kg	9 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD		
Antimony	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Selenium	0.1 mg/Kg	< 0.1 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES		
Thallium	0.2 mg/Kg	< 0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-8
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	44 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	850 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	18.2 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	2.87 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.6
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	81.8 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	50 mg/Kg	1310 mg/Kg
Dilution Factor : 50 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-8
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	3 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by RKD		
Barium	1.0 mg/Kg	96.7 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	4.8 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.02 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 10-MAR-1993 by AH		

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DATE RECEIVED : 8-MAR-1993

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	40.9 %
Silt (0.005 to 0.075 mm)	0.1 %	43.2 %
Clay/Colloids (< 0.005 mm)	0.1 %	15.9 %

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JAO
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	16.0 %
Liquid Limit	0.1 %	41.0 %
Plasticity Index	0.1 %	25.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS					
COMPOUND	RETENTION TIME	FRACTION	RESULT		
No compounds detected		ABN	<	330	µg/Kg

NDRC Laboratories, Inc.

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

NDRC Laboratories, Inc. David R. Godwin

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BEAUMONT DALLAS HOUSTON

014650

REPORT NUMBER : D93-2685-8
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		5150	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	101	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	121	%
Terphenyl-d14 (SS)	50.0	µg/Kg	112	%

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-8
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	93.1 %
2-Fluorophenol (SS)	100 µg/Kg	96.5 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	106 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-8
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-8
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
1,2-Dichloropropane	5.0	µg/Kg	<	5.0	µg/Kg
cis-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Trichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Chlorodibromomethane	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Benzene	5.0	µg/Kg	<	5.0	µg/Kg
trans-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Bromoform	5.0	µg/Kg	<	5.0	µg/Kg
2-Chloroethylvinyl ether	10.0	µg/Kg	<	10.0	µg/Kg
4-Methyl-2-pentanone	50.0	µg/Kg	<	50.0	µg/Kg
2-Hexanone	50.0	µg/Kg	<	50.0	µg/Kg
Tetrachloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Toluene	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2,2-Tetrachloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Chlorobenzene	5.0	µg/Kg	<	5.0	µg/Kg
Ethylbenzene	5.0	µg/Kg	<	5.0	µg/Kg
Styrene	5.0	µg/Kg	<	5.0	µg/Kg
Xylenes	5.0	µg/Kg	<	5.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
1,2-Dichloroethane-d4 (SS)	50.0	µg/Kg	97.1	%
Toluene-d8 (SS)	50.0	µg/Kg	101	%
Bromofluorobenzene (SS)	50.0	µg/Kg	102	%

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-8
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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REPORT NUMBER : D93-2685-8
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	77.4 %

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-8
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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REPORT NUMBER : D93-2685-8
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	91.7 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	87.5 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-8
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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TOTAL METALS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Nickel	1.0 mg/Kg		5.5 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS			
Lead	1 mg/Kg		7 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD			
Antimony	1.0 mg/Kg	<	1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS			
Selenium	0.1 mg/Kg		0.3 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES			
Thallium	0.2 mg/Kg	<	0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD			

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-7
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	2 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by RKD		
Barium	1.0 mg/Kg	86.4 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	12.8 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.02 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 15-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-7
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	< 10 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	3300 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	23.7 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.37 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.4
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	76.3 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	10 mg/Kg	340 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-8
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-7
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-7
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JAO
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	19.0 %
Liquid Limit	0.1 %	92.0 %
Plasticity Index	0.1 %	73.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-7
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	8.6 %
Silt (0.005 to 0.075 mm)	0.1 %	58.6 %
Clay/Colloids (< 0.005 mm)	0.1 %	32.8 %

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-7
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-7
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
Unknown hexanedioic acid ester	27.29	ABN	770 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-7
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Bis(2-ethylhexyl)phthalate	330 µg/Kg	<	330 µg/Kg
Di-n-octylphthalate	330 µg/Kg	<	330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	<	330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	<	330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	<	330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	<	330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	<	330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	<	330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	94.4 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	117 %
Terphenyl-d14 (SS)	50.0 µg/Kg	102 %

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BEAUMONT DALLAS HOUSTON

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REPORT NUMBER : D93-2685-7
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		8550	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-7
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-7
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	90.9 %
2-Fluorophenol (SS)	100 µg/Kg	93.0 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	100 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-7
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Phenol	330	µg/Kg	< 330	µg/Kg
2-Chlorophenol	330	µg/Kg	< 330	µg/Kg
2-Methylphenol	330	µg/Kg	< 330	µg/Kg
4-Methylphenol	330	µg/Kg	< 330	µg/Kg
2-Nitrophenol	330	µg/Kg	< 330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	< 330	µg/Kg
Benzoic acid	1650	µg/Kg	< 1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	< 330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	< 650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	< 330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	< 1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	< 1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	< 1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	< 1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	< 1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-7
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	89.1 %
Toluene-d8 (SS)	50.0 µg/Kg	98.5 %
Bromofluorobenzene (SS)	50.0 µg/Kg	104 %

NDRC Laboratories, Inc. David R. Godwin

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-7
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-7
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	62.4 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-7
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-7
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Heptachlor Epoxide	55.6	µg/Kg	<	55.6	µg/Kg
Methoxychlor	118	µg/Kg	<	118	µg/Kg
Toxaphene	161	µg/Kg	<	161	µg/Kg
Aroclor-1016	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1221	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1232	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1242	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1248	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1254	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1260	6.0	µg/Kg	<	6.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Decachlorobiphenyl (SS)	6.7	µg/Kg	85.3	%
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7	µg/Kg	85.7	%

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-7
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-7
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	85.3 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	85.7 %

NDRC Laboratories, Inc. David R. Godwin

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-7
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-6
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(0-3)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	< 10 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	5120 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	12.6 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.38 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.5
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	87.4 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	50 mg/Kg	1100 mg/Kg
Dilution Factor : 50 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	1.0 mg/Kg	7.7 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Lead	1 mg/Kg	8 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD		
Antimony	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Selenium	0.1 mg/Kg	0.3 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES		
Thallium	0.2 mg/Kg	< 0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-6
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(0-3)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	2 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by RKD		
Barium	1.0 mg/Kg	60.3 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	16.4 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.14 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 15-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-6
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(0-3)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYZED BY : JKA
ANALYZED ON : 12-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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BEAUMONT DALLAS HOUSTON

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REPORT NUMBER : D93-2685-12
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		3900	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-12
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-12
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	89.1 %
2-Fluorophenol (SS)	100 µg/Kg	92.0 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	102 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-12
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-12
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
1,2-Dichloropropane	5.0	µg/Kg	<	5.0	µg/Kg
cis-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Trichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Chlorodibromomethane	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Benzene	5.0	µg/Kg	<	5.0	µg/Kg
trans-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Bromoform	5.0	µg/Kg	<	5.0	µg/Kg
2-Chloroethylvinyl ether	10.0	µg/Kg	<	10.0	µg/Kg
4-Methyl-2-pentanone	50.0	µg/Kg	<	50.0	µg/Kg
2-Hexanone	50.0	µg/Kg	<	50.0	µg/Kg
Tetrachloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Toluene	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2,2-Tetrachloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Chlorobenzene	5.0	µg/Kg	<	5.0	µg/Kg
Ethylbenzene	5.0	µg/Kg	<	5.0	µg/Kg
Styrene	5.0	µg/Kg	<	5.0	µg/Kg
Xylenes	5.0	µg/Kg	<	5.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
1,2-Dichloroethane-d4 (SS)	50.0	µg/Kg	106	%
Toluene-d8 (SS)	50.0	µg/Kg	100	%
Bromofluorobenzene (SS)	50.0	µg/Kg	100	%

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

014091

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-12
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Chloromethane	10.0	µg/Kg	<	10.0	µg/Kg
Bromomethane	10.0	µg/Kg	<	10.0	µg/Kg
Vinyl chloride	10.0	µg/Kg	<	10.0	µg/Kg
Chloroethane	10.0	µg/Kg	<	10.0	µg/Kg
Methylene chloride	5.0	µg/Kg	<	5.0	µg/Kg
Acetone	100	µg/Kg	<	100	µg/Kg
Carbon disulfide	5.0	µg/Kg	<	5.0	µg/Kg
1,1-Dichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
1,1-Dichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
1,2-Dichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Chloroform	5.0	µg/Kg	<	5.0	µg/Kg
1,2-Dichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
2-Butanone	50	µg/Kg	<	50	µg/Kg
1,1,1-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Carbon tetrachloride	5.0	µg/Kg	<	5.0	µg/Kg
Vinyl acetate	50.0	µg/Kg	<	50.0	µg/Kg
Bromodichloromethane	5.0	µg/Kg	<	5.0	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-12
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	87.6 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

014695

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-12
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-12
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	86.9 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	90.1 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-12
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Aldrin	2.7	µg/Kg	<	2.7	µg/Kg
Alpha-BHC	2.0	µg/Kg	<	2.0	µg/Kg
Beta-BHC	4.0	µg/Kg	<	4.0	µg/Kg
Delta-BHC	6.0	µg/Kg	<	6.0	µg/Kg
Gamma-BHC(Lindane)	2.7	µg/Kg	<	2.7	µg/Kg
Chlordane	9.4	µg/Kg	<	9.4	µg/Kg
4,4'-DDD	7.4	µg/Kg	<	7.4	µg/Kg
4,4'-DDE	2.7	µg/Kg	<	2.7	µg/Kg
4,4'-DDT	8.0	µg/Kg	<	8.0	µg/Kg
Dieldrin	1.3	µg/Kg	<	1.3	µg/Kg
Endosulfan I	9.4	µg/Kg	<	9.4	µg/Kg
Endosulfan II	2.7	µg/Kg	<	2.7	µg/Kg
Endosulfan Sulfate	44.2	µg/Kg	<	44.2	µg/Kg
Endrin	4.0	µg/Kg	<	4.0	µg/Kg
Endrin Aldehyde	15.4	µg/Kg	<	15.4	µg/Kg
Heptachlor	2.0	µg/Kg	<	2.0	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-11
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	355 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	1270 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	23.1 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	2.22 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.5
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	76.9 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	10 mg/Kg	110 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-11 PAGE 2

TOTAL METALS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Nickel	1.0	mg/Kg	12.7	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS				
Lead	1	mg/Kg	6	mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD				
Antimony	1.0	mg/Kg	< 1.0	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS				
Selenium	0.1	mg/Kg	< 0.1	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES				
Thallium	0.2	mg/Kg	< 0.2	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD				

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-11
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	4 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by RKD		
Barium	1.0 mg/Kg	69.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	8.6 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.02 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 10-MAR-1993 by AH		

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DATE RECEIVED : 8-MAR-1993

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	22.0 %
Liquid Limit	0.1 %	30.0 %
Plasticity Index	0.1 %	8.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-11
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-11
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	51.8 %
Silt (0.005 to 0.075 mm)	0.1 %	37.8 %
Clay/Colloids (< 0.005 mm)	0.1 %	10.4 %

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BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	99.4	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	119	%
Terphenyl-d14 (SS)	50.0	µg/Kg	110	%

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS				
COMPOUND	RETENTION TIME	FRACTION	RESULT	
Unidentified phthalate ester	22.23	ABN	530	µg/Kg
Unknown hexanedioic acid ester	27.29	ABN	3000	µg/Kg

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-11
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		2890	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-11
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-11
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	90.7 %
2-Fluorophenol (SS)	100 µg/Kg	93.0 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	104 %

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-11
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-11
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
1,2-Dichloropropane	5.0	µg/Kg	<	5.0	µg/Kg
cis-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Trichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Chlorodibromomethane	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Benzene	5.0	µg/Kg	<	5.0	µg/Kg
trans-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Bromoform	5.0	µg/Kg	<	5.0	µg/Kg
2-Chloroethylvinyl ether	10.0	µg/Kg	<	10.0	µg/Kg
4-Methyl-2-pentanone	50.0	µg/Kg	<	50.0	µg/Kg
2-Hexanone	50.0	µg/Kg	<	50.0	µg/Kg
Tetrachloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Toluene	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2,2-Tetrachloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Chlorobenzene	5.0	µg/Kg	<	5.0	µg/Kg
Ethylbenzene	5.0	µg/Kg	<	5.0	µg/Kg
Styrene	5.0	µg/Kg	<	5.0	µg/Kg
Xylenes	5.0	µg/Kg	<	5.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
1,2-Dichloroethane-d4 (SS)	50.0	µg/Kg	106	%
Toluene-d8 (SS)	50.0	µg/Kg	101	%
Bromofluorobenzene (SS)	50.0	µg/Kg	101	%

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BEAUMONT DALLAS HOUSTON

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REPORT NUMBER : D93-2685-11
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-11
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	69.7 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-11
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-11
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	73.8 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	74.0 %

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TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	1.0 mg/Kg	9.5 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Lead	1 mg/Kg	6 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD		
Antimony	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Selenium	0.1 mg/Kg	< 0.1 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES		
Thallium	0.2 mg/Kg	< 0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-10
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	620 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	10500 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	17.7 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.34 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.3
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	82.3 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	10 mg/Kg	< 10 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-10
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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DATE RECEIVED : 8-MAR-1993

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	2 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by RKD		
Barium	1.0 mg/Kg	89.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	7.9 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.02 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 10-MAR-1993 by AH		

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-10
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	38.5 %
Silt (0.005 to 0.075 mm)	0.1 %	45.7 %
Clay/Colloids (< 0.005 mm)	0.1 %	15.8 %

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-10
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	17.0 %
Liquid Limit	0.1 %	34.0 %
Plasticity Index	0.1 %	17.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-10
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS				
COMPOUND	RETENTION TIME	FRACTION	RESULT	
Unidentified phthalate ester	22.23	ABN	400	µg/Kg
Unknown hexanedioic acid ester	27.29	ABN	2400	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-10
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-10
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		2210	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-10
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	98.4	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	119	%
Terphenyl-d14 (SS)	50.0	µg/Kg	114	%

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-10
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	86.8 %
2-Fluorophenol (SS)	100 µg/Kg	87.5 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	104 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-10
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Bis(2-chloroethyl)ether	330	µg/Kg	< 330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
Benzyl alcohol	650	µg/Kg	< 650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	< 330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	< 330	µg/Kg
Hexachloroethane	330	µg/Kg	< 330	µg/Kg
Nitrobenzene	330	µg/Kg	< 330	µg/Kg
Isophorone	330	µg/Kg	< 330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	< 330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	< 330	µg/Kg
Naphthalene	330	µg/Kg	< 330	µg/Kg
4-Chloroaniline	650	µg/Kg	< 650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	< 330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	< 330	µg/Kg

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BEAUMONT DALLAS HOUSTON

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REPORT NUMBER : D93-2685-10
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	99.5 %
Toluene-d8 (SS)	50.0 µg/Kg	101 %
Bromofluorobenzene (SS)	50.0 µg/Kg	100 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-10
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-10
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	91.0 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-10
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Chloromethane	10.0	µg/Kg	<	10.0	µg/Kg
Bromomethane	10.0	µg/Kg	<	10.0	µg/Kg
Vinyl chloride	10.0	µg/Kg	<	10.0	µg/Kg
Chloroethane	10.0	µg/Kg	<	10.0	µg/Kg
Methylene chloride	5.0	µg/Kg	<	5.0	µg/Kg
Acetone	100	µg/Kg	<	100	µg/Kg
Carbon disulfide	5.0	µg/Kg	<	5.0	µg/Kg
1,1-Dichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
1,1-Dichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
1,2-Dichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Chloroform	5.0	µg/Kg	<	5.0	µg/Kg
1,2-Dichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
2-Butanone	50	µg/Kg	<	50	µg/Kg
1,1,1-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Carbon tetrachloride	5.0	µg/Kg	<	5.0	µg/Kg
Vinyl acetate	50.0	µg/Kg	<	50.0	µg/Kg
Bromodichloromethane	5.0	µg/Kg	<	5.0	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-10
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	61.0 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	101 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-10
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-9
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	266 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	1130 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	16.0 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.21 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.6
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	84.0 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	50 mg/Kg	660 mg/Kg
Dilution Factor : 50 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-10
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-9
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	2 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by RKD		
Barium	1.0 mg/Kg	79.1 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	7.6 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.03 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 10-MAR-1993 by AH		

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TOTAL METALS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Nickel	1.0	mg/Kg	7.2		mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS					
Lead	1	mg/Kg	6		mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD					
Antimony	1.0	mg/Kg	<	1.0	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS					
Selenium	0.1	mg/Kg	<	0.1	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES					
Thallium	0.2	mg/Kg	<	0.2	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD					

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-9
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JAO
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	15.0 %
Liquid Limit	0.1 %	36.0 %
Plasticity Index	0.1 %	21.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-9
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-9
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-9
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	45.6 %
Silt (0.005 to 0.075 mm)	0.1 %	41.3 %
Clay/Colloids (< 0.005 mm)	0.1 %	13.1 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-9
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	97.9	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	122	%
Terphenyl-d14 (SS)	50.0	µg/Kg	112	%

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-9
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS				
COMPOUND	RETENTION TIME	FRACTION	RESULT	
Unidentified phthalate ester	22.23	ABN	720	µg/Kg
Unknown hexanedioic acid ester	27.31	ABN	5400	µg/Kg

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-15
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS				
COMPOUND	RETENTION TIME	FRACTION	RESULT	
Unidentified phthalate ester	22.21	ABN	700	µg/Kg
Unknown hexanedioic acid ester	27.30	ABN	3100	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-15
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Bis(2-ethylhexyl)phthalate	330 µg/Kg	<	330 µg/Kg
Di-n-octylphthalate	330 µg/Kg	<	330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	<	330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	<	330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	<	330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	<	330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	<	330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	<	330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	100 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	107 %
Terphenyl-d14 (SS)	50.0 µg/Kg	110 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-15
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		29000	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-15
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-15
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	91.7 %
2-Fluorophenol (SS)	100 µg/Kg	92.2 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	104 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-15
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

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REPORT NUMBER : D93-2685-15
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
1,2-Dichloropropane	5.0	µg/Kg	<	5.0	µg/Kg
cis-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Trichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Chlorodibromomethane	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Benzene	5.0	µg/Kg	<	5.0	µg/Kg
trans-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Bromoform	5.0	µg/Kg	<	5.0	µg/Kg
2-Chloroethylvinyl ether	10.0	µg/Kg	<	10.0	µg/Kg
4-Methyl-2-pentanone	50.0	µg/Kg	<	50.0	µg/Kg
2-Hexanone	50.0	µg/Kg	<	50.0	µg/Kg
Tetrachloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Toluene	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2,2-Tetrachloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Chlorobenzene	5.0	µg/Kg	<	5.0	µg/Kg
Ethylbenzene	5.0	µg/Kg	<	5.0	µg/Kg
Styrene	5.0	µg/Kg	<	5.0	µg/Kg
Xylenes	5.0	µg/Kg	<	5.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
1,2-Dichloroethane-d4 (SS)	50.0	µg/Kg	95.4	%
Toluene-d8 (SS)	50.0	µg/Kg	98.8	%
Bromofluorobenzene (SS)	50.0	µg/Kg	96.4	%

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-15
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-15
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	90.9 %

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-15
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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REPORT NUMBER : D93-2685-15
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	86.9 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	91.5 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-15
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Aldrin	2.7	µg/Kg	<	2.7	µg/Kg
Alpha-BHC	2.0	µg/Kg	<	2.0	µg/Kg
Beta-BHC	4.0	µg/Kg	<	4.0	µg/Kg
Delta-BHC	6.0	µg/Kg	<	6.0	µg/Kg
Gamma-BHC(Lindane)	2.7	µg/Kg	<	2.7	µg/Kg
Chlordane	9.4	µg/Kg	<	9.4	µg/Kg
4,4'-DDD	7.4	µg/Kg	<	7.4	µg/Kg
4,4'-DDE	2.7	µg/Kg	<	2.7	µg/Kg
4,4'-DDT	8.0	µg/Kg	<	8.0	µg/Kg
Dieldrin	1.3	µg/Kg	<	1.3	µg/Kg
Endosulfan I	9.4	µg/Kg	<	9.4	µg/Kg
Endosulfan II	2.7	µg/Kg	<	2.7	µg/Kg
Endosulfan Sulfate	44.2	µg/Kg	<	44.2	µg/Kg
Endrin	4.0	µg/Kg	<	4.0	µg/Kg
Endrin Aldehyde	15.4	µg/Kg	<	15.4	µg/Kg
Heptachlor	2.0	µg/Kg	<	2.0	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-14
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	177 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	1050 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	9.70 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	4.00 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.7
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	90.3 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	50 mg/Kg	730 mg/Kg
Dilution Factor : 50 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	1.0 mg/Kg	13.7 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Lead	1 mg/Kg	6 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD		
Antimony	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Selenium	0.1 mg/Kg	< 0.1 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES		
Thallium	0.2 mg/Kg	< 0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD		

NDRC Laboratories, Inc. David R. Godwin

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-14
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	5 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 22-MAR-1993 by RKD		
Barium	1.0 mg/Kg	83.7 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	6.3 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.02 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 10-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-14
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-14
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	15.0 %
Liquid Limit	0.1 %	44.0 %
Plasticity Index	0.1 %	29.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

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SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 17-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	41.9 %
Silt (0.005 to 0.075 mm)	0.1 %	43.7 %
Clay/Colloids (< 0.005 mm)	0.1 %	14.4 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-14
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-14
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS				
COMPOUND	RETENTION TIME	FRACTION	RESULT	
Unidentified phthalate ester	22.22	ABN	390	µg/Kg
Unknown hexanedioic acid ester	27.30	ABN	4100	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-14
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	102	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	111	%
Terphenyl-d14 (SS)	50.0	µg/Kg	111	%

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-14
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		5420	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-14
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-14
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Phenol-d5 (SS)	100	µg/Kg	93.0	%
2-Fluorophenol (SS)	100	µg/Kg	94.3	%
2,4,6-Tribromophenol (SS)	100	µg/Kg	107	%

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-14
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-14
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	89.6 %
Toluene-d8 (SS)	50.0 µg/Kg	96.9 %
Bromofluorobenzene (SS)	50.0 µg/Kg	103 %

NDRC Laboratories, Inc. David R. Godwin

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-14
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-14
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	83.2 %

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BEAUMONT DALLAS HOUSTON

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-14
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	88.5 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	93.3 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-14
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Aldrin	2.7	µg/Kg	<	2.7	µg/Kg
Alpha-BHC	2.0	µg/Kg	<	2.0	µg/Kg
Beta-BHC	4.0	µg/Kg	<	4.0	µg/Kg
Delta-BHC	6.0	µg/Kg	<	6.0	µg/Kg
Gamma-BHC(Lindane)	2.7	µg/Kg	<	2.7	µg/Kg
Chlordane	9.4	µg/Kg	<	9.4	µg/Kg
4,4'-DDD	7.4	µg/Kg	<	7.4	µg/Kg
4,4'-DDE	2.7	µg/Kg	<	2.7	µg/Kg
4,4'-DDT	8.0	µg/Kg	<	8.0	µg/Kg
Dieldrin	1.3	µg/Kg	<	1.3	µg/Kg
Endosulfan I	9.4	µg/Kg	<	9.4	µg/Kg
Endosulfan II	2.7	µg/Kg	<	2.7	µg/Kg
Endosulfan Sulfate	44.2	µg/Kg	<	44.2	µg/Kg
Endrin	4.0	µg/Kg	<	4.0	µg/Kg
Endrin Aldehyde	15.4	µg/Kg	<	15.4	µg/Kg
Heptachlor	2.0	µg/Kg	<	2.0	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-13
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	< 10 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	9120 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	15.5 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	3.48 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.2
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	84.5 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	50 mg/Kg	1730 mg/Kg
Dilution Factor : 50 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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BEAUMONT **DALLAS** **HOUSTON**

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	1.0 mg/Kg	4.6 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Lead	1 mg/Kg	5 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD		
Antimony	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Selenium	0.1 mg/Kg	0.5 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES		
Thallium	0.2 mg/Kg	< 0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD		

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BEAUMONT DALLAS HOUSTON

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-13
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	3 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by RKD		
Barium	1.0 mg/Kg	31.6 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	9.3 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	< 0.01 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 10-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-13
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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BEAUMONT DALLAS HOUSTON

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	13.0 %
Liquid Limit	0.1 %	32.0 %
Plasticity Index	0.1 %	19.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-13
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	18.6 %
Silt (0.005 to 0.075 mm)	0.1 %	64.8 %
Clay/Colloids (< 0.005 mm)	0.1 %	16.6 %

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-13
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-13
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS				
COMPOUND	RETENTION TIME	FRACTION	RESULT	
Unidentified phthalate ester	22.23	ABN	480	µg/Kg
Unknown hexanedioic acid ester	27.29	ABN	1100	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-13
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	106	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	108	%
Terphenyl-d14 (SS)	50.0	µg/Kg	105	%

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-13
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		10400	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-13
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-13
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Phenol-d5 (SS)	100	µg/Kg	86.9	%
2-Fluorophenol (SS)	100	µg/Kg	88.8	%
2,4,6-Tribromophenol (SS)	100	µg/Kg	104	%

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David R. Godwin, Ph.D.
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BEAUMONT DALLAS HOUSTON

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-13
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-13
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
1,2-Dichloropropane	5.0	µg/Kg	<	5.0	µg/Kg
cis-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Trichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Chlorodibromomethane	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Benzene	5.0	µg/Kg	<	5.0	µg/Kg
trans-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Bromoform	5.0	µg/Kg	<	5.0	µg/Kg
2-Chloroethylvinyl ether	10.0	µg/Kg	<	10.0	µg/Kg
4-Methyl-2-pentanone	50.0	µg/Kg	<	50.0	µg/Kg
2-Hexanone	50.0	µg/Kg	<	50.0	µg/Kg
Tetrachloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Toluene	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2,2-Tetrachloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Chlorobenzene	5.0	µg/Kg	<	5.0	µg/Kg
Ethylbenzene	5.0	µg/Kg	<	5.0	µg/Kg
Styrene	5.0	µg/Kg	<	5.0	µg/Kg
Xylenes	5.0	µg/Kg	<	5.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
1,2-Dichloroethane-d4 (SS)	50.0	µg/Kg	96.0	%
Toluene-d8 (SS)	50.0	µg/Kg	99.1	%
Bromofluorobenzene (SS)	50.0	µg/Kg	95.4	%

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-13
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-13
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	75.6 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-13
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-13
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Heptachlor Epoxide	55.6	µg/Kg	<	55.6	µg/Kg
Methoxychlor	118	µg/Kg	<	118	µg/Kg
Toxaphene	161	µg/Kg	<	161	µg/Kg
Aroclor-1016	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1221	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1232	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1242	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1248	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1254	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1260	6.0	µg/Kg	<	6.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Decachlorobiphenyl (SS)	6.7	µg/Kg	84.1	%
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7	µg/Kg	104	%

NDRC Laboratories, Inc. David R. Godwin

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-13
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(0-2)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-12
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	443 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	1490 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	20.6 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	2.09 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.3
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	79.4 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	10 mg/Kg	110 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-12 PAGE 2

TOTAL METALS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Nickel	1.0	mg/Kg	10.2		mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS					
Lead	1	mg/Kg	6		mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD					
Antimony	1.0	mg/Kg	<	1.0	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS					
Selenium	0.1	mg/Kg	<	0.1	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES					
Thallium	0.2	mg/Kg	<	0.2	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD					

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-12
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	2 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by RKD		
Barium	1.0 mg/Kg	67.8 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	10.5 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	< 0.01 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 10-MAR-1993 by AH		

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-12
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-12
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	18.0 %
Liquid Limit	0.1 %	35.0 %
Plasticity Index	0.1 %	17.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-12
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	55.0 %
Silt (0.005 to 0.075 mm)	0.1 %	34.9 %
Clay/Colloids (< 0.005 mm)	0.1 %	10.1 %

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-12
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-12
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB09(20-24.5)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS				
COMPOUND	RETENTION TIME	FRACTION	RESULT	
Unidentified phthalate ester	22.21	ABN	380	µg/Kg
Unknown hexanedioic acid ester	27.27	ABN	540	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-12
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	101	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	117	%
Terphenyl-d14 (SS)	50.0	µg/Kg	108	%

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-19
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(10-12.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	2 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 22-MAR-1993 by RKD		
Barium	1.0 mg/Kg	132 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	9.4 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.02 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 11-MAR-1993 by AH		

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TOTAL METALS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Nickel	1.0	mg/Kg	18.2	mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS				
Lead	1	mg/Kg	6	mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD				
Antimony	1.0	mg/Kg	< 1.0	mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS				
Selenium	0.1	mg/Kg	< 0.1	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES				
Thallium	0.2	mg/Kg	< 0.2	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD				

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-19
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(10-12.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	89 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	325 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	10.1 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.99 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		8.2
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	89.9 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	10 mg/Kg	< 10 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-20
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-20
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Heptachlor Epoxide	55.6	µg/Kg	<	55.6	µg/Kg
Methoxychlor	118	µg/Kg	<	118	µg/Kg
Toxaphene	161	µg/Kg	<	161	µg/Kg
Aroclor-1016	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1221	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1232	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1242	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1248	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1254	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1260	6.0	µg/Kg	<	6.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Decachlorobiphenyl (SS)	6.7	µg/Kg	92.5	%
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7	µg/Kg	87.5	%

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-20
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-20
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	63.0 %

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1089 East Collins Blvd., Richardson, Texas 75081 • (214) 238-5591 • FAX (214) 238-5592

BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-20
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-20
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	96.3 %
Toluene-d8 (SS)	50.0 µg/Kg	97.9 %
Bromofluorobenzene (SS)	50.0 µg/Kg	98.7 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-20
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx.. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-20
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	89.1 %
2-Fluorophenol (SS)	100 µg/Kg	92.1 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	101 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

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REPORT DATE : 1-APR-1993

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ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-20
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		5150	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-20
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	68.7	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	104	%
Terphenyl-d14 (SS)	50.0	µg/Kg	110	%

NDRC Laboratories, Inc. David R. Godwin

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-20
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
Unidentified phthalate ester	22.23	ABN	410 µg/Kg
Unknown hexanedioic acid ester	27.28	ABN	690 µg/Kg

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT

TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	50.0 %
Silt (0.005 to 0.075 mm)	0.1 %	34.2 %
Clay/Colloids (< 0.005 mm)	0.1 %	15.8 %

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ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	14.0 %
Liquid Limit	0.1 %	35.0 %
Plasticity Index	0.1 %	21.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

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ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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BEAUMONT DALLAS HOUSTON

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: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	1 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 22-MAR-1993 by RKD		
Barium	1.0 mg/Kg	74.1 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	8.5 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.03 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 11-MAR-1993 by AH		

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BEAUMONT **DALLAS** **HOUSTON**

TOTAL METALS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Nickel	1.0	mg/Kg	8.8	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS				
Lead	1	mg/Kg	6	mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 19-MAR-1993 by MES				
Antimony	1.0	mg/Kg	< 1.0	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS				
Selenium	0.1	mg/Kg	< 0.1	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES				
Thallium	0.2	mg/Kg	< 0.2	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD				

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BEAUMONT DALLAS HOUSTON

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SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	266 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	1120 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	11.1 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.00 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.4
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	88.9 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	50 mg/Kg	670 mg/Kg
Dilution Factor : 50 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-21
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(20-22)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Aldrin	2.7	µg/Kg	<	2.7	µg/Kg
Alpha-BHC	2.0	µg/Kg	<	2.0	µg/Kg
Beta-BHC	4.0	µg/Kg	<	4.0	µg/Kg
Delta-BHC	6.0	µg/Kg	<	6.0	µg/Kg
Gamma-BHC(Lindane)	2.7	µg/Kg	<	2.7	µg/Kg
Chlordane	9.4	µg/Kg	<	9.4	µg/Kg
4,4'-DDD	7.4	µg/Kg	<	7.4	µg/Kg
4,4'-DDE	2.7	µg/Kg	<	2.7	µg/Kg
4,4'-DDT	8.0	µg/Kg	<	8.0	µg/Kg
Dieldrin	1.3	µg/Kg	<	1.3	µg/Kg
Endosulfan I	9.4	µg/Kg	<	9.4	µg/Kg
Endosulfan II	2.7	µg/Kg	<	2.7	µg/Kg
Endosulfan Sulfate	44.2	µg/Kg	<	44.2	µg/Kg
Endrin	4.0	µg/Kg	<	4.0	µg/Kg
Endrin Aldehyde	15.4	µg/Kg	<	15.4	µg/Kg
Heptachlor	2.0	µg/Kg	<	2.0	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-21
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Heptachlor Epoxide	55.6	µg/Kg	<	55.6	µg/Kg
Methoxychlor	118	µg/Kg	<	118	µg/Kg
Toxaphene	161	µg/Kg	<	161	µg/Kg
Aroclor-1016	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1221	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1232	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1242	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1248	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1254	6.0	µg/Kg	<	6.0	µg/Kg
Aroclor-1260	6.0	µg/Kg	<	6.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Decachlorobiphenyl (SS)	6.7	µg/Kg	101	%
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7	µg/Kg	89.9	%

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-21
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(20-22)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-21
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	93.7 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-21
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(20-22)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Chloromethane	10.0	µg/Kg	<	10.0	µg/Kg
Bromomethane	10.0	µg/Kg	<	10.0	µg/Kg
Vinyl chloride	10.0	µg/Kg	<	10.0	µg/Kg
Chloroethane	10.0	µg/Kg	<	10.0	µg/Kg
Methylene chloride	5.0	µg/Kg	<	5.0	µg/Kg
Acetone	100	µg/Kg	<	100	µg/Kg
Carbon disulfide	5.0	µg/Kg	<	5.0	µg/Kg
1,1-Dichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
1,1-Dichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
1,2-Dichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Chloroform	5.0	µg/Kg	<	5.0	µg/Kg
1,2-Dichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
2-Butanone	50	µg/Kg	<	50	µg/Kg
1,1,1-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Carbon tetrachloride	5.0	µg/Kg	<	5.0	µg/Kg
Vinyl acetate	50.0	µg/Kg	<	50.0	µg/Kg
Bromodichloromethane	5.0	µg/Kg	<	5.0	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-21
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	95.6 %
Toluene-d8 (SS)	50.0 µg/Kg	98.0 %
Bromofluorobenzene (SS)	50.0 µg/Kg	96.8 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-21
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(20-22)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-21
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	87.5 %
2-Fluorophenol (SS)	100 µg/Kg	90.6 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	107 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-21
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(20-22)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Bis(2-chloroethyl)ether	330	µg/Kg	< 330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
Benzyl alcohol	650	µg/Kg	< 650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	< 330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	< 330	µg/Kg
Hexachloroethane	330	µg/Kg	< 330	µg/Kg
Nitrobenzene	330	µg/Kg	< 330	µg/Kg
Isophorone	330	µg/Kg	< 330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	< 330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	< 330	µg/Kg
Naphthalene	330	µg/Kg	< 330	µg/Kg
4-Chloroaniline	650	µg/Kg	< 650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	< 330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	< 330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-21
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		1740	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-21
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	92.8	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	106	%
Terphenyl-d14 (SS)	50.0	µg/Kg	115	%

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-21
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(20-22)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 330 µg/Kg

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-21
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(20-22)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-21
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(20-22)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	62.5 %
Silt (0.005 to 0.075 mm)	0.1 %	30.0 %
Clay/Colloids (< 0.005 mm)	0.1 %	7.5 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-21
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(20-22)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	22.0 %
Liquid Limit	0.1 %	31.0 %
Plasticity Index	0.1 %	9.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-21
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(20-22)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-21
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(20-22)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	3 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 22-MAR-1993 by RKD		
Barium	1.0 mg/Kg	46.3 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	5.9 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.01 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 11-MAR-1993 by AH		

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BEAUMONT **DALLAS** **HOUSTON**

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	1.0 mg/Kg	7.5 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Lead	1 mg/Kg	3 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD		
Antimony	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Selenium	0.1 mg/Kg	< 0.1 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES		
Thallium	0.2 mg/Kg	< 0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-21
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(20-22)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	355 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	1210 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	20.0 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	5.80 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.8
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	80.0 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	10 mg/Kg	80 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-22
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(25-27)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	52.0 %
Silt (0.005 to 0.075 mm)	0.1 %	37.9 %
Clay/Colloids (< 0.005 mm)	0.1 %	10.0 %

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-17
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	83.0 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-17
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-17
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Heptachlor Epoxide	55.6 µg/Kg	<	55.6 µg/Kg
Methoxychlor	118 µg/Kg	<	118 µg/Kg
Toxaphene	161 µg/Kg	<	161 µg/Kg
Aroclor-1016	6.0 µg/Kg	<	6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	<	6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	<	6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	<	6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	<	6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	<	6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	<	6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	78.7 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	81.2 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-17
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-16
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	266 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	1100 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	16.4 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.50 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.5
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	83.6 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	30 mg/Kg	410 mg/Kg
Dilution Factor : 25 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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BEAUMONT **DALLAS** **HOUSTON**

TOTAL METALS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Nickel	1.0	mg/Kg	15.2		mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS					
Lead	1	mg/Kg	7		mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD					
Antimony	1.0	mg/Kg	<	1.0	mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS					
Selenium	0.1	mg/Kg	<	0.1	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES					
Thallium	0.2	mg/Kg	<	0.2	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD					

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-16
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	2 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 22-MAR-1993 by RKD		
Barium	1.0 mg/Kg	120 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	12.6 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.04 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 11-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-16
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-16
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	21.0 %
Liquid Limit	0.1 %	41.0 %
Plasticity Index	0.1 %	20.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-16
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	21.2 %
Silt (0.005 to 0.075 mm)	0.1 %	60.8 %
Clay/Colloids (< 0.005 mm)	0.1 %	17.9 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-16
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-16
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS				
COMPOUND	RETENTION TIME	FRACTION	RESULT	
Unidentified phthalate ester	22.23	ABN	480	µg/Kg
Unknown hexanedioic acid ester	27.29	ABN	2400	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-16
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	100	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	103	%
Terphenyl-d14 (SS)	50.0	µg/Kg	104	%

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-16
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		4440	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-16
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-16
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Phenol-d5 (SS)	100	µg/Kg	86.7	%
2-Fluorophenol (SS)	100	µg/Kg	90.1	%
2,4,6-Tribromophenol (SS)	100	µg/Kg	106	%

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-16
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-16
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
1,2-Dichloropropane	5.0	µg/Kg	< 5.0	µg/Kg
cis-1,3-Dichloropropene	5.0	µg/Kg	< 5.0	µg/Kg
Trichloroethene	5.0	µg/Kg	< 5.0	µg/Kg
Chlorodibromomethane	5.0	µg/Kg	< 5.0	µg/Kg
1,1,2-Trichloroethane	5.0	µg/Kg	< 5.0	µg/Kg
Benzene	5.0	µg/Kg	< 5.0	µg/Kg
trans-1,3-Dichloropropene	5.0	µg/Kg	< 5.0	µg/Kg
Bromoform	5.0	µg/Kg	< 5.0	µg/Kg
2-Chloroethylvinyl ether	10.0	µg/Kg	< 10.0	µg/Kg
4-Methyl-2-pentanone	50.0	µg/Kg	< 50.0	µg/Kg
2-Hexanone	50.0	µg/Kg	< 50.0	µg/Kg
Tetrachloroethene	5.0	µg/Kg	< 5.0	µg/Kg
Toluene	5.0	µg/Kg	< 5.0	µg/Kg
1,1,2,2-Tetrachloroethane	5.0	µg/Kg	< 5.0	µg/Kg
Chlorobenzene	5.0	µg/Kg	< 5.0	µg/Kg
Ethylbenzene	5.0	µg/Kg	< 5.0	µg/Kg
Styrene	5.0	µg/Kg	< 5.0	µg/Kg
Xylenes	5.0	µg/Kg	< 5.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
1,2-Dichloroethane-d4 (SS)	50.0	µg/Kg	95.4	%
Toluene-d8 (SS)	50.0	µg/Kg	99.1	%
Bromofluorobenzene (SS)	50.0	µg/Kg	96.9	%

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-16
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-16
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	74.4 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-16
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
2,4-D	800	µg/Kg	< 800	µg/Kg
2,4-DB	670	µg/Kg	< 670	µg/Kg
2,4,5-T	130	µg/Kg	< 130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	< 130	µg/Kg
Dalapon	3890	µg/Kg	< 3890	µg/Kg
Dicamba	200	µg/Kg	< 200	µg/Kg
Dichloroprop	470	µg/Kg	< 470	µg/Kg
Dinoseb	70	µg/Kg	< 70	µg/Kg
MCPA	168000	µg/Kg	< 168000	µg/Kg
MCPP	134000	µg/Kg	< 134000	µg/Kg

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REPORT NUMBER : D93-2685-16
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	82.4 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	91.0 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-16
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(15-17)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Aldrin	2.7	µg/Kg	<	2.7	µg/Kg
Alpha-BHC	2.0	µg/Kg	<	2.0	µg/Kg
Beta-BHC	4.0	µg/Kg	<	4.0	µg/Kg
Delta-BHC	6.0	µg/Kg	<	6.0	µg/Kg
Gamma-BHC(Lindane)	2.7	µg/Kg	<	2.7	µg/Kg
Chlordane	9.4	µg/Kg	<	9.4	µg/Kg
4,4'-DDD	7.4	µg/Kg	<	7.4	µg/Kg
4,4'-DDE	2.7	µg/Kg	<	2.7	µg/Kg
4,4'-DDT	8.0	µg/Kg	<	8.0	µg/Kg
Dieldrin	1.3	µg/Kg	<	1.3	µg/Kg
Endosulfan I	9.4	µg/Kg	<	9.4	µg/Kg
Endosulfan II	2.7	µg/Kg	<	2.7	µg/Kg
Endosulfan Sulfate	44.2	µg/Kg	<	44.2	µg/Kg
Endrin	4.0	µg/Kg	<	4.0	µg/Kg
Endrin Aldehyde	15.4	µg/Kg	<	15.4	µg/Kg
Heptachlor	2.0	µg/Kg	<	2.0	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-15
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	177 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	605 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	8.80 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	< 0.01 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.9
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	91.2 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	10 mg/Kg	< 10 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-15 PAGE 2

TOTAL METALS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Nickel	1.0	mg/Kg	8.4	mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS				
Lead	1	mg/Kg	5	mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD				
Antimony	1.0	mg/Kg	< 1.0	mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS				
Selenium	0.1	mg/Kg	< 0.1	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES				
Thallium	0.2	mg/Kg	< 0.2	mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD				

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	3 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 22-MAR-1993 by RKD		
Barium	1.0 mg/Kg	84.9 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	4.6 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.02 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 11-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

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REPORT NUMBER : D93-2685-15
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-15
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	21.0 %
Liquid Limit	0.1 %	31.0 %
Plasticity Index	0.1 %	10.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	46.5 %
Silt (0.005 to 0.075 mm)	0.1 %	42.5 %
Clay/Colloids (< 0.005 mm)	0.1 %	11.0 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-15
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(10-12)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-19
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(10-12.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-19
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(10-12.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	16.0 %
Liquid Limit	0.1 %	41.0 %
Plasticity Index	0.1 %	25.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-19
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(10-12.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	38.0 %
Silt (0.005 to 0.075 mm)	0.1 %	46.5 %
Clay/Colloids (< 0.005 mm)	0.1 %	15.6 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-19
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(10-12.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-24
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx.. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(30-32)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	2.4 %
Silt (0.005 to 0.075 mm)	0.1 %	60.7 %
Clay/Colloids (< 0.005 mm)	0.1 %	36.9 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-23
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(25-27)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Moisture (Oven)	0.01 %	19.9 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Total Solids	0.01 %	80.1 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		

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BEAUMONT DALLAS HOUSTON

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REPORT NUMBER : D93-2685-23
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(25-27)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	24.0 %
Liquid Limit	0.1 %	29.0 %
Plasticity Index	0.1 %	5.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(25-27)-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	49.2 %
Silt (0.005 to 0.075 mm)	0.1 %	42.0 %
Clay/Colloids (< 0.005 mm)	0.1 %	8.7 %

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REPORT NUMBER : D93-2685-19
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(10-12.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
Unidentified phthalate ester	22.23	ABN	360 µg/Kg
Unknown hexanedioic acid ester	27.28	ABN	390 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-19
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	330 µg/Kg	< 330 µg/Kg
Di-n-octylphthalate	330 µg/Kg	< 330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	< 330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	< 330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	< 330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	< 330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	73.0 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	101 %
Terphenyl-d14 (SS)	50.0 µg/Kg	106 %

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-19
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		2170	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-19
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(10-12.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Bis(2-chloroethyl)ether	330	µg/Kg	< 330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
Benzyl alcohol	650	µg/Kg	< 650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	< 330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	< 330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	< 330	µg/Kg
Hexachloroethane	330	µg/Kg	< 330	µg/Kg
Nitrobenzene	330	µg/Kg	< 330	µg/Kg
Isophorone	330	µg/Kg	< 330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	< 330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	< 330	µg/Kg
Naphthalene	330	µg/Kg	< 330	µg/Kg
4-Chloroaniline	650	µg/Kg	< 650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	< 330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	< 330	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-19
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	86.5 %
2-Fluorophenol (SS)	100 µg/Kg	86.0 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	101 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-19
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(10-12.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-19
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	101 %
Toluene-d8 (SS)	50.0 µg/Kg	97.4 %
Bromofluorobenzene (SS)	50.0 µg/Kg	98.5 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-19
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(10-12.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-19
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	90.1 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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NDRC LABORATORIES, INC.

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1089 East Collins Blvd., Richardson, Texas 75081 • (214) 238-5591 • FAX (214) 238-5592

BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-19
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(10-12.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-19
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	87.0 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	94.4 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-19
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(10-12.5)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-18
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	89 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	775 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	15.7 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.49 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.9
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	84.3 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	50 mg/Kg	500 mg/Kg
Dilution Factor : 50 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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BEAUMONT **DALLAS** **HOUSTON**

TOTAL METALS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Nickel	1.0 mg/Kg		30.8 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS			
Lead	1 mg/Kg		4 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD			
Antimony	1.0 mg/Kg	<	1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS			
Selenium	0.1 mg/Kg	<	0.1 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES			
Thallium	0.2 mg/Kg	<	0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD			

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-18
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	2 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 22-MAR-1993 by RKD		
Barium	1.0 mg/Kg	138 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	15.3 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	1.43 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 11-MAR-1993 by AH		

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-18
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	16.0 %
Liquid Limit	0.1 %	53.0 %
Plasticity Index	0.1 %	37.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	16.6 %
Silt (0.005 to 0.075 mm)	0.1 %	58.5 %
Clay/Colloids (< 0.005 mm)	0.1 %	24.9 %

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
Unknown hexanedioic acid ester	27.29	ABN	540 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-18
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Bis(2-ethylhexyl)phthalate	330 µg/Kg	<	330 µg/Kg
Di-n-octylphthalate	330 µg/Kg	<	330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	<	330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	<	330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	<	330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	<	330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	<	330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	<	330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	89.5 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	108 %
Terphenyl-d14 (SS)	50.0 µg/Kg	107 %

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-18
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		1290	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-18
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	90.9 %
2-Fluorophenol (SS)	100 µg/Kg	93.1 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	106 %

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SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-18
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
1,2-Dichloropropane	5.0	µg/Kg	<	5.0	µg/Kg
cis-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Trichloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Chlorodibromomethane	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Benzene	5.0	µg/Kg	<	5.0	µg/Kg
trans-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Bromoform	5.0	µg/Kg	<	5.0	µg/Kg
2-Chloroethylvinyl ether	10.0	µg/Kg	<	10.0	µg/Kg
4-Methyl-2-pentanone	50.0	µg/Kg	<	50.0	µg/Kg
2-Hexanone	50.0	µg/Kg	<	50.0	µg/Kg
Tetrachloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Toluene	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2,2-Tetrachloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Chlorobenzene	5.0	µg/Kg	<	5.0	µg/Kg
Ethylbenzene	5.0	µg/Kg	<	5.0	µg/Kg
Styrene	5.0	µg/Kg	<	5.0	µg/Kg
Xylenes	5.0	µg/Kg	<	5.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
1,2-Dichloroethane-d4 (SS)	50.0	µg/Kg	96.5	%
Toluene-d8 (SS)	50.0	µg/Kg	97.2	%
Bromofluorobenzene (SS)	50.0	µg/Kg	96.4	%

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-18
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-18
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	84.9 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-18
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-18
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	87.6 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	92.3 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-18
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(5-7)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-17
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	10 mg/Kg	266 mg/Kg
Dilution Factor : 10 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Conductivity	1 µmhos/cm	699 µmhos/cm
Analyzed using EPA 9050 on 11-MAR-1993 by MKS		
Moisture (Oven)	0.01 %	22.2 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Nitrate-Nitrite Nitrogen	0.01 mg/Kg	1.52 mg/Kg
Dilution Factor : 1 Analyzed using EPA 353.3 on 8-MAR-1993 by BAF		
pH		7.5
Analyzed using EPA 9045 on 9-MAR-1993 by MKS		
Total Solids	0.01 %	77.8 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		
Sulfate	50 mg/Kg	730 mg/Kg
Dilution Factor : 50 Analyzed using EPA 9038 on 9-MAR-1993 by JCH		

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REPORT NUMBER : D93-2685-17

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	1.0 mg/Kg	10.6 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Lead	1 mg/Kg	6 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7421 on 20-MAR-1993 by RKD		
Antimony	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Selenium	0.1 mg/Kg	< 0.1 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7740 on 17-MAR-1993 by MES		
Thallium	0.2 mg/Kg	< 0.2 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7841 on 20-MAR-1993 by RKD		

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-17
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 11-MAR-1993 by KJS		
Arsenic	1 mg/Kg	4 mg/Kg
Dilution Factor : 10 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7060 on 22-MAR-1993 by RKD		
Barium	1.0 mg/Kg	61.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Cadmium	1.0 mg/Kg	< 1.0 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Chromium	1.0 mg/Kg	9.4 mg/Kg
Dilution Factor : 1 Prepared using EPA 3050 on 10-MAR-1993 by CCM Analyzed using EPA 6010 on 10-MAR-1993 by KJS		
Mercury	0.01 mg/Kg	0.01 mg/Kg
Dilution Factor : 1 Prepared using EPA 3051 on 10-MAR-1993 by CCM Analyzed using EPA 7471 on 11-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-17
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-17
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	22.0 %
Liquid Limit	0.1 %	29.0 %
Plasticity Index	0.1 %	7.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-17
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D421/D422
ANALYZED BY : NJK
ANALYZED ON : 12-MAR-1993

GRADATION REPORT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Gravel & Coarse Sand (> 2.00 mm)	0.1 %	< 0.1 %
Medium & Fine Sand (0.075 to 2.00 mm)	0.1 %	54.5 %
Silt (0.005 to 0.075 mm)	0.1 %	35.3 %
Clay/Colloids (< 0.005 mm)	0.1 %	10.3 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-17
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-17
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 330 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-17
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	330 µg/Kg	< 330 µg/Kg
Di-n-octylphthalate	330 µg/Kg	< 330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	< 330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	< 330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	< 330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	< 330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	99.6 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	111 %
Terphenyl-d14 (SS)	50.0 µg/Kg	104 %

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-17
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg	<	330	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-17
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-17
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	86.2 %
2-Fluorophenol (SS)	100 µg/Kg	87.9 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	99.3 %

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-17
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-17
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	90.3 %
Toluene-d8 (SS)	50.0 µg/Kg	98.1 %
Bromofluorobenzene (SS)	50.0 µg/Kg	97.5 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-17
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB10(20-24)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-32
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	87.1 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	93.9 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-32
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Blank Spike
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Aldrin	2.7 µg/Kg		32 µg/Kg
Alpha-BHC	2.0 µg/Kg	<	2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	<	4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	<	6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg		33.0 µg/Kg
Chlordane	9.4 µg/Kg	<	9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	<	7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	<	2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg		53.5 µg/Kg
Dieldrin	1.3 µg/Kg		55.1 µg/Kg
Endosulfan I	9.4 µg/Kg	<	9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	<	2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	<	44.2 µg/Kg
Endrin	4.0 µg/Kg		55.2 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	<	15.4 µg/Kg
Heptachlor	2.0 µg/Kg		30.7 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-31
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYZED BY : JKA
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-31
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-31
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 330 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-31
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	103	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	117	%
Terphenyl-d14 (SS)	50.0	µg/Kg	112	%

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-31
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		404	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-31
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-31
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Phenol-d5 (SS)	100	µg/Kg	99.1	%
2-Fluorophenol (SS)	100	µg/Kg	97.9	%
2,4,6-Tribromophenol (SS)	100	µg/Kg	108	%

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-31
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS				
TEST REQUESTED	DETECTION LIMIT		RESULTS	
Phenol	330	µg/Kg	< 330	µg/Kg
2-Chlorophenol	330	µg/Kg	< 330	µg/Kg
2-Methylphenol	330	µg/Kg	< 330	µg/Kg
4-Methylphenol	330	µg/Kg	< 330	µg/Kg
2-Nitrophenol	330	µg/Kg	< 330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	< 330	µg/Kg
Benzoic acid	1650	µg/Kg	< 1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	< 330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	< 650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	< 330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	< 1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	< 1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	< 1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	< 1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	< 1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-31
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	94.4 %
Toluene-d8 (SS)	50.0 µg/Kg	99.5 %
Bromofluorobenzene (SS)	50.0 µg/Kg	100 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-31
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-31
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	51.0 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-31
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-31
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	83.9 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	99.6 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-31
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Aldrin	2.7	µg/Kg	<	2.7	µg/Kg
Alpha-BHC	2.0	µg/Kg	<	2.0	µg/Kg
Beta-BHC	4.0	µg/Kg	<	4.0	µg/Kg
Delta-BHC	6.0	µg/Kg	<	6.0	µg/Kg
Gamma-BHC(Lindane)	2.7	µg/Kg	<	2.7	µg/Kg
Chlordane	9.4	µg/Kg	<	9.4	µg/Kg
4,4'-DDD	7.4	µg/Kg	<	7.4	µg/Kg
4,4'-DDE	2.7	µg/Kg	<	2.7	µg/Kg
4,4'-DDT	8.0	µg/Kg	<	8.0	µg/Kg
Dieldrin	1.3	µg/Kg	<	1.3	µg/Kg
Endosulfan I	9.4	µg/Kg	<	9.4	µg/Kg
Endosulfan II	2.7	µg/Kg	<	2.7	µg/Kg
Endosulfan Sulfate	44.2	µg/Kg	<	44.2	µg/Kg
Endrin	4.0	µg/Kg	<	4.0	µg/Kg
Endrin Aldehyde	15.4	µg/Kg	<	15.4	µg/Kg
Heptachlor	2.0	µg/Kg	<	2.0	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-30
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2685-17 (VOA)/2685-6 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	2.53 mg/Kg
2,4-DNT	0.250 mg/Kg	2.26 mg/Kg
2,6-DNT	0.250 mg/Kg	2.39 mg/Kg
HMX	0.500 mg/Kg	2.83 mg/Kg
NB	0.260 mg/Kg	2.52 mg/Kg
2-NT	0.250 mg/Kg	2.27 mg/Kg
3-NT	0.250 mg/Kg	2.09 mg/Kg
4-NT	0.250 mg/Kg	2.07 mg/Kg
RDX	0.500 mg/Kg	2.94 mg/Kg
Tetryl	0.500 mg/Kg	2.02 mg/Kg
1,3,5-TNB	0.250 mg/Kg	2.24 mg/Kg
2,4,6-TNT	0.250 mg/Kg	2.03 mg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-30
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Chrysene	330	µg/Kg	<	330	µg/Kg
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	102	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	103	%
Terphenyl-d14 (SS)	50.0	µg/Kg	112	%

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-30
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg		1740	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg		1330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg	<	330	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg		1960	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-30
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2685-17 (VOA)/2685-6 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg		1760	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg		1710	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg		1770	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-30
ANALYSIS METHOD : EPA 8270

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	82.5 %
2-Fluorophenol (SS)	100 µg/Kg	94.7 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	101 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-30
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2685-17 (VOA)/2685-6 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg		2800	µg/Kg
2-Chlorophenol	330	µg/Kg		2890	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg		3380	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg		3550	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg		3550	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-30
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	52.6 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	54.3 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	55.7 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	55.6 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	98.4 %
Toluene-d8 (SS)	50.0 µg/Kg	102 %
Bromofluorobenzene (SS)	50.0 µg/Kg	104 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-30
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2685-17 (VOA)/2685-6 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	50.2 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-30
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	89.7 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-30
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2685-17 (VOA)/2685-6 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	12	µg/Kg		525	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	2	µg/Kg		419	µg/Kg
2,4,5-TP(Silvex)	2	µg/Kg		413	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	201	µg/Kg	<	201	µg/Kg
Dichloroprop	469	µg/Kg	<	469	µg/Kg
Dinoseb	67	µg/Kg	<	67	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-30
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor	2.0 µg/Kg	28.6 µg/Kg
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	65.6 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	89.0 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-30
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2685-17 (VOA)/2685-6 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	30 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	32.5 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	45.1 µg/Kg
Dieldrin	1.3 µg/Kg	49.6 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	49.3 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-29
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2685-17 (VOA)/2685-6 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	2.58 mg/Kg
2,4-DNT	0.250 mg/Kg	2.31 mg/Kg
2,6-DNT	0.250 mg/Kg	2.32 mg/Kg
HMX	0.500 mg/Kg	2.91 mg/Kg
NB	0.260 mg/Kg	2.49 mg/Kg
2-NT	0.250 mg/Kg	2.20 mg/Kg
3-NT	0.250 mg/Kg	2.03 mg/Kg
4-NT	0.250 mg/Kg	2.04 mg/Kg
RDX	0.500 mg/Kg	2.98 mg/Kg
Tetryl	0.500 mg/Kg	2.01 mg/Kg
1,3,5-TNB	0.250 mg/Kg	2.29 mg/Kg
2,4,6-TNT	0.250 mg/Kg	2.08 mg/Kg

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-29
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Chrysene	330	µg/Kg	<	330	µg/Kg
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Nitrobenzene-d5 (SS)	50.0	µg/Kg	97.7	%
2-Fluorobiphenyl (SS)	50.0	µg/Kg	103	%
Terphenyl-d14 (SS)	50.0	µg/Kg	105	%

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-29
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
2-Methylnaphthalene	330	µg/Kg	< 330 µg/Kg
Hexachlorocyclopentadiene	330	µg/Kg	< 330 µg/Kg
2-Chloronaphthalene	330	µg/Kg	< 330 µg/Kg
2-Nitroaniline	1650	µg/Kg	< 1650 µg/Kg
Dimethylphthalate	330	µg/Kg	< 330 µg/Kg
Acenaphthylene	330	µg/Kg	< 330 µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	< 330 µg/Kg
3-Nitroaniline	1650	µg/Kg	< 1650 µg/Kg
Acenaphthene	330	µg/Kg	1710 µg/Kg
Dibenzofuran	330	µg/Kg	< 330 µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	1310 µg/Kg
Diethylphthalate	330	µg/Kg	< 330 µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	< 330 µg/Kg
Fluorene	330	µg/Kg	< 330 µg/Kg
4-Nitroaniline	1650	µg/Kg	< 1650 µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	< 330 µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	< 330 µg/Kg
Hexachlorobenzene	330	µg/Kg	< 330 µg/Kg
Phenanthrene	330	µg/Kg	< 330 µg/Kg
Anthracene	330	µg/Kg	< 330 µg/Kg
Di-n-butylphthalate	330	µg/Kg	3980 µg/Kg
Fluoranthene	330	µg/Kg	< 330 µg/Kg
Pyrene	330	µg/Kg	1860 µg/Kg
Butyl benzyl phthalate	330	µg/Kg	< 330 µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	< 650 µg/Kg
Benzo(a)anthracene	330	µg/Kg	< 330 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-29
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2685-17 (VOA)/2685-6 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg		1730	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg		1660	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg		1680	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-29
ANALYSIS METHOD : EPA 8270

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	82.6 %
2-Fluorophenol (SS)	100 µg/Kg	92.3 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	100 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-29
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2685-17 (VOA)/2685-6 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg		2800	µg/Kg
2-Chlorophenol	330	µg/Kg		2850	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg		3360	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg		3420	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg		3590	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-29
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	62.7 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	51.1 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	52.5 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	52.2 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	95.5 %
Toluene-d8 (SS)	50.0 µg/Kg	102 %
Bromofluorobenzene (SS)	50.0 µg/Kg	103 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-29
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2685-17 (VOA)/2685-6 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	49.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-29
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	98.7 %

NDRC Laboratories, Inc.

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BEAUMONT DALLAS HOUSTON

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: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2685-17 (VOA)/2685-6 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES			
TEST REQUESTED	DETECTION LIMIT		RESULTS
2,4-D	12	µg/Kg	556 µg/Kg
2,4-DB	670	µg/Kg	< 670 µg/Kg
2,4,5-T	2	µg/Kg	462 µg/Kg
2,4,5-TP(Silvex)	2	µg/Kg	448 µg/Kg
Dalapon	3890	µg/Kg	< 3890 µg/Kg
Dicamba	201	µg/Kg	< 201 µg/Kg
Dichloroprop	469	µg/Kg	< 469 µg/Kg
Dinoseb	67	µg/Kg	< 67 µg/Kg
MCPA	168000	µg/Kg	< 168000 µg/Kg
MCPP	134000	µg/Kg	< 134000 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-29
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor	2.0 µg/Kg	29.1 µg/Kg
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	76.9 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	85.7 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-29
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2685-17 (VOA)/2685-6 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3550
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	30 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	32.1 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	52.9 µg/Kg
Dieldrin	1.3 µg/Kg	55.0 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	55.6 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-28
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Blank Spike
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	2.66 mg/Kg
2,4-DNT	0.250 mg/Kg	2.41 mg/Kg
2,6-DNT	0.250 mg/Kg	2.34 mg/Kg
HMX	0.500 mg/Kg	3.18 mg/Kg
NB	0.260 mg/Kg	2.49 mg/Kg
2-NT	0.250 mg/Kg	2.23 mg/Kg
3-NT	0.250 mg/Kg	2.07 mg/Kg
4-NT	0.250 mg/Kg	2.07 mg/Kg
RDX	0.500 mg/Kg	3.00 mg/Kg
Tetryl	0.500 mg/Kg	2.73 mg/Kg
1,3,5-TNB	0.250 mg/Kg	2.65 mg/Kg
2,4,6-TNT	0.250 mg/Kg	2.34 mg/Kg

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-28
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	77.9 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-28
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Blank Spike
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	12	µg/Kg		559	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	2	µg/Kg		459	µg/Kg
2,4,5-TP(Silvex)	2	µg/Kg		442	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	201	µg/Kg	<	201	µg/Kg
Dichloroprop	469	µg/Kg	<	469	µg/Kg
Dinoseb	67	µg/Kg	<	67	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-28
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	57.1 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	99.3 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-28
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Blank Spike
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Aldrin	2.7 µg/Kg		31 µg/Kg
Alpha-BHC	2.0 µg/Kg	<	2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	<	4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	<	6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg		32.6 µg/Kg
Chlordane	9.4 µg/Kg	<	9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	<	7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	<	2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg		41.5 µg/Kg
Dieldrin	1.3 µg/Kg		48.1 µg/Kg
Endosulfan I	9.4 µg/Kg	<	9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	<	2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	<	44.2 µg/Kg
Endrin	4.0 µg/Kg		47.6 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	<	15.4 µg/Kg
Heptachlor	2.0 µg/Kg		29.4 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-27
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYZED BY : JK
ANALYZED ON : 12-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/Kg

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-27
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4-DNT	0.250 mg/Kg	< 0.250 mg/Kg
2,6-DNT	0.250 mg/Kg	< 0.250 mg/Kg
HMX	0.500 mg/Kg	< 0.500 mg/Kg
NB	0.260 mg/Kg	< 0.260 mg/Kg
2-NT	0.250 mg/Kg	< 0.250 mg/Kg
3-NT	0.250 mg/Kg	< 0.250 mg/Kg
4-NT	0.250 mg/Kg	< 0.250 mg/Kg
RDX	0.500 mg/Kg	< 0.500 mg/Kg
Tetryl	0.500 mg/Kg	< 0.500 mg/Kg
1,3,5-TNB	0.250 mg/Kg	< 0.250 mg/Kg
2,4,6-TNT	0.250 mg/Kg	< 0.250 mg/Kg

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-27
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
Unidentified phthalate ester	22.21	ABN	340 µg/Kg
Unknown hexanedioic acid ester	27.27	ABN	490 µg/Kg

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-27
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	330 µg/Kg	< 330 µg/Kg
Di-n-octylphthalate	330 µg/Kg	< 330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	< 330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	< 330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	< 330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	< 330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	79.3 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	110 %
Terphenyl-d14 (SS)	50.0 µg/Kg	120 %

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-27
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg	<	330	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg		2350	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg	<	330	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg
Chrysene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-27
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg	<	330	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg	<	330	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-27
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	99.0 %
2-Fluorophenol (SS)	100 µg/Kg	97.6 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	105 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-27
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg	<	330	µg/Kg
2-Chlorophenol	330	µg/Kg	<	330	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	<	650	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg	<	1650	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg	<	1650	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-27
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	< 5.0 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	< 5.0 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	95.8 %
Toluene-d8 (SS)	50.0 µg/Kg	98.7 %
Bromofluorobenzene (SS)	50.0 µg/Kg	96.3 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-27
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-27
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	75.6 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-27
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	800	µg/Kg	<	800	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	130	µg/Kg	<	130	µg/Kg
2,4,5-TP(Silvex)	130	µg/Kg	<	130	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	200	µg/Kg	<	200	µg/Kg
Dichloroprop	470	µg/Kg	<	470	µg/Kg
Dinoseb	70	µg/Kg	<	70	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-27
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	103 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	98.9 %

NDRC Laboratories, Inc. /David R. Godwin/

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-27
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	< 2.7 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	< 2.7 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	< 8.0 µg/Kg
Dieldrin	1.3 µg/Kg	< 1.3 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	< 4.0 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg
Heptachlor	2.0 µg/Kg	< 2.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-26
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2685-6 (VOA)/2685-17 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	2.68 mg/Kg
2,4-DNT	0.250 mg/Kg	2.41 mg/Kg
2,6-DNT	0.250 mg/Kg	2.40 mg/Kg
HMX	0.500 mg/Kg	3.14 mg/Kg
NB	0.260 mg/Kg	2.52 mg/Kg
2-NT	0.250 mg/Kg	2.28 mg/Kg
3-NT	0.250 mg/Kg	2.10 mg/Kg
4-NT	0.250 mg/Kg	2.11 mg/Kg
RDX	0.500 mg/Kg	2.96 mg/Kg
Tetryl	0.500 mg/Kg	2.86 mg/Kg
1,3,5-TNB	0.250 mg/Kg	2.65 mg/Kg
2,4,6-TNT	0.250 mg/Kg	2.35 mg/Kg

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-26
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chrysene	330 µg/Kg	< 330 µg/Kg
Bis(2-ethylhexyl)phthalate	330 µg/Kg	< 330 µg/Kg
Di-n-octylphthalate	330 µg/Kg	< 330 µg/Kg
Benzo(b)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(k)fluoranthene	330 µg/Kg	< 330 µg/Kg
Benzo(a)pyrene	330 µg/Kg	< 330 µg/Kg
Indeno(1,2,3-cd)pyrene	330 µg/Kg	< 330 µg/Kg
Dibenzo(a,h)anthracene	330 µg/Kg	< 330 µg/Kg
Benzo(g,h,i)perylene	330 µg/Kg	< 330 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/Kg	111 %
2-Fluorobiphenyl (SS)	50.0 µg/Kg	118 %
Terphenyl-d14 (SS)	50.0 µg/Kg	113 %

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-26
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg		1890	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg		1480	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg	<	330	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg		1990	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-26
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2685-6 (VOA)/2685-17 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg		1770	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg		1820	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg		1810	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-26
ANALYSIS METHOD : EPA 8270

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	83.7 %
2-Fluorophenol (SS)	100 µg/Kg	95.3 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	114 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-26
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2685-6 (VOA)/2685-17 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Phenol	330	µg/Kg		3170	µg/Kg
2-Chlorophenol	330	µg/Kg		2780	µg/Kg
2-Methylphenol	330	µg/Kg	<	330	µg/Kg
4-Methylphenol	330	µg/Kg	<	330	µg/Kg
2-Nitrophenol	330	µg/Kg	<	330	µg/Kg
2,4-Dimethylphenol	330	µg/Kg	<	330	µg/Kg
Benzoic acid	1650	µg/Kg	<	1650	µg/Kg
2,4-Dichlorophenol	330	µg/Kg	<	330	µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg		3560	µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	<	330	µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	<	1650	µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	<	1650	µg/Kg
4-Nitrophenol	1650	µg/Kg		3730	µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	<	1650	µg/Kg
Pentachlorophenol	1650	µg/Kg		3580	µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-26
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/Kg	< 5.0 µg/Kg
cis-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Trichloroethene	5.0 µg/Kg	56.9 µg/Kg
Chlorodibromomethane	5.0 µg/Kg	< 5.0 µg/Kg
1,1,2-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Benzene	5.0 µg/Kg	53.4 µg/Kg
trans-1,3-Dichloropropene	5.0 µg/Kg	< 5.0 µg/Kg
Bromoform	5.0 µg/Kg	< 5.0 µg/Kg
2-Chloroethylvinyl ether	10.0 µg/Kg	< 10.0 µg/Kg
4-Methyl-2-pentanone	50.0 µg/Kg	< 50.0 µg/Kg
2-Hexanone	50.0 µg/Kg	< 50.0 µg/Kg
Tetrachloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Toluene	5.0 µg/Kg	59.2 µg/Kg
1,1,2,2-Tetrachloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Chlorobenzene	5.0 µg/Kg	50.7 µg/Kg
Ethylbenzene	5.0 µg/Kg	< 5.0 µg/Kg
Styrene	5.0 µg/Kg	< 5.0 µg/Kg
Xylenes	5.0 µg/Kg	< 5.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/Kg	97.7 %
Toluene-d8 (SS)	50.0 µg/Kg	100 %
Bromofluorobenzene (SS)	50.0 µg/Kg	98.6 %

NDRC Laboratories, Inc.

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-26
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2685-6 (VOA)/2685-17 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	44.3 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-26
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	83.4 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-26
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2685-6 (VOA)/2685-17 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	12	µg/Kg		503	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	2	µg/Kg		426	µg/Kg
2,4,5-TP(Silvex)	2	µg/Kg		422	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	201	µg/Kg	<	201	µg/Kg
Dichloroprop	469	µg/Kg	<	469	µg/Kg
Dinoseb	67	µg/Kg	<	67	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-26
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor	2.0 µg/Kg	30.2 µg/Kg
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	59.7 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	99.8 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-26
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MSD
: 2685-6 (VOA)/2685-17 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	2.7 µg/Kg	31 µg/Kg
Alpha-BHC	2.0 µg/Kg	< 2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	< 4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	< 6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg	33.3 µg/Kg
Chlordane	9.4 µg/Kg	< 9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	< 7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	< 2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg	44.8 µg/Kg
Dieldrin	1.3 µg/Kg	50.8 µg/Kg
Endosulfan I	9.4 µg/Kg	< 9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	< 2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	< 44.2 µg/Kg
Endrin	4.0 µg/Kg	50.8 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	< 15.4 µg/Kg

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BEAUMONT DALLAS HOUSTON

014996

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-25
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2685-6 (VOA)/2685-17 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	2.62 mg/Kg
2,4-DNT	0.250 mg/Kg	2.38 mg/Kg
2,6-DNT	0.250 mg/Kg	2.35 mg/Kg
HMX	0.500 mg/Kg	3.14 mg/Kg
NB	0.260 mg/Kg	2.50 mg/Kg
2-NT	0.250 mg/Kg	2.26 mg/Kg
3-NT	0.250 mg/Kg	2.10 mg/Kg
4-NT	0.250 mg/Kg	2.11 mg/Kg
RDX	0.500 mg/Kg	2.96 mg/Kg
Tetryl	0.500 mg/Kg	2.09 mg/Kg
1,3,5-TNB	0.250 mg/Kg	2.61 mg/Kg
2,4,6-TNT	0.250 mg/Kg	2.37 mg/Kg

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-25
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Chrysene	330	µg/Kg	<	330	µg/Kg
Bis(2-ethylhexyl)phthalate	330	µg/Kg	<	330	µg/Kg
Di-n-octylphthalate	330	µg/Kg	<	330	µg/Kg
Benzo(b)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(k)fluoranthene	330	µg/Kg	<	330	µg/Kg
Benzo(a)pyrene	330	µg/Kg	<	330	µg/Kg
Indeno(1,2,3-cd)pyrene	330	µg/Kg	<	330	µg/Kg
Dibenzo(a,h)anthracene	330	µg/Kg	<	330	µg/Kg
Benzo(g,h,i)perylene	330	µg/Kg	<	330	µg/Kg

QUALITY CONTROL DATA			
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0	µg/Kg	89.1 %
2-Fluorobiphenyl (SS)	50.0	µg/Kg	98.1 %
Terphenyl-d14 (SS)	50.0	µg/Kg	90.0 %

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-25
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2-Methylnaphthalene	330	µg/Kg	<	330	µg/Kg
Hexachlorocyclopentadiene	330	µg/Kg	<	330	µg/Kg
2-Chloronaphthalene	330	µg/Kg	<	330	µg/Kg
2-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Dimethylphthalate	330	µg/Kg	<	330	µg/Kg
Acenaphthylene	330	µg/Kg	<	330	µg/Kg
2,6-Dinitrotoluene	330	µg/Kg	<	330	µg/Kg
3-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
Acenaphthene	330	µg/Kg		1750	µg/Kg
Dibenzofuran	330	µg/Kg	<	330	µg/Kg
2,4-Dinitrotoluene	330	µg/Kg		1590	µg/Kg
Diethylphthalate	330	µg/Kg	<	330	µg/Kg
4-Chlorophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Fluorene	330	µg/Kg	<	330	µg/Kg
4-Nitroaniline	1650	µg/Kg	<	1650	µg/Kg
N-Nitrosodiphenylamine	330	µg/Kg	<	330	µg/Kg
4-Bromophenylphenyl ether	330	µg/Kg	<	330	µg/Kg
Hexachlorobenzene	330	µg/Kg	<	330	µg/Kg
Phenanthrene	330	µg/Kg	<	330	µg/Kg
Anthracene	330	µg/Kg	<	330	µg/Kg
Di-n-butylphthalate	330	µg/Kg	<	330	µg/Kg
Fluoranthene	330	µg/Kg	<	330	µg/Kg
Pyrene	330	µg/Kg		1830	µg/Kg
Butyl benzyl phthalate	330	µg/Kg	<	330	µg/Kg
3,3'-Dichlorobenzidine	650	µg/Kg	<	650	µg/Kg
Benzo(a)anthracene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-25
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2685-6 (VOA)/2685-17 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
Bis(2-chloroethyl)ether	330	µg/Kg	<	330	µg/Kg
1,3-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
1,4-Dichlorobenzene	330	µg/Kg		1570	µg/Kg
Benzyl alcohol	650	µg/Kg	<	650	µg/Kg
1,2-Dichlorobenzene	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroisopropyl)ether	330	µg/Kg	<	330	µg/Kg
N-Nitroso-Di-N-propylamine	330	µg/Kg		1830	µg/Kg
Hexachloroethane	330	µg/Kg	<	330	µg/Kg
Nitrobenzene	330	µg/Kg	<	330	µg/Kg
Isophorone	330	µg/Kg	<	330	µg/Kg
Bis(2-chloroethoxy)methane	330	µg/Kg	<	330	µg/Kg
1,2,4-Trichlorobenzene	330	µg/Kg		1680	µg/Kg
Naphthalene	330	µg/Kg	<	330	µg/Kg
4-Chloroaniline	650	µg/Kg	<	650	µg/Kg
Hexachlorobutadiene	330	µg/Kg	<	330	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-25
ANALYSIS METHOD : EPA 8270

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/Kg	70.5 %
2-Fluorophenol (SS)	100 µg/Kg	81.5 %
2,4,6-Tribromophenol (SS)	100 µg/Kg	87.9 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-25
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2685-6 (VOA)/2685-17 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Phenol	330	µg/Kg	2900 µg/Kg
2-Chlorophenol	330	µg/Kg	2760 µg/Kg
2-Methylphenol	330	µg/Kg	< 330 µg/Kg
4-Methylphenol	330	µg/Kg	< 330 µg/Kg
2-Nitrophenol	330	µg/Kg	< 330 µg/Kg
2,4-Dimethylphenol	330	µg/Kg	< 330 µg/Kg
Benzoic acid	1650	µg/Kg	< 1650 µg/Kg
2,4-Dichlorophenol	330	µg/Kg	< 330 µg/Kg
4-Chloro-3-methylphenol	650	µg/Kg	3470 µg/Kg
2,4,6-Trichlorophenol	330	µg/Kg	< 330 µg/Kg
2,4,5-Trichlorophenol	1650	µg/Kg	< 1650 µg/Kg
2,4-Dinitrophenol	1650	µg/Kg	< 1650 µg/Kg
4-Nitrophenol	1650	µg/Kg	3470 µg/Kg
4,6-Dinitro-2-methylphenol	1650	µg/Kg	< 1650 µg/Kg
Pentachlorophenol	1650	µg/Kg	3600 µg/Kg

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2685-25
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
1,2-Dichloropropane	5.0	µg/Kg	<	5.0	µg/Kg
cis-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Trichloroethene	5.0	µg/Kg		54.4	µg/Kg
Chlorodibromomethane	5.0	µg/Kg	<	5.0	µg/Kg
1,1,2-Trichloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Benzene	5.0	µg/Kg		53.5	µg/Kg
trans-1,3-Dichloropropene	5.0	µg/Kg	<	5.0	µg/Kg
Bromoform	5.0	µg/Kg	<	5.0	µg/Kg
2-Chloroethylvinyl ether	10.0	µg/Kg	<	10.0	µg/Kg
4-Methyl-2-pentanone	50.0	µg/Kg	<	50.0	µg/Kg
2-Hexanone	50.0	µg/Kg	<	50.0	µg/Kg
Tetrachloroethene	5.0	µg/Kg	<	5.0	µg/Kg
Toluene	5.0	µg/Kg		61.7	µg/Kg
1,1,2,2-Tetrachloroethane	5.0	µg/Kg	<	5.0	µg/Kg
Chlorobenzene	5.0	µg/Kg		53.3	µg/Kg
Ethylbenzene	5.0	µg/Kg	<	5.0	µg/Kg
Styrene	5.0	µg/Kg	<	5.0	µg/Kg
Xylenes	5.0	µg/Kg	<	5.0	µg/Kg

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
1,2-Dichloroethane-d4 (SS)	50.0	µg/Kg	93.1	%
Toluene-d8 (SS)	50.0	µg/Kg	102	%
Bromofluorobenzene (SS)	50.0	µg/Kg	99.2	%

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-25
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2685-6 (VOA)/2685-17 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/Kg	< 10.0 µg/Kg
Bromomethane	10.0 µg/Kg	< 10.0 µg/Kg
Vinyl chloride	10.0 µg/Kg	< 10.0 µg/Kg
Chloroethane	10.0 µg/Kg	< 10.0 µg/Kg
Methylene chloride	5.0 µg/Kg	< 5.0 µg/Kg
Acetone	100 µg/Kg	< 100 µg/Kg
Carbon disulfide	5.0 µg/Kg	< 5.0 µg/Kg
1,1-Dichloroethene	5.0 µg/Kg	45.6 µg/Kg
1,1-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethene	5.0 µg/Kg	< 5.0 µg/Kg
Chloroform	5.0 µg/Kg	< 5.0 µg/Kg
1,2-Dichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
2-Butanone	50 µg/Kg	< 50 µg/Kg
1,1,1-Trichloroethane	5.0 µg/Kg	< 5.0 µg/Kg
Carbon tetrachloride	5.0 µg/Kg	< 5.0 µg/Kg
Vinyl acetate	50.0 µg/Kg	< 50.0 µg/Kg
Bromodichloromethane	5.0 µg/Kg	< 5.0 µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-25
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	95.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-25
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2685-6 (VOA)/2685-17 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	12	µg/Kg		551	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	2	µg/Kg		449	µg/Kg
2,4,5-TP(Silvex)	2	µg/Kg		446	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	201	µg/Kg	<	201	µg/Kg
Dichloroprop	469	µg/Kg	<	469	µg/Kg
Dinoseb	67	µg/Kg	<	67	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-25
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor	2.0 µg/Kg	35.2 µg/Kg
Heptachlor Epoxide	55.6 µg/Kg	< 55.6 µg/Kg
Methoxychlor	118 µg/Kg	< 118 µg/Kg
Toxaphene	161 µg/Kg	< 161 µg/Kg
Aroclor-1016	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1221	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1232	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1242	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1248	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1254	6.0 µg/Kg	< 6.0 µg/Kg
Aroclor-1260	6.0 µg/Kg	< 6.0 µg/Kg

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	6.7 µg/Kg	91.2 %
2,4,5,6-Tetrachloro-m-xylene (SS)	6.7 µg/Kg	102 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-25
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : MS
: 2685-6 (VOA)/2685-17 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3540
PREPARED BY : TLR
PREPARED ON : 8-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : SRW
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS			
TEST REQUESTED	DETECTION LIMIT		RESULTS
Aldrin	2.7 µg/Kg		35 µg/Kg
Alpha-BHC	2.0 µg/Kg	<	2.0 µg/Kg
Beta-BHC	4.0 µg/Kg	<	4.0 µg/Kg
Delta-BHC	6.0 µg/Kg	<	6.0 µg/Kg
Gamma-BHC(Lindane)	2.7 µg/Kg		35.7 µg/Kg
Chlordane	9.4 µg/Kg	<	9.4 µg/Kg
4,4'-DDD	7.4 µg/Kg	<	7.4 µg/Kg
4,4'-DDE	2.7 µg/Kg	<	2.7 µg/Kg
4,4'-DDT	8.0 µg/Kg		61.6 µg/Kg
Dieldrin	1.3 µg/Kg		61.1 µg/Kg
Endosulfan I	9.4 µg/Kg	<	9.4 µg/Kg
Endosulfan II	2.7 µg/Kg	<	2.7 µg/Kg
Endosulfan Sulfate	44.2 µg/Kg	<	44.2 µg/Kg
Endrin	4.0 µg/Kg		61.6 µg/Kg
Endrin Aldehyde	15.4 µg/Kg	<	15.4 µg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-24
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(30-32)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Moisture (Oven)	0.01 %	21.4 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Total Solids	0.01 %	78.9 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-24
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(30-32)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	18.0 %
Liquid Limit	0.1 %	67.0 %
Plasticity Index	0.1 %	49.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-22
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(25-27)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Moisture (Oven)	0.01 %	20.3 %
Analyzed using ASTM D2216 on 15-MAR-1993 by RJS		
Total Solids	0.01 %	79.7 %
Analyzed using EPA 160.3 on 15-MAR-1993 by KOB		

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-22
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : LH13-SB11(25-27)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : ASTM D4318
ANALYZED BY : JRW
ANALYZED ON : 29-MAR-1993

LIQUID/PLASTIC LIMIT		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Plastic Limit	0.1 %	31.0 %
Liquid Limit	0.1 %	23.0 %
Plasticity Index	0.1 %	8.0 %
Percent Retained on #40 Sieve	0.1 %	< 0.1 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-32
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Blank Spike
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 10-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	12	µg/Kg		471	µg/Kg
2,4-DB	670	µg/Kg	<	670	µg/Kg
2,4,5-T	2	µg/Kg		379	µg/Kg
2,4,5-TP(Silvex)	2	µg/Kg		379	µg/Kg
Dalapon	3890	µg/Kg	<	3890	µg/Kg
Dicamba	201	µg/Kg	<	201	µg/Kg
Dichloroprop	469	µg/Kg	<	469	µg/Kg
Dinoseb	67	µg/Kg	<	67	µg/Kg
MCPA	168000	µg/Kg	<	168000	µg/Kg
MCPP	134000	µg/Kg	<	134000	µg/Kg

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2685-32
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/Kg	63.2 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2685-32
REPORT DATE : 1-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Soil
ID MARKS : Blank Spike
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.250 mg/Kg	2.66 mg/Kg
2,4-DNT	0.250 mg/Kg	2.41 mg/Kg
2,6-DNT	0.250 mg/Kg	2.34 mg/Kg
HMX	0.500 mg/Kg	3.18 mg/Kg
NB	0.260 mg/Kg	2.49 mg/Kg
2-NT	0.250 mg/Kg	2.23 mg/Kg
3-NT	0.250 mg/Kg	2.07 mg/Kg
4-NT	0.250 mg/Kg	2.07 mg/Kg
RDX	0.500 mg/Kg	3.00 mg/Kg
Tetryl	0.500 mg/Kg	2.73 mg/Kg
1,3,5-TNB	0.250 mg/Kg	2.65 mg/Kg
2,4,6-TNT	0.250 mg/Kg	2.34 mg/Kg

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2685

REPORT DATE: 1-APR-1993

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Gradation	Gradation	Gradation	Liquid Limit	Liquid Limit	Liquid Limit
BATCH No.	----	----	----	----	----	----
MATRIX	Soil	Soil	Soil	Soil	Soil	Soil
PREP METHOD	----	----	----	----	----	----
PREP DATE	----	----	----	----	----	----
PREP TECHNICIAN	----	----	----	----	----	----
ANALYSIS METHOD	ASTM D421/422	ASTM D421/422	ASTM D421/422	ASTM D4318	ASTM D4318	ASTM D4318
ANALYSIS DATE	3/12/93	3/12/93	3/12/93	3/29/93	3/29/93	3/29/93
ANALYST	NJK	NJK	NJK	JAO/JRW	JAO/JRW	JAO/JRW
METHOD BLANK	----	----	----	----	----	----
MS % RECOVERY	----	----	----	----	----	----
LCS % RECOVERY	----	----	----	----	----	----
DUPLICATE RPD	4.0	5.7	0.0	8.9	6.7	11.0
MS/MSD RPD	----	----	----	----	----	----
SPIKE LEVEL	----	----	----	----	----	----
SPIKED SAMPLE ID No.	----	----	----	----	----	----
DUPLICATE SAMPLE ID No.	D93-2685-3	D93-2685-6	D93-2685-17	D93-2685-6	D93-2685-17	D93-2685-10

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Plastic Limit	Plastic Limit	Plastic Limit
BATCH No.	----	----	----
MATRIX	Soil	Soil	Soil
PREP METHOD	----	----	----
PREP DATE	----	----	----
PREP TECHNICIAN	----	----	----
ANALYSIS METHOD	ASTM D4318	ASTM D4318	ASTM D4318
ANALYSIS DATE	3/29/93	3/29/93	3/29/93
ANALYST	DL	DL	DL
METHOD BLANK	----	----	----
MS % RECOVERY	----	----	----
LCS % RECOVERY	----	----	----
DUPLICATE RPD	0.0	20	5.7
MS/MSD RPD	----	----	----
SPIKE LEVEL	----	----	----
SPIKED SAMPLE ID No.	----	----	----
DUPLICATE SAMPLE ID No.	D93-2685-6	D93-2685-17	D93-2685-10

MS: Matrix Spike
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LCS: Laboratory Control Sample
RPD: Relative Percent Difference

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Silver	Barium	Cadmium	Chromium	Nickel
BATCH No.	563	563	563	563	563
MATRIX	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 3051	EPA 3051	EPA 3051	EPA 3051	EPA 3051
PREP DATE	3/10/93	3/10/93	3/10/93	3/10/93	3/10/93
PREP TECHNICIAN	CCM	CCM	CCM	CCM	CCM
ANALYSIS METHOD	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 6010
ANALYSIS DATE	3/11/93	3/11/93	3/11/93	3/11/93	3/11/93
ANALYST	KJS	KJS	KJS	KJS	KJS
METHOD BLANK	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg
MS % RECOVERY	86	84	87	107	87
LCS % RECOVERY	95	89	90	86	87
DUPLICATE RPD	----	0.5	3.5	----	9.4
MS/MSD RPD	1.2	0.8	0.5	2.7	0.4
SPIKE LEVEL	5 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
SPIKED SAMPLE ID No.	D93-2685-8	D93-2685-8	D93-2685-8	D93-2685-8	D93-2685-8
DUPLICATE SAMPLE ID No.	D93-2685-8	D93-2685-8	D93-2685-8	D93-2685-8	D93-2685-8

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993 REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Silver	Barium	Cadmium	Chromium	Nickel
BATCH No.	559	559	559	559	559
MATRIX	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 3051	EPA 3051	EPA 3051	EPA 3051	EPA 3051
PREP DATE	3/10/93	3/10/93	3/10/93	3/10/93	3/10/93
PREP TECHNICIAN	CCM	CCM	CCM	CCM	CCM
ANALYSIS METHOD	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 6010
ANALYSIS DATE	3/11/93	3/11/93	3/11/93	3/11/93	3/11/93
ANALYST	KJS	KJS	KJS	KJS	KJS
METHOD BLANK	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg
MS % RECOVERY	75	107	85	108	83
LCS % RECOVERY	102	90	89	81	85
DUPLICATE RPD	----	12.5	3.0	----	14.6
MS/MSD RPD	2.6	6.9	0.2	6.9	0.5
SPIKE LEVEL	5.0 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
SPIKED SAMPLE ID No.	D93-2685-6	D93-2685-6	D93-2685-6	D93-2685-6	D93-2685-6
DUPLICATE SAMPLE ID No.	D93-2685-6	D93-2685-6	D93-2685-6	D93-2685-6	D93-2685-6

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993 REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Silver	Barium	Cadmium	Chromium	Nickel
BATCH No.	591	591	591	591	591
MATRIX	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 3051	EPA 3051	EPA 3051	EPA 3051	EPA 3051
PREP DATE	3/10/93	3/10/93	3/10/93	3/10/93	3/10/93
PREP TECHNICIAN	CCM	CCM	CCM	CCM	CCM
ANALYSIS METHOD	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 6010
ANALYSIS DATE	3/11/93	3/11/93	3/11/93	3/11/93	3/11/93
ANALYST	KJS	KJS	KJS	KJS	KJS
METHOD BLANK	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg
MS % RECOVERY	96	108	86	97	87
LCS % RECOVERY	83	93	90	90	90
DUPLICATE RPD	----	8.3	----	24.8	8.9
MS/MSD RPD	1.0	3.4	1.6	0.6	3.1
SPIKE LEVEL	5.0 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
SPIKED SAMPLE ID No.	D93-2685-17	D93-2685-17	D93-2685-17	D93-2685-17	D93-2685-17
DUPLICATE SAMPLE ID No.	D93-2685-17	D93-2685-17	D93-2685-17	D93-2685-17	D93-2685-17

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
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COMMENTS:

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993 REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Silver	Barium	Cadmium	Chromium	Nickel
BATCH No.	580	580	580	580	580
MATRIX	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 3051	EPA 3051	EPA 3051	EPA 3051	EPA 3051
PREP DATE	3/10/93	3/10/93	3/10/93	3/10/93	3/10/93
PREP TECHNICIAN	CCM	CCM	CCM	CCM	CCM
ANALYSIS METHOD	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 6010
ANALYSIS DATE	3/11/93	3/10/93	3/10/93	3/10/93	3/10/93
ANALYST	KJS	KJS	KJS	KJS	KJS
METHOD BLANK	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg
MS % RECOVERY	81	137 *	73 *	99	69 *
LCS % RECOVERY	97	92	91	90	88
DUPLICATE RPD	----	1.1	----	----	4.1
MS/MSD RPD	6.8	0.2	0.0	1.7	2.0
SPIKE LEVEL	5.0 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
SPIKED SAMPLE ID No.	D93-2685-21	D93-2685-21	D93-2685-21	D93-2685-21	D93-2685-21
DUPLICATE SAMPLE ID No.	D93-2685-21	D93-2685-21	D93-2685-21	D93-2685-21	D93-2685-21

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS: *Duplicate matrix spikes indicate the presence of a matrix interference in the QC sample.

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993 REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Chloride	Chloride	Conductivity	Conductivity	Moisture Oven	Moisture Oven
BATCH No.	----	----	----	----	----	----
MATRIX	Soil	Soil	Soil	Soil	Soil	Soil
PREP METHOD	----	----	----	----	----	----
PREP DATE	----	----	----	----	----	----
PREP TECHNICIAN	----	----	----	----	----	----
ANALYSIS METHOD	EPA 9252	EPA 9252	EPA 9050	EPA 9050	ASTM D2216	ASTM D2216
ANALYSIS DATE	3/10/93	3/10/93	3/11/93	3/11/93	3/15/93	3/15/93
ANALYST	BWB	BWB	MKS	MKS	RJS	RJS
METHOD BLANK	< 1.0 mg/Kg	< 1.0 mg/Kg	----	----	----	----
MS % RECOVERY	98	100	----	----	----	----
LCS % RECOVERY	100	100	----	----	----	----
DUPLICATE RPD	0.0	0.0	0.0	0.0	0.2	0.4
MS/MSD RPD	2.0	1.0	----	----	----	----
SPIKE LEVEL	868.5 mg/L	868.5 mg/L	----	----	----	----
SPIKED SAMPLE ID No.	D93-2685-6	D93-2685-17	----	----	----	----
DUPLICATE SAMPLE ID No.	D93-2685-6	D93-2685-17	D93-2685-3	D93-2685-6	D93-2685-16	D93-2685-24

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993 REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Nitrate	Nitrate	pH	pH	Total Solids	Total Solids
BATCH No.	----	----	----	----	----	----
MATRIX	Soil	Soil	Soil	Soil	Soil	Soil
PREP METHOD	----	----	----	----	----	----
PREP DATE	----	----	----	----	----	----
PREP TECHNICIAN	----	----	----	----	----	----
ANALYSIS METHOD	EPA 353.3	EPA 353.3	EPA 9045	EPA 9045	EPA 160.3	EPA 160.3
ANALYSIS DATE	3/8/93	3/8/93	3/9/93	3/9/93	3/15/93	3/15/93
ANALYST	BAF	BAF	MKS	MKS	KOB	KOB
METHOD BLANK	< 0.01 mg/Kg	< 0.01 mg/Kg	----	----	----	----
MS % RECOVERY	85	94	----	----	----	----
LCS % RECOVERY	101	101	----	----	----	----
DUPLICATE RPD	5.4	11.8	0.0	1.3	0.2	0.4
MS/MSD RPD	2.3	4.6	----	----	----	----
SPIKE LEVEL	1.0 mg/Kg	1.0 mg/Kg	----	----	----	----
SPIKED SAMPLE ID No.	D93-2685-6	D93-2685-17	----	----	----	----
DUPLICATE SAMPLE ID No.	D93-2685-6	D93-2685-17	D93-2685-6	D93-2685-17	D93-2685-16	D93-2685-24

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
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COMMENTS:

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Chloride	Condutivity	Moisture Oven	Nitrate	pH	Total Solids
BATCH No.	----	----	----	----	----	----
MATRIX	Soil	Soil	Soil	Soil	Soil	Soil
PREP METHOD	----	----	----	----	----	----
PREP DATE	----	----	----	----	----	----
PREP TECHNICIAN	----	----	----	----	----	----
ANALYSIS METHOD	EPA 9252	EPA 9050	ASTM D2216	EPA 353.3	EPA 9045	EPA 160.3
ANALYSIS DATE	3/10/93	3/11/93	3/15/93	3/8/93	3/9/93	3/15/93
ANALYST	BWB	MKS	RJS	BAF	MKS	KOB
METHOD BLANK	< 1.0 mg/Kg	----	----	< 0.01 mg/Kg	----	----
MS % RECOVERY	99	----	----	98	----	----
LCS % RECOVERY	100	----	----	101	----	----
DUPLICATE RPD	0.0	0.0	0.0	3.6	0.0	0.0
MS/MSD RPD	0.0	----	----	4.9	----	----
SPIKE LEVEL	868.5 mg/L	----	----	1.0 mg/Kg	----	----
SPIKED SAMPLE ID No.	D93-2684-5	----	----	D93-2590-1	----	----
DUPLICATE SAMPLE ID No.	D93-2684-5	D93-2685-15	D93-2685-6	D93-2590-1	D93-2684-3	D93-2685-6

MS: Matrix Spike
MSD: Matrix Spike Duplicate
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COMMENTS:

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Arsenic	Arsenic	Arsenic	Lead	Lead	Lead
BATCH No.	564	562	560	564	562	560
MATRIX	Soil	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 3051	EPA 3051	EPA 3051	EPA 3051	EPA 3051	EPA 3051
PREP DATE	3/10/93	3/10/93	3/10/93	3/10/93	3/10/93	3/10/93
PREP TECHNICIAN	CCM	CCM	CCM	CCM	CCM	CCM
ANALYSIS METHOD	EPA 7060	EPA 7060	EPA 7060	EPA 7421	EPA 7421	EPA 7421
ANALYSIS DATE	3/21/93	3/21/93	3/21/93	3/20/93	3/19/93	3/20/93
ANALYST	MES/RKD	MES/RKD	MES/RKD	MES/RKD	MES/RKD	MES/RKD
METHOD BLANK	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg
MS % RECOVERY	---- *	---- *	---- *	---- *	67 **	190 **
LCS % RECOVERY	83	85	85	96	93	98
DUPLICATE RPD	----	----	----	----	8	7
MS/MSD RPD	----	----	----	----	5	3
SPIKE LEVEL	1.5 mg/Kg	1.5 mg/Kg	1.5 mg/Kg	1.5 mg/Kg	1.5 mg/Kg	1.5 mg/Kg
SPIKED SAMPLE ID No.	D93-2685-8	D93-2684-1	D93-2685-6	D93-2685-8	D93-2684-1	D93-2685-6
DUPLICATE SAMPLE ID No.	D93-2685-8	D93-2684-1	D93-2685-6	D93-2685-8	D93-2684-1	D93-2685-6

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS: *Strong matrix interference. MS and MSD spikes were not recovered.

** Duplicate matrix spikes indicate the presence of a matrix interference in the QC sample.

015026

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Mercury	Selenium	Selenium	Selenium	Sulfate
BATCH No.	560	562	564	560	----
MATRIX	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 3051	EPA 3051	EPA 3051	EPA 3051	----
PREP DATE	3/10/93	3/10/93	3/10/93	3/10/93	----
PREP TECHNICIAN	CCM	CCM	CCM	CCM	----
ANALYSIS METHOD	EPA 7471	EPA 7740	EPA 7740	EPA 7740	EPA 9038
ANALYSIS DATE	3/15/93	3/17/93	3/17/93	3/17/93	3/9/93
ANALYST	AH	MES/RKD	MES/RKD	MES/RKD	JCH
METHOD BLANK	< 0.01 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 0.1 mg/Kg	< 1.0 mg/Kg
MS % RECOVERY	93	53 *	67 *	62 *	97
LCS % RECOVERY	82	90	84	88	94
DUPLICATE RPD	----	----	----	----	1.4
MS/MSD RPD	2	4	7	2	0.6
SPIKE LEVEL	1.69 mg/Kg	1.5 mg/Kg	1.5 mg/Kg	1.5 mg/Kg	40 mg/Kg
SPIKED SAMPLE ID No.	D93-2685-6	D93-2684-1	D93-2685-8	D93-2685-6	D93-2684-5
DUPLICATE SAMPLE ID No.	D93-2685-6	D93-2684-1	D93-2685-8	D93-2685-6	D93-2684-5

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS: *Duplicate matrix spikes indicate the presence of a matrix interference in the QC sample.

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Gamma-BHC	Heptachlor	Aldrin	Dieldrin	Endrin	pp-DDT
BATCH No.	004	004	004	004	004	004
MATRIX	Soil	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 3540	EPA 3540	EPA 3540	EPA 3540	EPA 3540	EPA 3540
PREP DATE	3/9/93	3/9/93	3/9/93	3/9/93	3/9/93	3/9/93
PREP TECHNICIAN	TLR	TLR	TLR	TLR	TLR	TLR
ANALYSIS METHOD	EPA 8080	EPA 8080	EPA 8080	EPA 8080	EPA 8080	EPA 8080
ANALYSIS DATE	3/12/93	3/12/93	3/12/93	3/12/93	3/12/93	3/12/93
ANALYST	RLP	RLP	RLP	RLP	RLP	RLP
METHOD BLANK	< 2.68 µg/Kg	< 2.01 µg/Kg	< 2.68 µg/Kg	< 1.34 µg/Kg	< 4.02 µg/Kg	< 8.04 µg/Kg
MS % RECOVERY	107	106	105	91.6	92.3	92.4
LCS % RECOVERY	97.8	88.3	92.2	72.2	71.4	62.2
DUPLICATE RPD	----	----	----	----	----	----
MS/MSD RPD	6.9	15.5	11.9	18.4	19.2	31.7
SPIKE LEVEL	33.3 µg/Kg	33.3 µg/Kg	33.3 µg/Kg	66.7 µg/Kg	66.7 µg/Kg	66.7 µg/Kg
SPIKED SAMPLE ID No.	D93-2685-6	D93-2685-6	D93-2685-6	D93-2685-6	D93-2685-6	D93-2685-6
DUPLICATE SAMPLE ID No.	----	----	----	----	----	----

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

015030

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Gamma-BHC	Heptachlor	Aldrin	Dieldrin	Endrin	pp-DDT
BATCH No.	B004	B004	B004	B004	B004	B004
MATRIX	Soil	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 3540	EPA 3540	EPA 3540	EPA 3540	EPA 3540	EPA 3540
PREP DATE	3/9/93	3/9/93	3/9/93	3/9/93	3/9/93	3/9/93
PREP TECHNICIAN	TLR	TLR	TLR	TLR	TLR	TLR
ANALYSIS METHOD	EPA 8080	EPA 8080	EPA 8080	EPA 8080	EPA 8080	EPA 8080
ANALYSIS DATE	3/12/93	3/12/93	3/12/93	3/12/93	3/12/93	3/12/93
ANALYST	RLP	RLP	RLP	RLP	RLP	RLP
METHOD BLANK	< 2.68 µg/Kg	< 2.01 µg/Kg	< 2.68 µg/Kg	< 1.34 µg/Kg	< 4.02 µg/Kg	< 8.04 µg/Kg
MS % RECOVERY	96.4	87.5	90.4	82.5	83.4	79.2
LCS % RECOVERY	99.1	92.3	95.8	82.6	82.7	80.2
DUPLICATE RPD	----	----	----	----	----	----
MS/MSD RPD	1.3	2.1	1.7	10.5	12.1	15.8
SPIKE LEVEL	33.3 µg/Kg	33.3 µg/Kg	33.3 µg/Kg	66.7 µg/Kg	66.7 µg/Kg	66.7 µg/Kg
SPIKED SAMPLE ID No.	D93-2660-1	D93-2660-1	D93-2660-1	D93-2660-1	D93-2660-1	D93-2660-1
DUPLICATE SAMPLE ID No.	----	----	----	----	----	----

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	HMX	RDX	TNT	Nitrobenzene	2,6-DNT	m-Nitrotoluene
BATCH No.	----	----	----	----	----	----
MATRIX	Soil	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330
PREP DATE	3/12/93	3/12/93	3/12/93	3/12/93	3/12/93	3/12/93
PREP TECHNICIAN	RR	RR	RR	RR	RR	RR
ANALYSIS METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330
ANALYSIS DATE	3/16/93	3/16/93	3/16/93	3/16/93	3/16/93	3/16/93
ANALYST	JS	JS	JS	JS	JS	JS
METHOD BLANK	< 0.5 mg/Kg	< 0.5 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg
MS % RECOVERY	126	118	95	100	94	84
LCS % RECOVERY	127	120	93	100	94	83
DUPLICATE RPD	----	----	----	----	----	----
MS/MSD RPD	0.0	0.0	1.0	1.0	2.1	0.0
SPIKE LEVEL	2.5 mg/Kg	2.5 mg/Kg	2.5 mg/Kg	2.5 mg/Kg	2.5 mg/Kg	2.5 mg/Kg
SPIKED SAMPLE ID No.	D93-2685-6	D93-2685-6	D93-2685-6	D93-2685-6	D93-2685-6	D93-2685-6
DUPLICATE SAMPLE ID No.	----	----	----	----	----	----

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993 REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	HMX	RDX	TNT	Nitrobenzene	2,6-DNT	m-Nitrotoluene
BATCH No.	----	----	----	----	----	----
MATRIX	Soil	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330
PREP DATE	3/12/93	3/12/93	3/12/93	3/12/93	3/12/93	3/12/93
PREP TECHNICIAN	RR	RR	RR	RR	RR	RR
ANALYSIS METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330
ANALYSIS DATE	3/16/93	3/16/93	3/16/93	3/16/93	3/16/93	3/16/93
ANALYST	JS	JS	JS	JS	JS	JS
METHOD BLANK	< 0.5 mg/Kg	< 0.5 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg	< 0.25 mg/Kg
MS % RECOVERY	116	119	83	100	93	81
LCS % RECOVERY	125	118	92	97	92	83
DUPLICATE RPD	----	----	----	----	----	----
MS/MSD RPD	2.6	1.7	2.4	1.0	2.1	3.6
SPIKE LEVEL	2.5 mg/Kg	2.5 mg/Kg	2.5 mg/Kg	2.5 mg/Kg	2.5 mg/Kg	2.5 mg/Kg
SPIKED SAMPLE ID No.	D933-2685-17	D93-2685-17	D93-2685-17	D93-2685-17	D93-2685-17	D93-2685-17
DUPLICATE SAMPLE ID No.	----	----	----	----	----	----

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

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BEAUMONT DALLAS HOUSTON

015033

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Thallium	Thallium	Thallium	2,4-D	2,4,5-TP	2,4,5-T
BATCH No.	564	562	560	----	----	----
MATRIX	Soil	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 3051	EPA 3051	EPA 3051	EPA 8150	EPA 8150	EPA 8150
PREP DATE	3/10/93	3/10/93	3/10/93	3/10/93	3/10/93	3/10/93
PREP TECHNICIAN	CCM	CCM	CCM	TLR	TLR	TLR
ANALYSIS METHOD	EPA 7841	EPA 7841	EPA 7841	EPA 8150	EPA 8150	EPA 8150
ANALYSIS DATE	3/20/93	3/19/93	3/20/93	3/12/93	3/12/93	3/12/93
ANALYST	RKD/MES	RKD/MES	RKD/MES	RLP	RLP	RLP
METHOD BLANK	< 0.2 mg/Kg	< 0.2 mg/Kg	< 0.2 mg/Kg	< 134 µg/Kg	< 134 µg/Kg	< 134 µg/Kg
MS % RECOVERY	94	87	101	110	89.2	89.9
LCS % RECOVERY	104	87	102	112	88.4	91.9
DUPLICATE RPD	----	----	----	----	----	----
MS/MSD RPD	2	3	11	8.5	5.5	5.5
SPIKE LEVEL	1.5 mg/Kg	1.5 mg/Kg	1.5 mg/Kg	500 µg/Kg	500 µg/Kg	500 µg/Kg
SPIKED SAMPLE ID No.	D93-2685-8	D93-2684-1	D93-2685-6	D93-2685-6	D93-2685-6	D93-2685-6
DUPLICATE SAMPLE ID No.	D93-2685-8	D93-2684-1	D93-2685-6	----	----	----

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

015034

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993 REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	2,4-D	2,4,5-TP	2,4,5-T	Antimony	Antimony	Antimony
BATCH No.	----	----	----	580	559	563
MATRIX	Soil	Soil	Soil	Soil	Soil	Soil
PREP METHOD	EPA 8150	EPA 8150	EPA 8150	EPA 3051	EPA 3051	EPA 3051
PREP DATE	3/10/93	3/10/93	3/10/93	3/10/93	3/10/93	3/10/93
PREP TECHNICIAN	TLR	TLR	TLR	CCM	CCM	CCM
ANALYSIS METHOD	EPA 8150	EPA 8150	EPA 8150	EPA 6010	EPA 6010	EPA 6010
ANALYSIS DATE	3/13/93	3/13/93	3/13/93	3/11/93	3/10/93	3/11/93
ANALYST	RLP	RLP	RLP	KJS	KJS	KJS
METHOD BLANK	< 804 µg/Kg	< 134 µg/Kg	< 134 µg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg
MS % RECOVERY	111	89.6	92.5	---- *	---- *	---- *
LCS % RECOVERY	94.3	75.9	75.8	76	80	80
DUPLICATE RPD	----	----	----	----	----	----
MS/MSD RPD	5.5	8.1	9.8	----	----	----
SPIKE LEVEL	500 µg/Kg	500 µg/Kg	500 µg/Kg	50 mg/Kg	50 mg/Kg	50 mg/Kg
SPIKED SAMPLE ID No.	D93-2685-17	D93-2685-17	D93-2685-17	D93-2685-21	D93-2685-6	D93-2685-8
DUPLICATE SAMPLE ID No.	----	----	----	D93-2685-21	D93-2685-6	D93-2685-8

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS: *Strong matrix interference. MS and MSD spikes were not recovered.

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2685

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Antimony	Sulfate	Sulfate
BATCH No.	591	----	----
MATRIX	Soil	Soil	Soil
PREP METHOD	EPA 3051	----	----
PREP DATE	3/10/93	----	----
PREP TECHNICIAN	CCM	----	----
ANALYSIS METHOD	EPA 6010	EPA 9038	EPA 9038
ANALYSIS DATE	3/11/93	3/9/93	3/9/93
ANALYST	KJS	JCH	JCH
METHOD BLANK	< 1.0 mg/Kg	< 1.0 mg/Kg	< 1.0 mg/Kg
MS % RECOVERY	52 *	109	84
LCS % RECOVERY	89	94	94
DUPLICATE RPD	0.0	0.0	0.0
MS/MSD RPD	9.9	0.0	0.0
SPIKE LEVEL	50 mg/Kg	40 mg/Kg	40 mg/Kg
SPIKED SAMPLE ID No.	D93-2685-17	D93-2685-6	D93-2685-17
DUPLICATE SAMPLE ID No.	D93-2685-17	D93-2685-6	D93-2685-17

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS: *Duplicate matrix spikes indicate the presence of a matrix interference in the QC sample.

015036

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Name:New CLP Forms Contract:NDRC-DALLAS

Lab Code: HP003 Case No.: AD-76 SAS No.: JKk SDG No.:03/12/93

Matrix Spike - EPA Sample No.: D93-2685-06 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	0.00	45.6	91.2	59-172
Trichloroethene	50	5.34	54.4	98.1	62-137
Benzene	50	0.00	53.5	107	66-142
Toluene	50	3.49	61.7	116	59-139
Chlorobenzene	50	0.00	53.3	107	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
1,1-Dichloroethene	50	44.3	88.6	3	22	59-172
Trichloroethene	50	56.9	103	5	24	62-137
Benzene	50	53.4	107	0	21	66-142
Toluene	50	59.2	111	4	21	59-139
Chlorobenzene	50	50.7	101	6	21	60-133

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

* Values outside of qc limits

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

COMMENTS: SW-846 METHOD 8240

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name:New CLP Forms Contract:NDRC-DALLAS

Lab Code: HP001 Case No.: AD-76 SAS No.: JKA SDG No.:03/13/93

Matrix Spike - EPA Sample No.: D93-2685-17 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	0.00	49.0	98.0	59-172
Trichloroethene	50	0.00	62.7	125	62-137
Benzene	50	0.00	51.1	102	66-142
Toluene	50	0.00	52.5	105	59-139
Chlorobenzene	50	0.00	52.2	104	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	50.2	101	3.0	22	59-172
Trichloroethene	50	52.6	105	17	24	62-137
Benzene	50	54.3	109	6.6	21	66-142
Toluene	50	55.7	111	5.6	21	59-139
Chlorobenzene	50	55.6	111	6.5	21	60-133

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

* Values outside of qc limits

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

COMMENTS: SW-846 METHOD 8240

015035

LABORATORY CONTROL SAMPLE

Lab Name: New CLP Forms Contract: NDRC DALLAS

Lab Code: HP00[illegible] Case No.: AD-76 SAS No.: JKA SDG No.: 03/12/93

Matrix Spike - EPA Sample No.: LCS

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	41.8	83.6	61-145
Trichloroethene	50	58.2	116	71-120
Benzene	50	47.6	95.2	76-127
Toluene	50	45.5	91.0	76-125
Chlorobenzene	50	46.0	92.0	75-130

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits.

COMMENTS: METHOD 8240

LABORATORY CONTROL SAMPLE

Lab Name: New CLP Forms Contract: NDRC DALLAS

Lab Code: HP003 Case No.: AD-76 SAS No.: JKk SDG No.: 03/12/93

Matrix Spike - EPA Sample No.: LCS

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	44.0	88.0	61-145
Trichloroethene	50	46.4	92.8	71-120
Benzene	50	48.0	96.0	76-127
Toluene	50	47.0	94.0	76-125
Chlorobenzene	50	45.0	90.0	75-130

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS: METHOD 8240

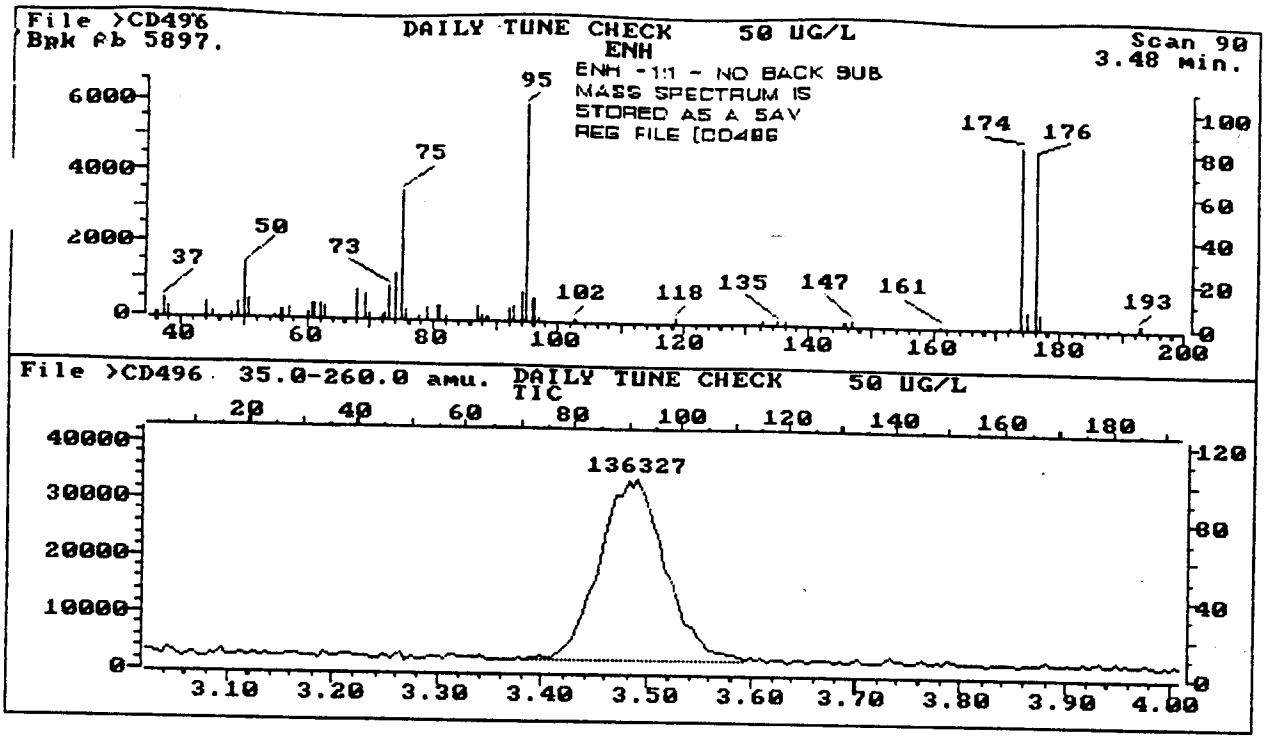
015046

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	23.03	23.03	Ok
75	30-60% of mass 95	59.00	59.00	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.97	8.97	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	83.74	83.74	Ok
175	5-9% of mass 174	6.90	8.23	Ok
176	95-101% of mass 174	80.06	95.60	Ok
177	5-9% of mass 176	5.11	6.38	Ok

Injection Date: 03/12/93
Injection Time: 18:16
Data File: >CD496
Scan: 90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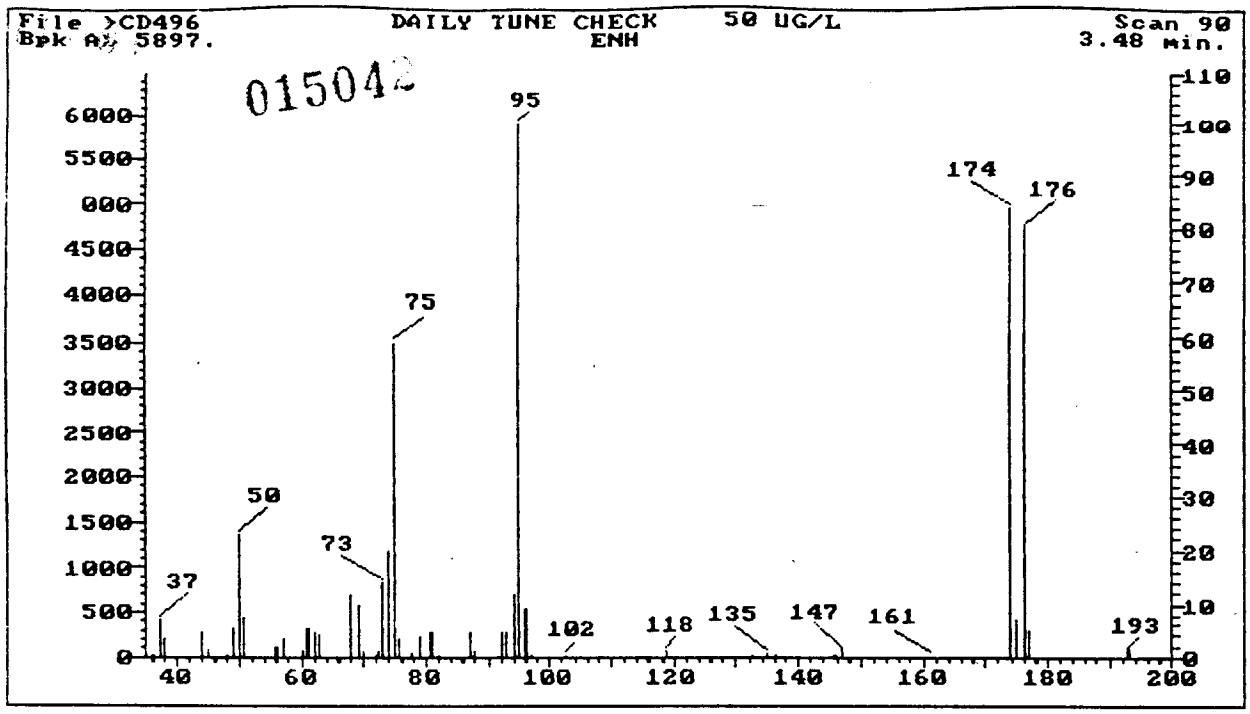
3.90
4.00


File >CD496
Bpk A) 5897.
DAILY TUNE CHECK
ENH
50 UG/L
Scan 90
3.48 min.
015042
95
174
176
75
50
73
37
102
118
135
147
161
193
6000
5500
000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
110
100
90
80
70
60
50
40
30
20
10
0
40
60
80
100
120
140
160
180
200

>CD496 DAILY TUNE CHECK 50 UG/L
90 NRM ENH

015043

le: >CD496 Scan #: 90 Retn. time: 3.48

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
35.90	.526	57.00	3.459	74.95	59.002	94.95	100.000	172.25	.181
36.10	.514	60.00	1.255	75.95	3.442	96.05	8.965	173.95	83.743
37.10	7.122	61.00	5.494	77.85	.820	96.95	.514	174.95	6.896
38.00	3.522	62.00	4.533	78.85	3.849	102.55	.396	175.95	80.058
43.90	4.697	63.10	4.177	80.85	4.516	102.85	.215	176.95	5.110
45.00	1.407	68.00	11.661	81.85	.339	118.65	1.204	189.45	.192
48.10	.356	69.00	9.564	86.95	4.432	132.55	.367	193.05	1.436
49.00	5.658	69.90	1.108	87.95	1.170	135.05	.627	207.15	12.396
50.00	23.034	71.80	.401	88.65	.220	136.15	.317	208.05	2.199
51.00	7.580	72.40	1.131	91.95	4.352	145.75	.367	209.05	2.402
54.90	.158	73.00	13.871	92.95	4.471	146.95	1.357	248.80	.243
56.10	2.046	74.00	19.682	93.95	11.729	161.15	.164		

Instrument ID: VOA3 Analyzed on: 3/12/93 18:16

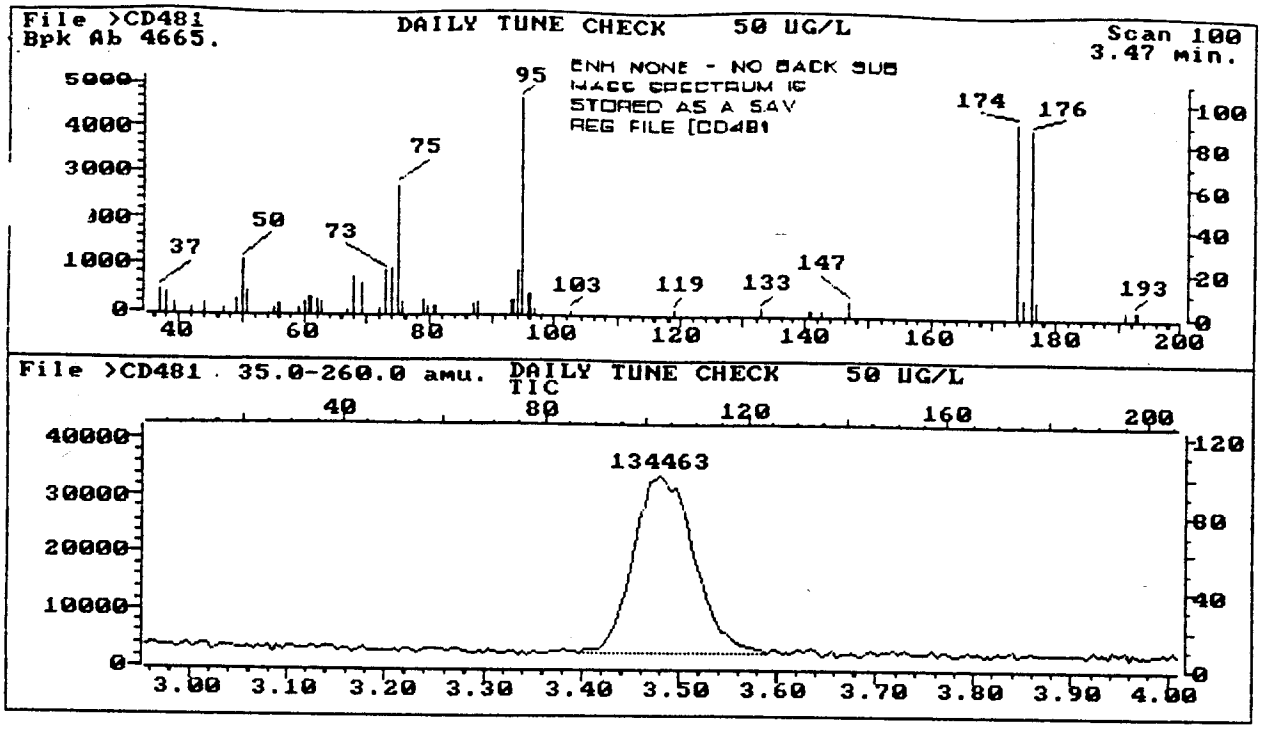
015044

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

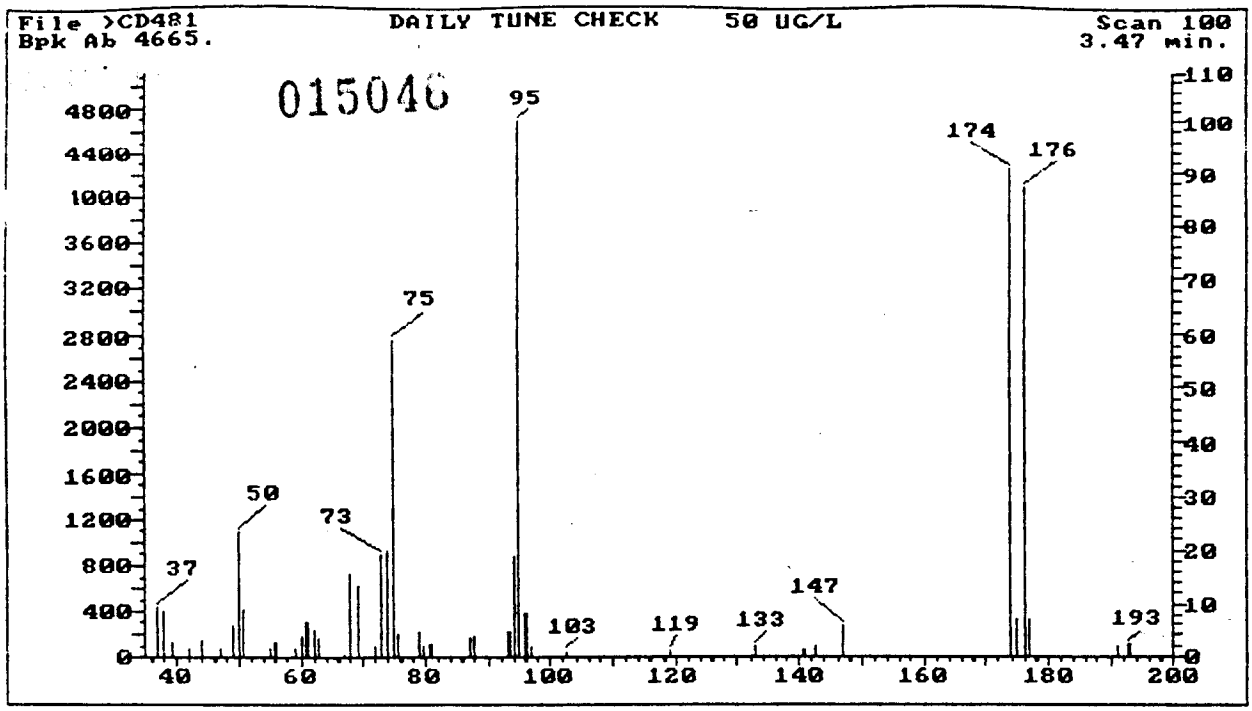
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	23.37	23.37	Ok
75	30-60% of mass 95	58.93	58.93	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.32	8.32	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	90.85	90.85	Ok
175	5-9% of mass 174	7.16	7.88	Ok
176	95-101% of mass 174	87.12	95.89	Ok
177	5-9% of mass 176	6.90	7.92	Ok

Injection Date: 03/12/93
Injection Time: 08:26
Data File: >CD481
Scan: 100


File >CD481
Bpk Ab 4665.
DAILY TUNE CHECK 50 UG/L
Scan 100
3.47 min.
ENH NONE - NO BACK SUB
MASS SPECTRUM IS
STORED AS A SAV
REG FILE [CD481
95
75
50
37
73
103
119
133
147
174
176
193
5000
4000
3000
2000
1000
0
100
80
60
40
20
0
40
60
80
100
120
140
160
180
200

File >CD481 35.0-260.0 amu. DAILY TUNE CHECK 50 UG/L
TIC
134463
40000
30000
20000
10000
0
120
80
40
0
40
80
120
160
200
3.00
3.10
3.20
3.30
3.40
3.50
3.60
3.70
3.80
3.90
4.00

015045


File >CD481
Bpk Ab 4665.
DAILY TUNE CHECK 50 UG/L
Scan 100
3.47 min.
015046
95
174
176
75
50
73
37
147
103
119
133
193
4800
4400
4000
3600
3200
2800
2400
2000
1600
1200
800
400
0
110
100
90
80
70
60
50
40
30
20
10
0
40
60
80
100
120
140
160
180
200

>CD481
100

DAILY TUNE CHECK 50 UG/L
NRM

015047

File: >CD481 Scan #: 100 Retn. time: 3.47

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.90	9.282	55.00	1.458	72.00	1.693	93.15	4.566	147.05	5.788
38.00	8.382	55.80	2.872	73.00	19.100	94.05	18.692	173.95	90.847
39.00	2.872	59.00	1.522	74.00	19.914	94.95	100.000	175.05	7.160
41.90	1.501	60.00	3.644	74.95	58.928	95.95	8.317	175.95	87.117
44.00	3.044	61.00	6.452	75.95	4.309	96.85	1.886	176.95	6.902
46.80	1.222	62.00	5.102	78.85	4.652	102.75	.772	190.95	2.036
47.00	1.436	63.00	3.601	79.75	1.929	118.95	1.265	193.05	2.337
49.00	5.959	66.70	.536	80.95	2.594	133.05	2.015	202.85	.493
50.00	23.365	68.00	15.798	86.85	3.473	140.75	1.200	207.15	18.800
51.00	9.025	69.00	13.183	87.95	3.708	142.85	1.693	208.05	3.880

Instrument ID: V0A3 Analyzed on: 3/12/93 8:26

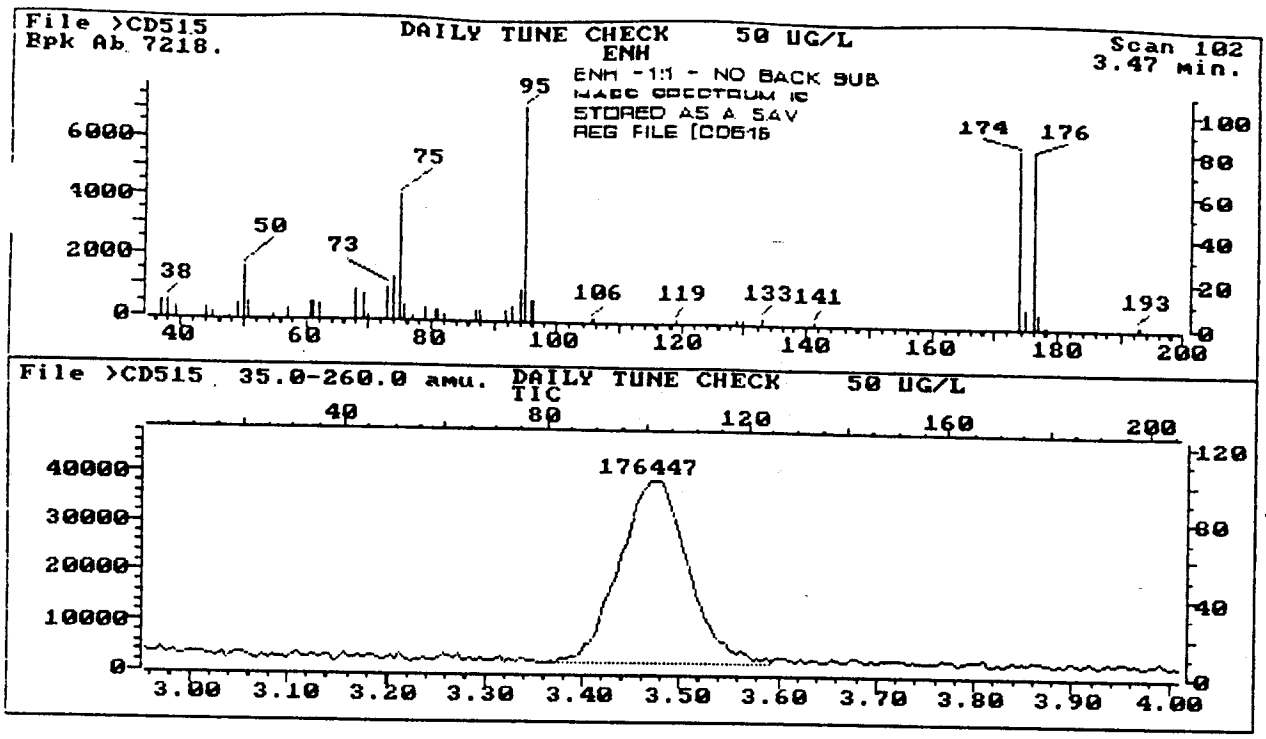
015048

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

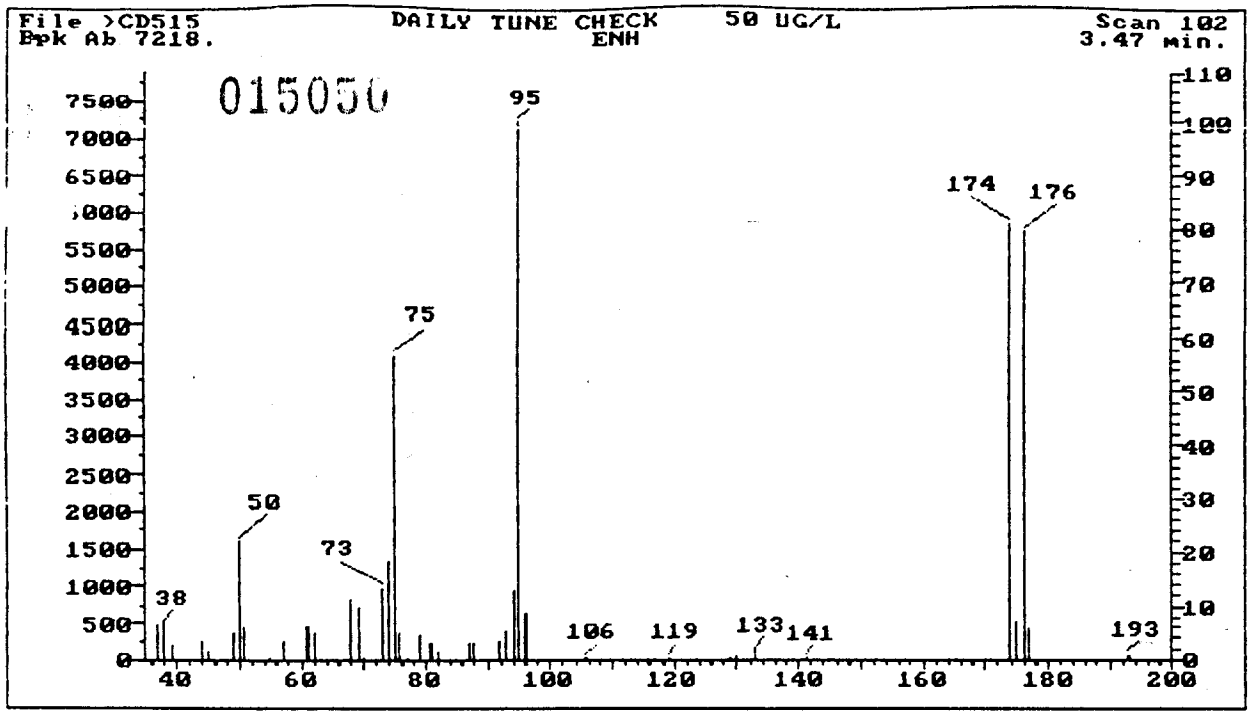
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.21	22.21	Ok
75	30-60% of mass 95	56.56	56.56	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.40	8.40	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	81.04	81.04	Ok
175	5-9% of mass 174	7.01	8.65	Ok
176	95-101% of mass 174	79.34	97.90	Ok
177	5-9% of mass 176	5.87	7.39	Ok

Injection Date: 03/13/93
Injection Time: 06:34
Data File: >CD515
Scan: 102


File >CD515
Bpk Ab 7218.
DAILY TUNE CHECK 50 UG/L
ENH
ENH -1:1 - NO BACK SUB
MASS SPECTRUM IS
STORED AS A SAV
REG FILE [CD515
Scan 102
3.47 min.
95
75
50
73
38
174
176
106
119
133
141
193
6000
1000
2000
0
40
60
80
100
120
140
160
180
200
100
80
60
40
20
0

File >CD515 35.0-260.0 amu. DAILY TUNE CHECK 50 UG/L
TIC
176447
40000
30000
20000
10000
0
40
80
120
160
200
120
80
40
0
3.00
3.10
3.20
3.30
3.40
3.50
3.60
3.70
3.80
3.90
4.00

015049


File >CD515
Bpk Ab 7218.
DAILY TUNE CHECK
ENH
50 UG/L
Scan 102
3.47 min.
015050
95
174
176
75
50
73
38
106
119
133
141
193
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
110
100
90
80
70
60
50
40
30
20
10
0
40
60
80
100
120
140
160
180
200

>CD515
102

DAILY TUNE CHECK 50 UG/L
NRM ENH

015051

File: >CD515 Scan #: 102 Retn. time: 3.47

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.00	6.443	57.00	3.505	76.95	.526	94.95	100.000	174.95	7.011
38.00	6.766	61.00	6.295	78.95	4.318	96.05	8.401	175.95	79.342
39.00	2.951	62.00	5.283	80.95	2.979	105.85	.272	176.95	5.865
43.90	3.528	68.00	11.213	81.95	1.307	118.75	.402	178.25	.166
45.00	1.566	69.00	10.026	86.95	3.256	128.85	.286	193.05	.877
47.60	.129	70.00	.365	87.85	2.965	129.95	.887	207.05	10.793
49.00	4.992	73.00	13.393	91.85	3.491	132.95	1.760	208.05	2.683
50.00	22.214	74.00	18.335	92.95	5.366	140.95	.263	209.05	.684
51.00	6.128	74.95	56.565	93.95	12.904	173.95	81.042	218.95	.175
54.70	.379	75.95	5.159						

Instrument ID: VOA3 Analyzed on: 3/13/93 6:34

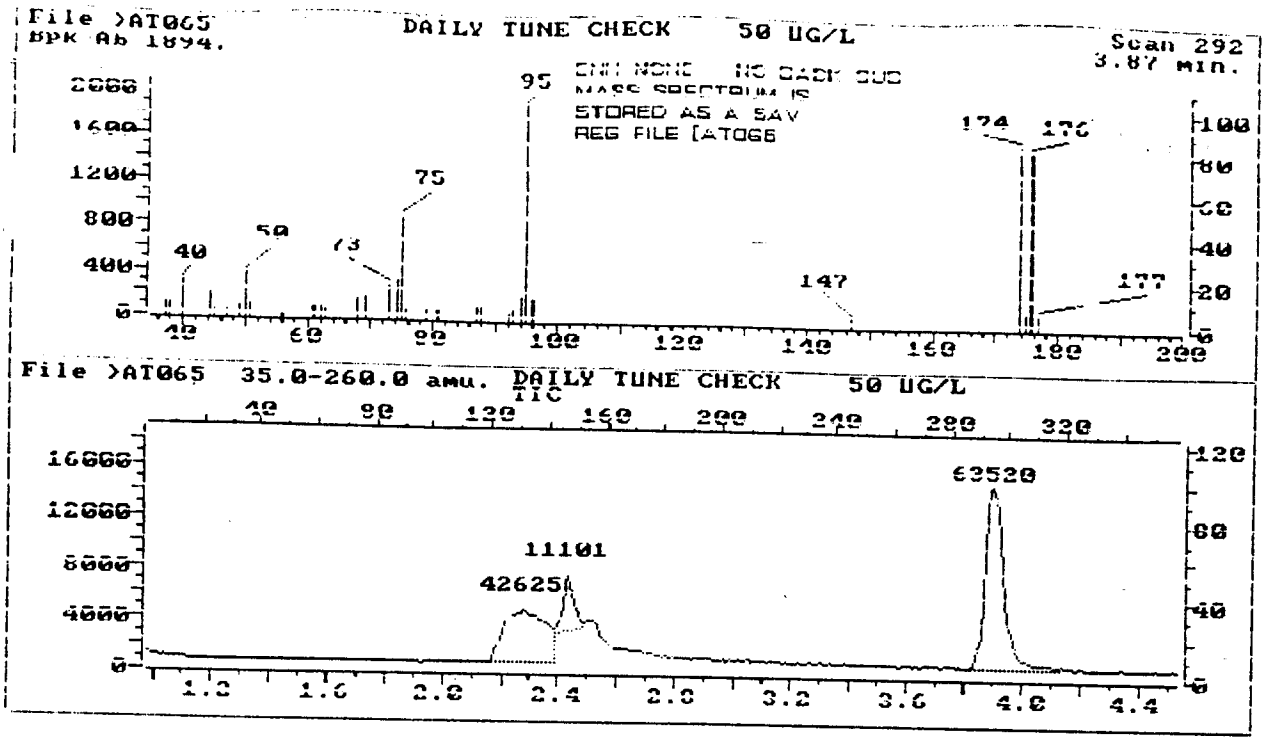
015052

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

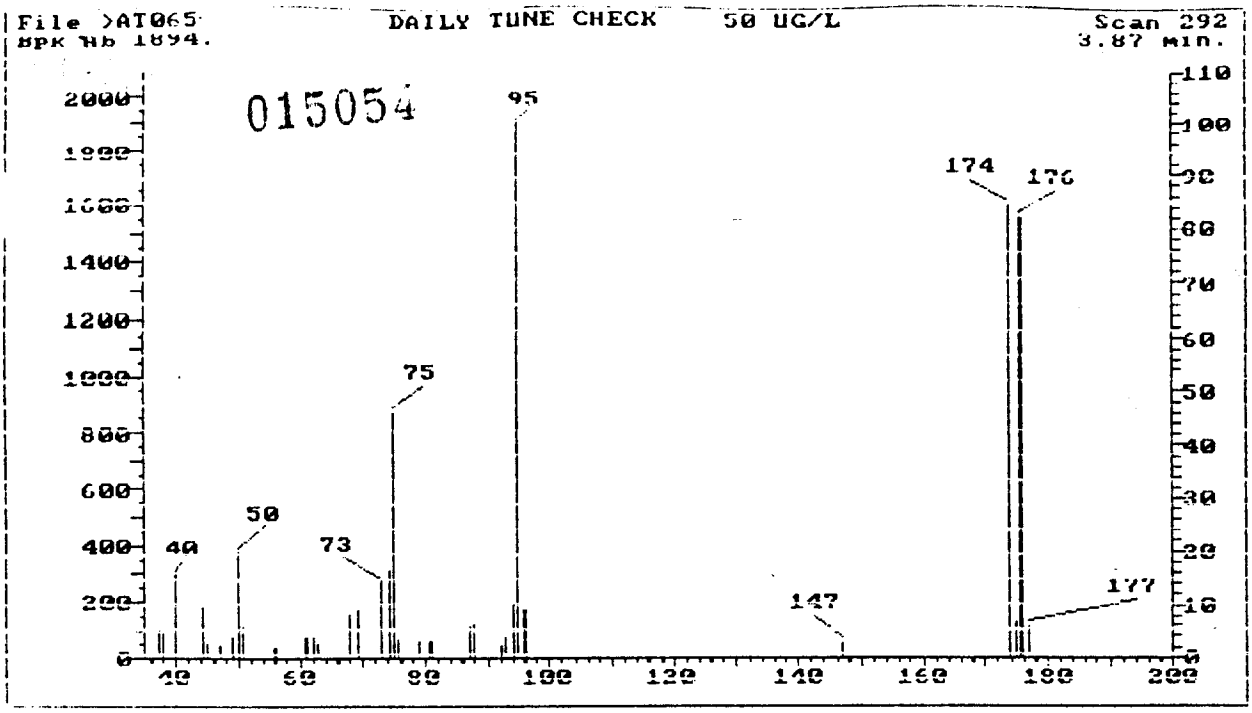
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	19.85	19.85	Ok
75	30-60% of mass 95	46.15	46.15	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.76	8.76	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	84.05	84.05	Ok
175	5-9% of mass 174	6.39	7.60	Ok
176	95-101% of mass 174	82.00	97.55	Ok
177	5-9% of mass 176	5.86	7.15	Ok

Injection Date: 05/13/93
Injection Time: 07:27
Data File: >HT065
Scan: 292


File >AT065
BPK Ab 1894.
DAILY TUNE CHECK 50 UG/L
Scan 292
3.87 min.
95
40
59
73
75
124
174
176
147
177

File >AT065 35.0-260.0 amu. DAILY TUNE CHECK 50 UG/L
TIC
11101
42625
63520

015053


File >AT065
BPK Ab 1894.
DAILY TUNE CHECK 50 UG/L
Scan 292
3.87 min.
015054
95
174
176
75
50
40
73
147
177

>AT065 DAILY TUNE CHECK 50 UG/L

292 NRM

015055

File: >AT065 Scan #: 292 Retn. time: 3.87

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.05	5.649	50.05	19.852	68.95	9.029	86.90	5.808	147.00	2.957
38.05	4.593	51.05	5.702	73.05	14.256	87.90	6.019	173.80	84.055
39.95	15.628	55.95	1.637	74.05	16.209	92.00	2.429	174.80	6.389
44.05	9.715	61.05	3.696	75.05	46.146	93.00	3.749	175.80	81.996
44.95	2.640	62.05	3.696	75.90	3.432	94.00	10.084	176.80	5.861
47.05	2.587	62.95	2.957	78.90	3.168	94.90	100.000	206.90	7.973
49.05	3.801	67.95	8.342	80.90	3.010	96.00	8.765	207.80	1.742

Instrument ID: VOA1 Analyzed on: 3/13/93 7:27

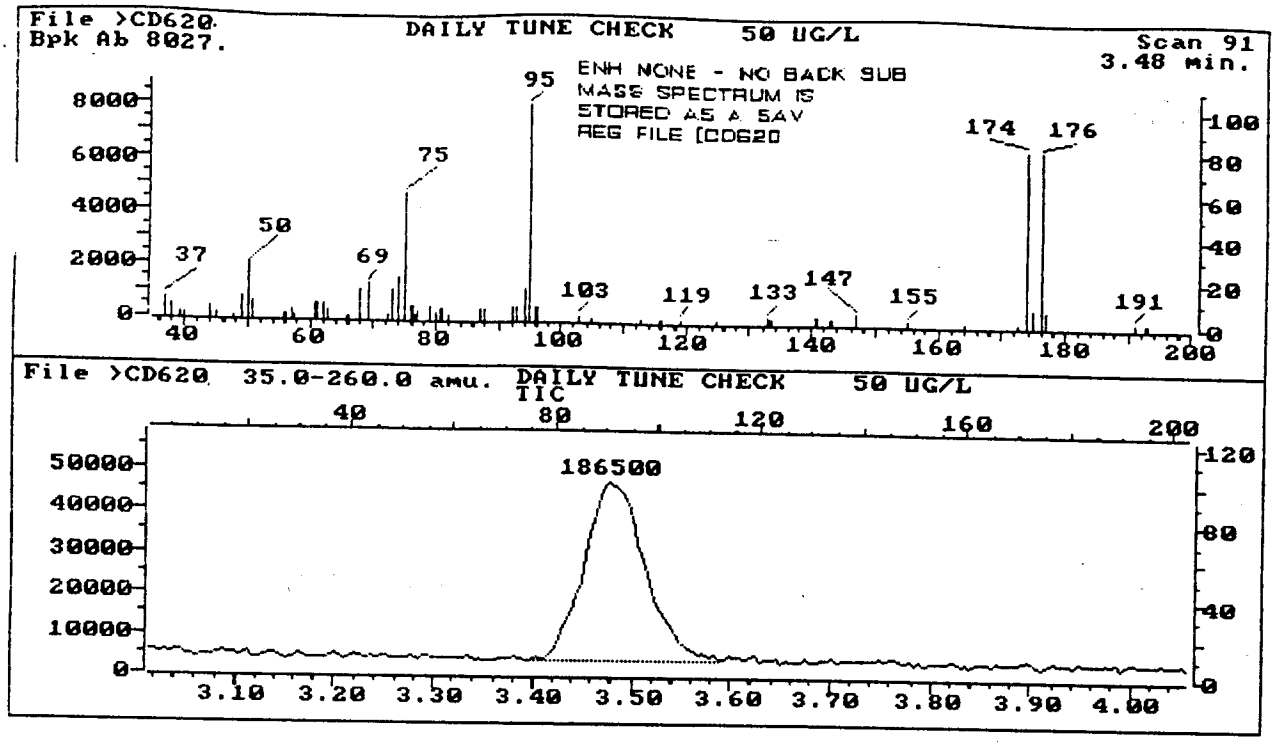
015056

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

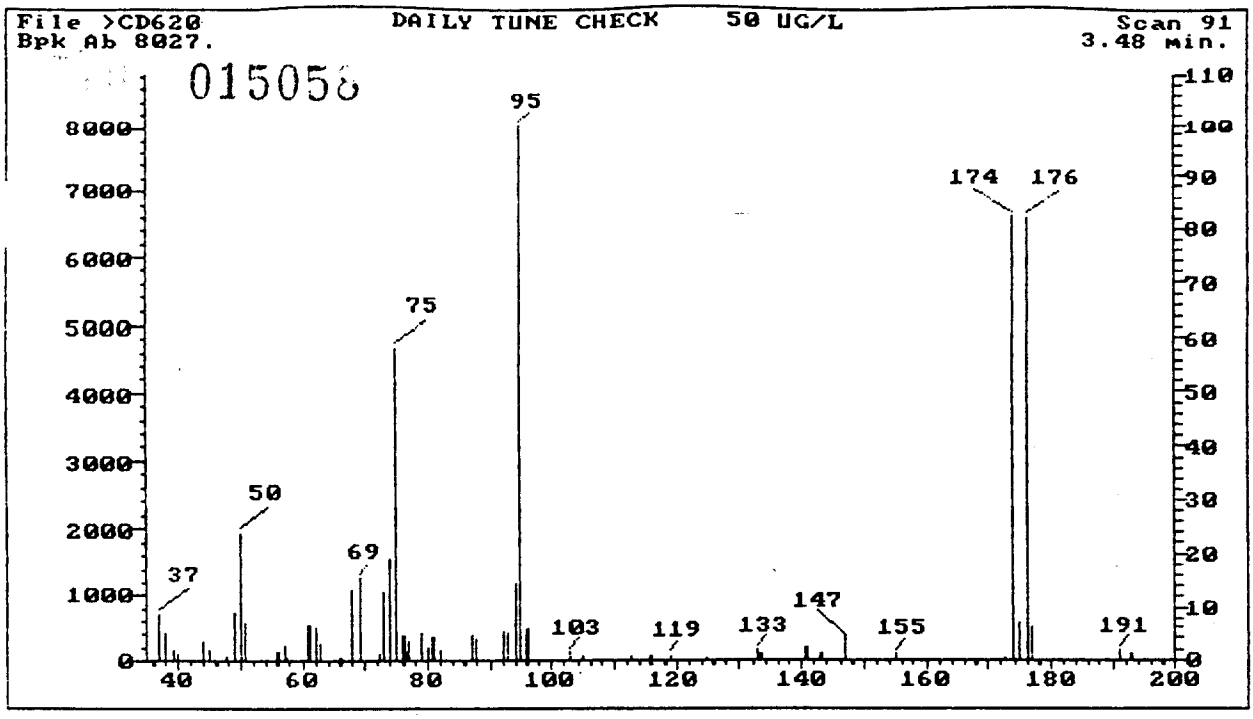
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	23.81	23.81	Ok
75	30-60% of mass 95	58.25	58.25	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	5.86	5.86	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	82.27	82.27	Ok
175	5-9% of mass 174	7.11	8.65	Ok
176	95-101% of mass 174	82.00	99.67	Ok
177	5-9% of mass 176	6.15	7.51	Ok

Injection Date: 03/16/93
Injection Time: 18:08
Data File: >CD620
Scan: 91


File >CD620
Bpk Ab 8027.
DAILY TUNE CHECK 50 UG/L
Scan 91
3.48 min.
ENH NONE - NO BACK SUB
MASS SPECTRUM IS
STORED AS A SAV
REG FILE [CD620
95
75
50
37
69
103
119
133
147
155
174
176
191
8000
6000
4000
2000
0
100
80
60
40
20
0
40
60
80
100
120
140
160
180
200

File >CD620 35.0-260.0 amu. DAILY TUNE CHECK 50 UG/L
TIC
186500
50000
40000
30000
20000
10000
0
120
80
40
0
40
80
120
160
200
3.10
3.20
3.30
3.40
3.50
3.60
3.70
3.80
3.90
4.00

015057


File >CD620
Bpk Ab 8027.
DAILY TUNE CHECK 50 UG/L
Scan 91
3.48 min.
015058
95
174
176
75
50
69
37
103
119
133
147
155
191
8000
7000
6000
5000
4000
3000
2000
1000
0
110
100
90
80
70
60
50
40
30
20
10
0
40
60
80
100
120
140
160
180
200

>CD620
91

DAILY TUNE CHECK 50 UG/L
NRM

015055

File: >CD620 Scan #: 91 Retn. time: 3.48

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.00	8.596	61.10	6.416	78.75	5.021	105.05	.897	172.55	.461
38.00	5.183	62.10	6.129	79.95	2.454	112.85	.648	173.95	82.272
39.10	1.968	63.00	3.152	80.75	4.173	115.65	.598	174.95	7.113
39.80	1.134	66.00	.287	81.85	1.856	118.85	.885	175.95	81.998
43.90	3.588	68.00	13.118	86.95	4.323	124.75	.573	177.05	6.154
45.00	2.043	69.00	15.473	87.95	3.775	132.95	1.943	190.95	1.844
47.90	.598	72.10	1.208	91.95	5.606	133.25	1.196	193.05	1.071
49.00	8.883	73.10	13.006	93.05	5.008	140.85	2.504	207.05	18.799
50.00	23.807	74.00	19.111	93.95	14.364	142.95	1.059	208.15	3.538
51.00	6.939	74.95	58.253	94.95	100.000	147.05	4.011	209.05	1.445
55.90	1.557	76.05	4.958	95.95	5.855	154.95	1.184	221.05	1.146
56.90	2.828	76.55	1.283	102.85	1.520	163.95	.249	251.00	1.096
57.60	.349	77.05	3.326						

Instrument ID: VOA3 Analyzed on: 3/16/93 18:08

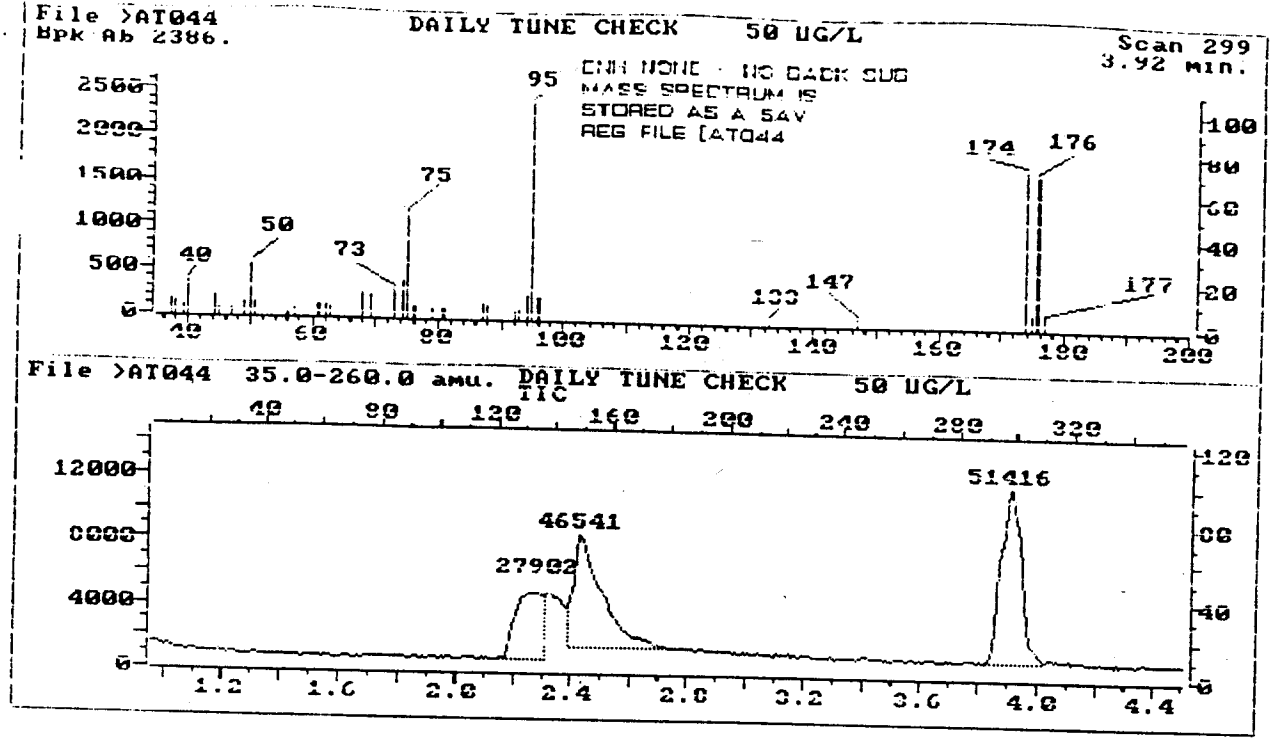
015066

GC/MS PERFORMANCE STANDARD

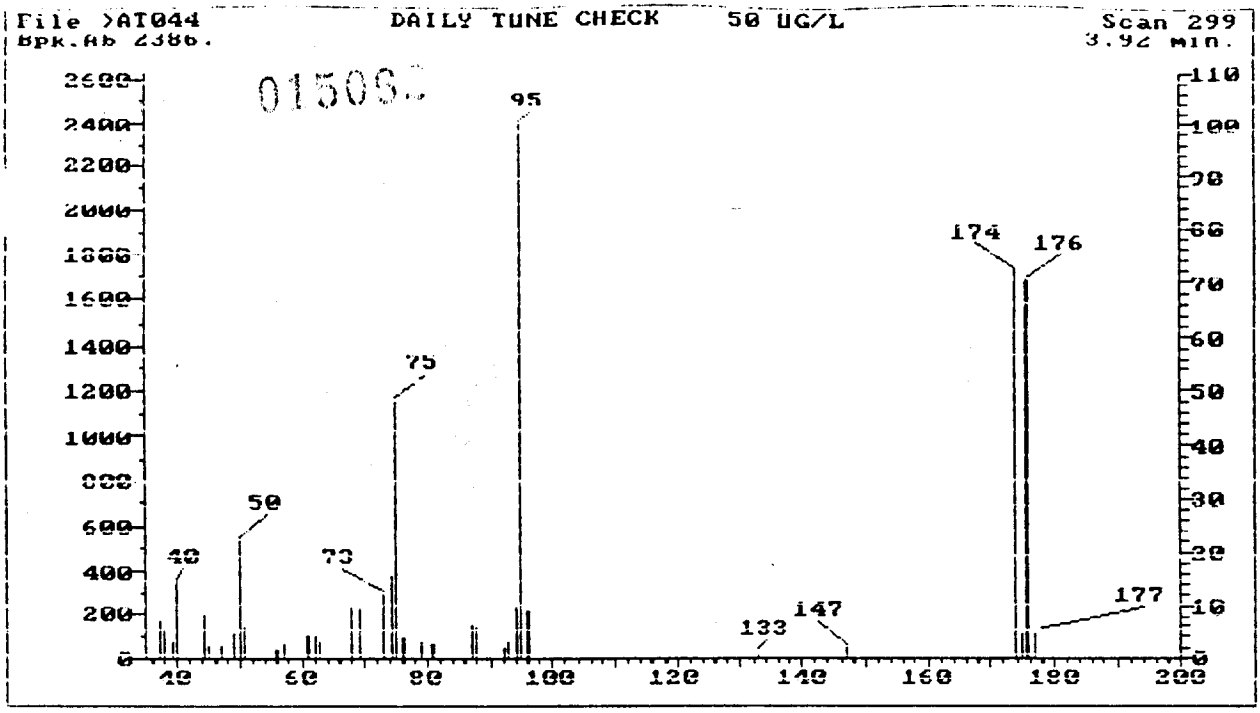
Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.25	22.25	Ok
75	30-60% of mass 95	48.11	48.11	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.89	8.89	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	72.25	72.25	Ok
175	5-9% of mass 174	4.95	6.84	Ok
176	95-101% of mass 174	70.24	97.22	Ok
177	5-9% of mass 176	4.69	6.68	Ok

Injection Date: 03/12/93
Injection Time: 17:20
Data File: >AT044
Scan: 299


File >AT044
Bpk Ab 2386.
DAILY TUNE CHECK 50 UG/L
Scan 299
3.92 min.
CNH NONE - NO BACK SUB
MASS SPECTRUM IS
STORED AS A SAV
REG FILE [AT044
95
75
50
73
40
174
176
177
147
133
File >AT044 35.0-260.0 amu. DAILY TUNE CHECK 50 UG/L
TIC
46541
27902
51416

015061


File >AT044
BPK.Ab 2386.
DAILY TUNE CHECK 50 UG/L
Scan 299
3.92 Min.
01503
95
174
176
75
50
40
73
133
147
177
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
110
100
90
80
70
60
50
40
30
20
10
0
40
60
80
100
120
140
160
180
200

>AT044 DAILY TUNE CHECK 50 UG/L
299 NRM

015065

File: >AT044 Scan #: 299 Retn. time: 3.92

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.05	6.790	50.05	22.255	69.05	9.220	87.90	5.784	146.90	2.012
38.05	5.490	51.05	5.909	73.05	12.154	92.00	2.221	173.90	72.255
39.05	3.018	55.95	1.383	74.05	15.507	92.90	3.018	174.90	4.946
39.95	14.501	57.05	2.724	75.05	48.114	94.00	9.807	175.80	70.243
44.05	8.298	61.05	4.275	76.00	3.646	95.00	100.000	176.90	4.694
44.95	2.473	62.05	4.149	78.90	3.060	96.00	8.885	206.90	7.293
47.05	2.557	63.05	3.269	80.90	2.892	132.90	.922	208.00	1.676
49.05	4.568	68.05	9.891	87.00	6.119				

Instrument ID: VOA1 Analyzed on: 3/12/93 17:20

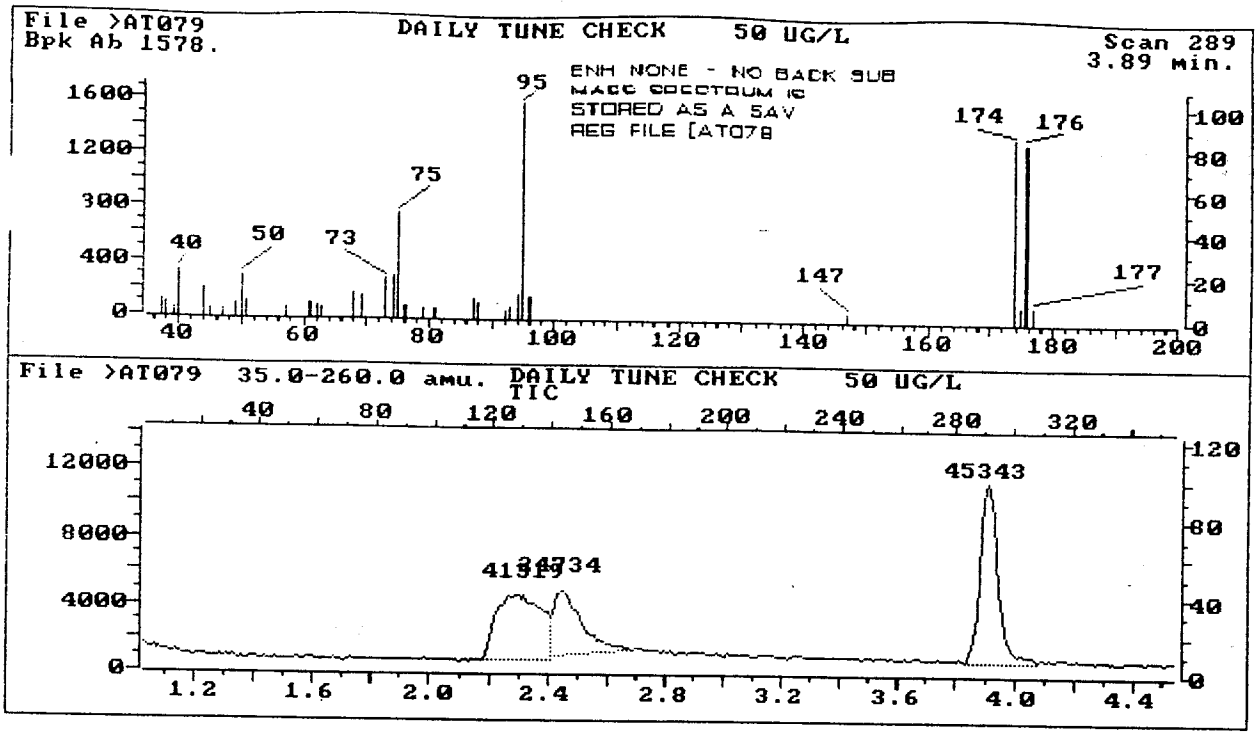
015064

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

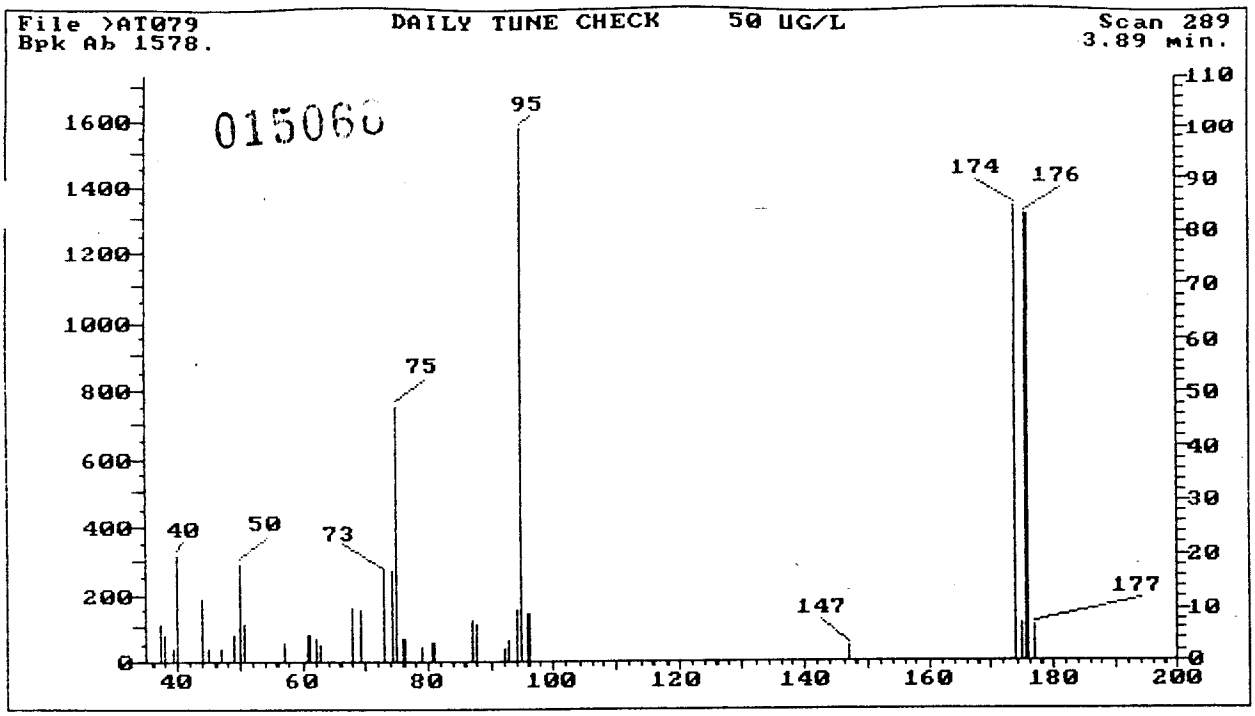
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	18.38	18.38	Ok
75	30-60% of mass 95	47.78	47.78	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.75	8.75	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	84.54	84.54	Ok
175	5-9% of mass 174	6.78	8.02	Ok
176	95-101% of mass 174	83.14	98.35	Ok
177	5-9% of mass 176	6.59	7.93	Ok

Injection Date: 03/13/93
Injection Time: 18:17
Data File: >AT079
Scan: 289



015068

Instrument ID: VOA1 Analyzed on: 3/13/93 18:17



Instrument ID: VOA1 Analyzed on: 3/13/93 18:17

>AT079
289

DAILY TUNE CHECK 50 UG/L
NRM

015067

File: >AT079 Scan #: 289 Retn. time: 3.89

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.05	6.717	49.05	5.006	68.05	10.139	80.80	3.422	95.90	8.745
38.05	5.196	50.05	18.378	69.05	9.379	86.90	7.858	146.90	2.662
39.05	2.535	51.05	6.844	73.05	16.857	87.80	6.844	173.80	84.537
39.95	20.152	57.05	3.485	74.05	17.427	92.00	2.408	174.80	6.781
43.95	11.407	61.05	5.006	74.95	47.782	92.90	3.929	175.80	83.143
44.95	2.471	61.95	4.246	76.00	4.309	94.00	9.823	176.80	6.591
47.15	2.471	63.05	3.105	78.90	2.915	95.00	100.000	206.80	9.252

Instrument ID: VOA1 Analyzed on: 3/13/93 18:17

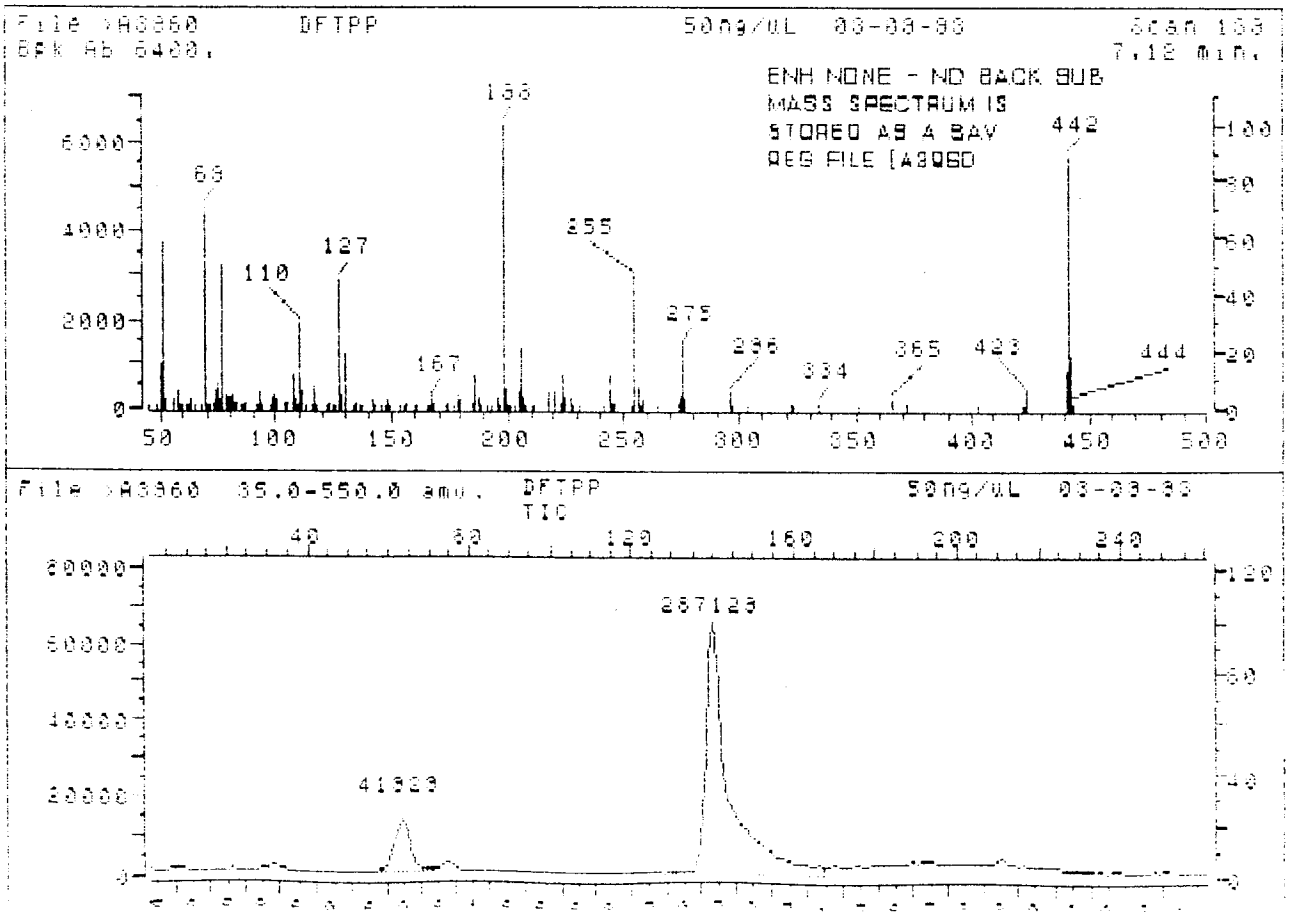
015068

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.31	57.31	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	70.72	70.72	Ok
70	Less than 2% of mass 69	.83	1.17	Ok
127	40-60% of mass 198	45.05	45.05	Ok
197	Less than 1% of mass 198	.87	.87	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.83	6.83	Ok
275	10-30% of mass 198	22.36	22.36	Ok
365	Greater than 1% of mass 198	2.58	2.58	Ok
441	0-100% of mass 443	13.36	75.13	Ok
442	Greater than 40% of mass 198	88.86	88.86	Ok
443	17-23% of mass 442	17.78	20.01	Ok

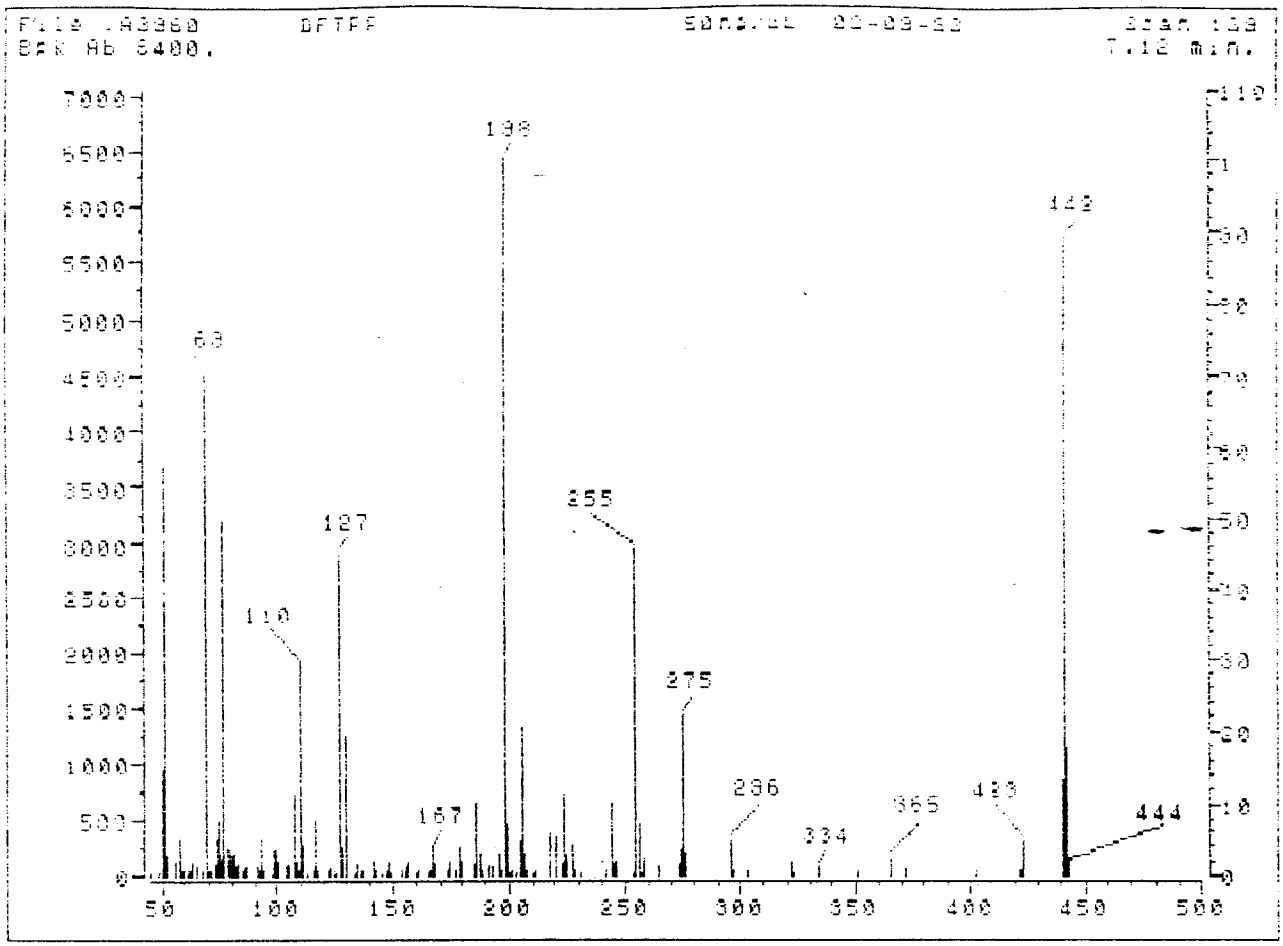
Injection Date: 03/13/93
Injection Time: 08:56
Data File: >A3960
Scan: 139



Instrument ID: ABN1 Analyzed on: 3/13/93 8:56

015068

015070



Instrument ID: ABN1 Analyzed on: 3/13/93 8:56

>A3960 DFTPP 50ng/uL 03-09-93 015071
139 NRM

le: >A3960 Scan #: 139 Retn. time: 7.12

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.00	.328	78.05	3.672	134.10	.719	185.10	1.281	246.05	1.688
38.10	1.047	79.05	3.422	135.00	.531	186.00	10.391	246.95	.359
39.10	6.672	80.05	2.766	127.00	45.047	187.10	3.063	254.00	.375
40.00	.766	81.05	4.156	128.10	3.797	188.90	.719	255.00	45.641
41.10	2.859	82.05	1.141	129.00	19.453	192.00	.953	256.00	6.938
42.00	.484	83.05	1.359	130.00	1.594	193.10	1.016	257.00	.578
43.10	2.859	84.05	.766	134.10	.422	196.00	3.141	258.00	2.359
44.00	2.234	85.05	1.047	135.00	1.469	196.90	.875	265.00	.953
45.00	.500	86.05	1.234	135.95	.594	198.00	100.000	273.00	1.422
49.00	.781	87.05	.703	137.05	.813	199.00	6.828	274.10	3.594
50.10	15.094	91.05	1.016	141.05	2.219	200.00	.469	275.00	22.359
51.10	57.313	92.05	.922	142.05	.797	201.50	.594	276.10	3.172
52.10	2.672	93.05	5.078	145.95	.359	203.00	.578	277.00	1.734
55.10	1.859	94.05	.844	147.05	.781	204.10	2.797	295.95	4.875
56.00	2.156	97.10	.500	147.95	1.922	205.10	4.875	296.95	.656
57.10	5.203	98.00	3.547	149.05	.531	206.10	20.656	302.95	.688
58.10	.500	99.00	3.578	153.05	.688	207.10	3.031	323.05	1.797
59.05	.844	101.00	1.922	154.95	1.031	208.00	.750	324.05	.453
59.95	.609	104.00	1.141	156.05	1.641	210.40	.578	334.00	1.219
61.05	.828	105.00	1.297	160.05	.563	211.00	.891	352.00	.656
61.95	.703	107.00	11.094	161.05	.813	216.95	5.922	365.00	2.578
63.05	1.984	108.00	1.953	165.05	.891	221.05	5.531	372.05	1.078
65.05	1.031	109.20	.797	166.05	.766	222.95	1.438	403.05	.719
67.05	.703	110.00	29.453	167.05	3.719	224.05	11.188	421.00	.641
68.95	70.719	111.00	4.563	168.05	1.594	225.05	2.766	422.00	.625
70.05	.828	112.00	.578	173.05	.531	227.05	4.344	423.10	4.781
72.05	.844	116.00	.734	174.00	.875	228.05	.750	424.00	1.078
73.05	1.484	117.00	7.703	175.00	1.688	230.95	.375	441.10	13.359
74.05	5.109	118.00	.641	177.00	.813	241.95	.688	442.10	88.859
74.95	8.000	122.00	.719	179.00	3.672	244.05	10.313	443.10	17.781
76.05	2.328	123.00	1.203	180.00	2.109	245.05	1.453	444.05	1.656
77.05	50.141								

Instrument ID: ABN1 Analyzed on: 3/13/93 8:56

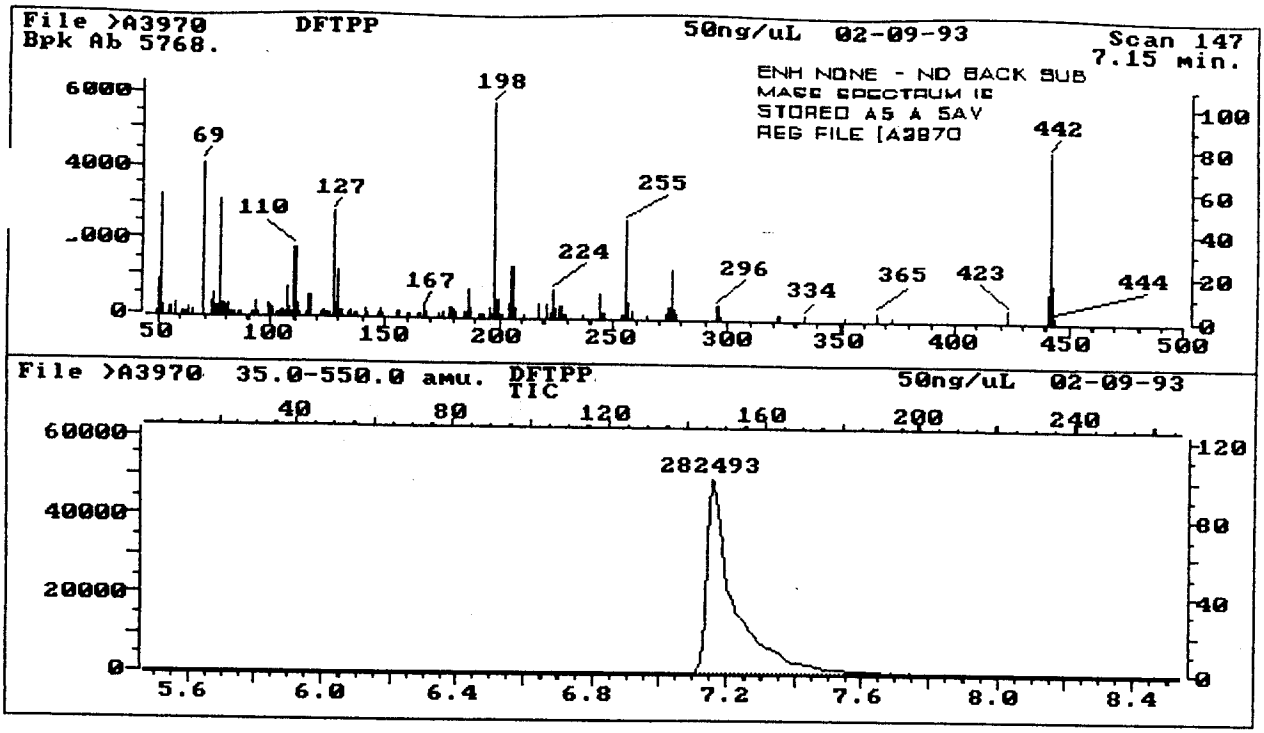
01507

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	56.43	56.43	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	71.32	71.32	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	47.57	47.57	Ok
197	Less than 1% of mass 198	.88	.88	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.97	6.97	Ok
275	10-30% of mass 198	21.71	21.71	Ok
365	Greater than 1% of mass 198	2.41	2.41	Ok
441	0-100% of mass 443	11.69	74.97	Ok
442	Greater than 40% of mass 198	78.95	78.95	Ok
443	17-23% of mass 442	15.59	19.74	Ok

Injection Date: 03/13/93
Injection Time: 16:51
Data File: >A3970
Scan: 147

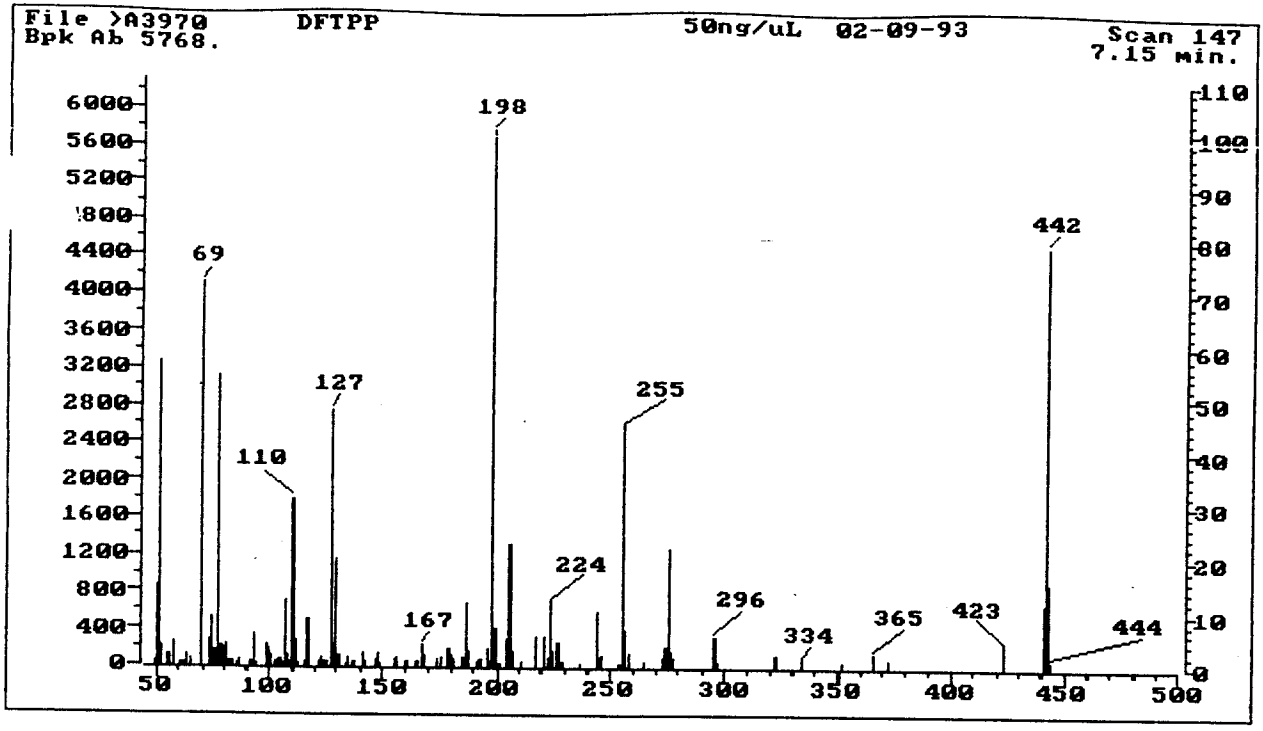

File >A3970 DFTPP
Bpk Ab 5768.
50ng/uL 02-09-93
Scan 147
7.15 min.
ENH NONE - NO BACK SUB
MASS SPECTRUM IS
STORED AS A SAV
REG FILE [A3870
198
69
442
127
255
110
224
167
296
334
365
423
444
6000
4000
2000
0
100
80
60
40
20
0
50
100
150
200
250
300
350
400
450
500

File >A3970 35.0-550.0 amu. DFTPP
TIC
50ng/uL 02-09-93
282493
60000
40000
20000
0
120
80
40
0
40
80
120
160
200
240
5.6
6.0
6.4
6.8
7.2
7.6
8.0
8.4

015073

Instrument ID: ABN1 Analyzed on: 3/13/93 16:51

01507


File >A3970
Bpk Ab 5768.
DFTPP
50ng/uL 02-09-93
Scan 147
7.15 min.
198
69
442
127
255
110
224
296
167
334
365
423
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6000
5600
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4800
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4000
3600
3200
2800
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1600
1200
800
400
0
110
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250
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450
500

015075

Instrument ID: ABN1 Analyzed on: 3/13/93 16:51

>A3970 DFTPP 50ng/uL 02-09-93
147 NRM

015077

File: >A3970 Scan #: 147 Retn. time: 7.15

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
38.10	.988	87.05	.451	129.10	20.059	192.10	.850	244.05	10.160
39.10	5.357	91.05	.763	130.10	1.890	193.10	.954	245.15	1.526
44.00	.988	92.05	.832	134.10	.468	196.00	3.277	246.05	1.855
49.10	.867	93.05	5.739	135.10	1.335	196.90	.832	253.90	.364
50.10	14.546	94.05	.520	137.15	.798	197.20	.884	255.10	44.886
51.10	56.432	98.00	3.641	140.95	2.340	198.00	100.000	256.10	6.657
52.10	3.329	99.00	3.138	142.05	.763	199.00	6.969	258.00	2.410
56.00	1.924	101.00	2.063	147.05	.954	200.10	.555	265.10	.884
57.10	4.109	103.00	.607	148.05	2.393	201.60	.503	273.00	1.595
61.05	.555	104.00	1.058	148.95	.433	204.10	2.739	274.10	3.589
61.95	.589	105.00	1.214	155.05	1.179	205.10	5.097	275.10	21.706
63.05	2.219	106.00	.503	156.05	1.508	206.10	22.677	276.10	2.878
65.05	1.110	107.00	11.980	160.05	.624	207.10	2.947	277.10	1.370
68.95	71.325	108.00	2.011	161.05	.884	210.50	.520	296.05	5.444
74.05	4.473	109.20	.763	165.05	.711	211.10	.850	297.05	.693
75.05	8.755	110.00	30.912	167.05	3.710	217.05	5.600	323.05	1.786
76.05	2.774	111.00	4.352	168.05	1.890	217.95	.607	334.10	1.370
77.05	53.779	112.00	.537	174.00	.936	221.05	5.583	352.10	.693
78.05	3.589	116.00	.850	175.10	1.456	223.05	1.456	365.10	2.410
79.05	3.589	117.00	8.530	179.00	3.173	224.05	11.859	372.05	1.040
80.05	2.982	122.00	.798	180.00	2.011	225.05	2.791	423.10	4.109
81.05	3.936	123.10	1.491	181.00	1.144	227.05	4.092	441.10	11.685
82.05	.815	124.10	.763	185.10	1.422	228.05	.676	442.10	78.953
83.05	.745	125.10	.711	186.10	11.668	229.05	.832	443.20	15.586
85.05	.572	127.10	47.573	187.10	2.878	237.05	.416	444.15	1.248
86.05	.936	128.10	3.901						

Instrument ID: ABN1 Analyzed on: 3/13/93 16:51

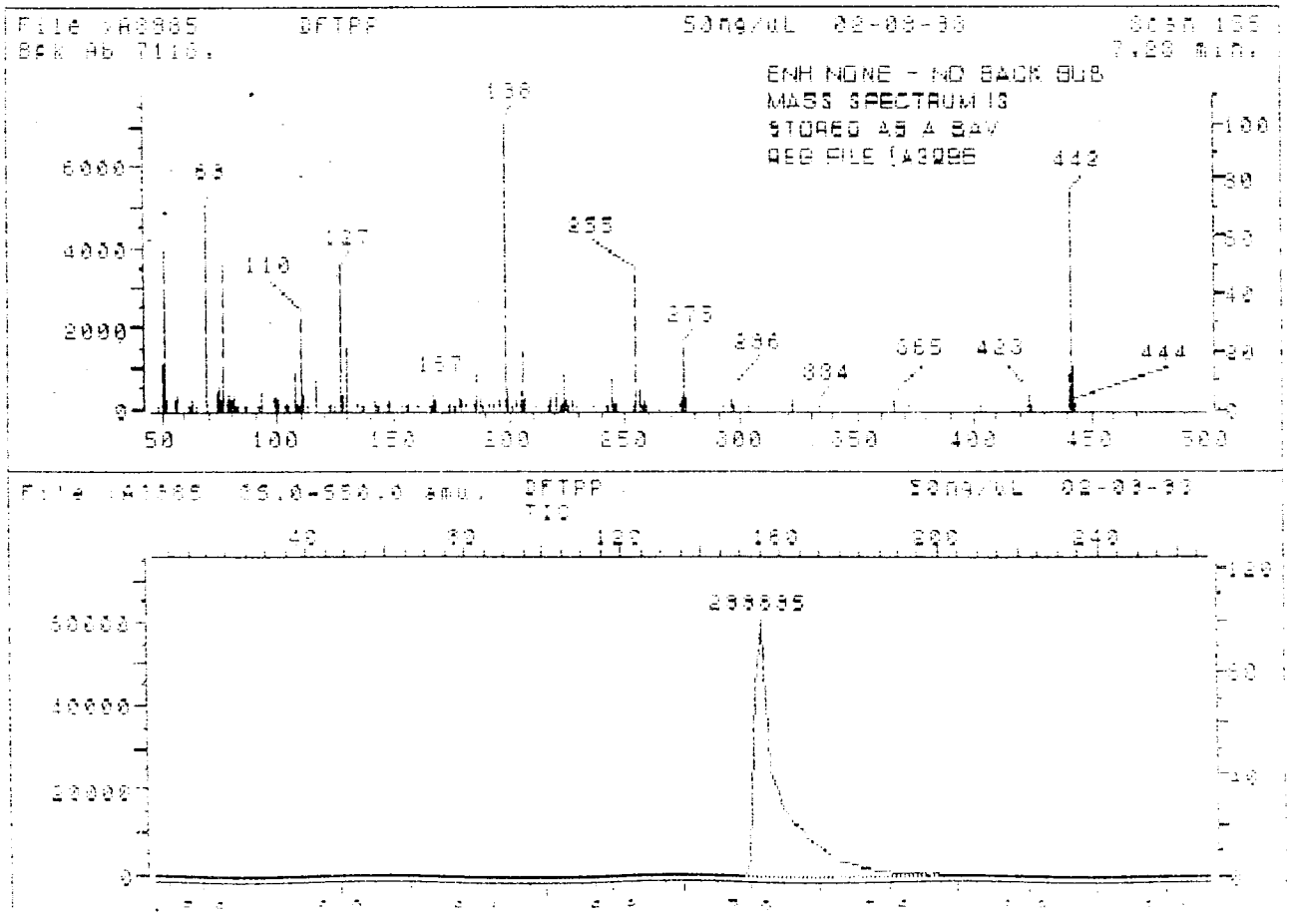
015076

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

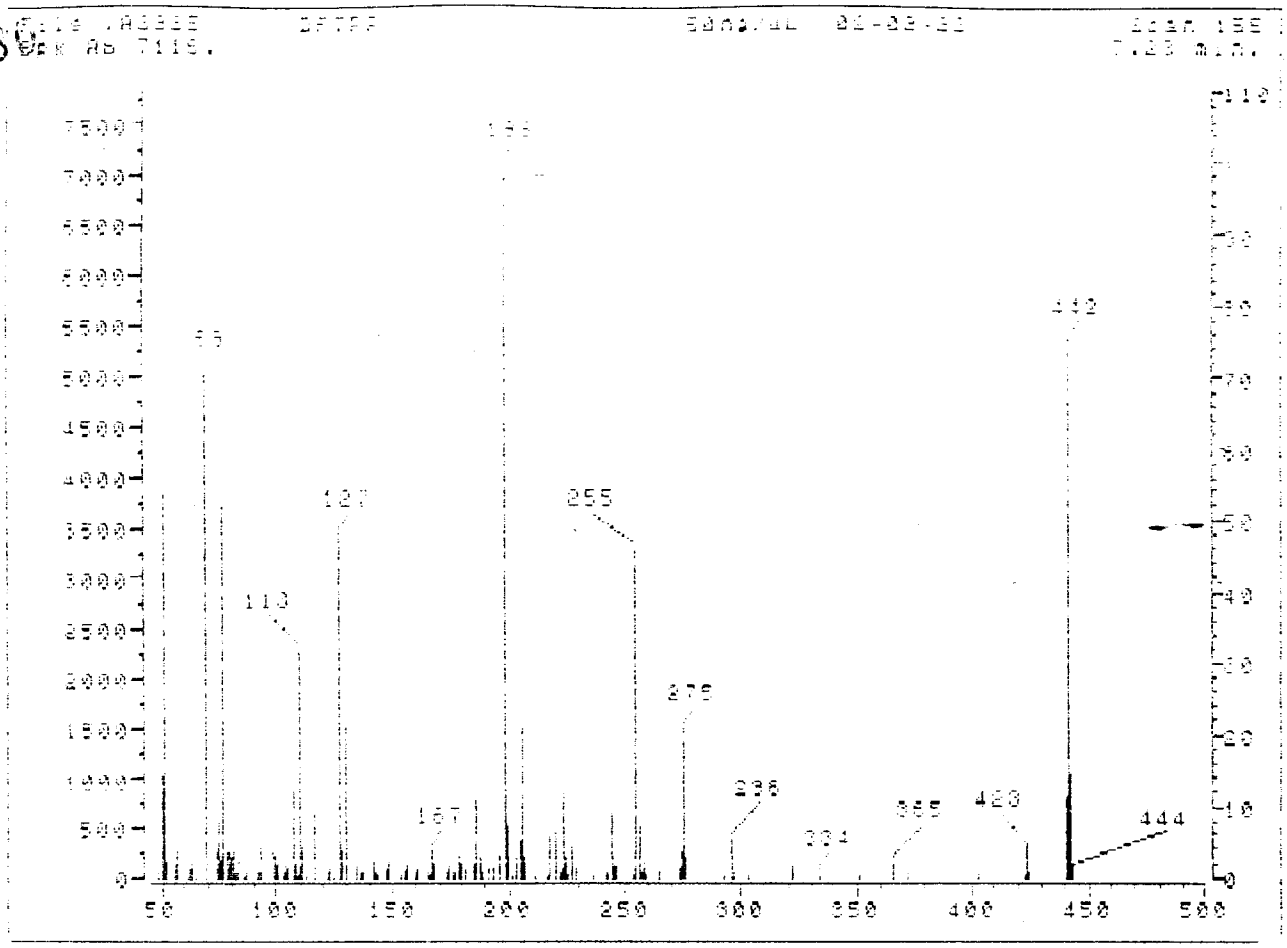
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	54.01	54.01	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	70.85	70.85	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	48.38	48.38	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.93	6.93	Ok
275	10-30% of mass 198	20.91	20.91	Ok
365	Greater than 1% of mass 198	2.40	2.40	Ok
441	0-100% of mass 443	11.31	79.47	Ok
442	Greater than 40% of mass 198	75.10	75.10	Ok
443	17-23% of mass 442	14.24	18.96	Ok

Injection Date: 03/14/93
Injection Time: 07:53
Data File: >A3985
Scan: 155



Instrument ID: ABN1 Analyzed on: 3/14/93 7:53

015080



Instrument ID: ABN1 Analyzed on: 3/14/93 7:53

>A1985 DFTPP 50ng/uL 02-09-93
155 NBM

015081

File: >A1985 Scan #: 155 Retn. time: 7.23

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
[illegible]	.669	98.00	3.569	147.05	1.036	199.00	6.928	256.00	6.589
[illegible]	5.526	99.00	3.148	147.90	2.417	201.50	.534	257.00	.604
[illegible]	.660	101.00	2.066	153.05	.590	203.00	.576	258.00	2.558
[illegible]	14.517	102.90	.857	155.05	1.012	204.00	2.951	258.90	.520
[illegible]	[illegible]	[illegible]	1.377	156.05	1.827	205.10	5.171	265.00	1.026
32.10	2.344	105.00	1.054	160.05	.703	206.10	21.192	273.00	1.223
36.00	1.897	107.00	13.577	161.05	1.012	207.10	2.881	274.00	3.569
57.00	3.724	108.00	1.863	165.05	.773	210.50	.492	275.00	20.911
61.05	.562	109.10	.576	166.05	.548	211.20	.801	276.00	2.782
62.05	.642	110.00	31.970	167.05	4.005	215.95	.506	277.00	1.616
63.05	2.164	111.00	4.258	168.05	2.094	216.95	5.790	292.95	.436
65.05	.835	112.00	.520	173.05	.548	220.95	6.057	295.95	5.396
66.95	70.854	116.10	.885	174.00	.759	222.05	.731	296.95	.703
74.05	4.539	117.00	9.008	175.00	1.307	222.95	1.237	302.95	.590
75.05	7.757	122.00	.731	176.10	.632	224.05	11.594	323.05	1.911
76.05	2.572	123.00	1.363	177.00	.646	225.05	2.628	334.00	1.026
77.05	52.024	124.00	.646	179.00	3.218	226.05	.450	352.10	.546
78.05	3.612	127.00	48.384	180.00	2.080	227.05	4.216	365.00	2.403
79.05	3.935	128.10	3.654	181.00	1.096	228.95	1.040	372.05	.984
80.05	2.895	129.00	21.150	185.00	1.630	237.05	.351	403.05	.534
81.05	3.654	130.00	1.728	186.00	11.060	242.05	.745	422.00	.422
82.05	.871	135.00	1.307	187.00	2.909	243.05	.660	423.00	4.033
83.05	.801	135.95	.646	189.00	.660	244.05	9.556	424.10	.787
85.05	.576	137.05	.703	192.00	1.082	245.05	1.377	441.10	11.313
86.05	.913	140.95	2.305	193.00	1.110	246.05	1.574	442.10	75.098
91.05	.871	142.05	.745	196.00	3.021	254.10	.422	443.10	14.236
91.95	.857	142.95	.576	198.00	100.000	255.00	46.009	444.05	1.335
93.05	5.340								

Instrument ID: ABN1 Analyzed on: 3/14/93 7:53

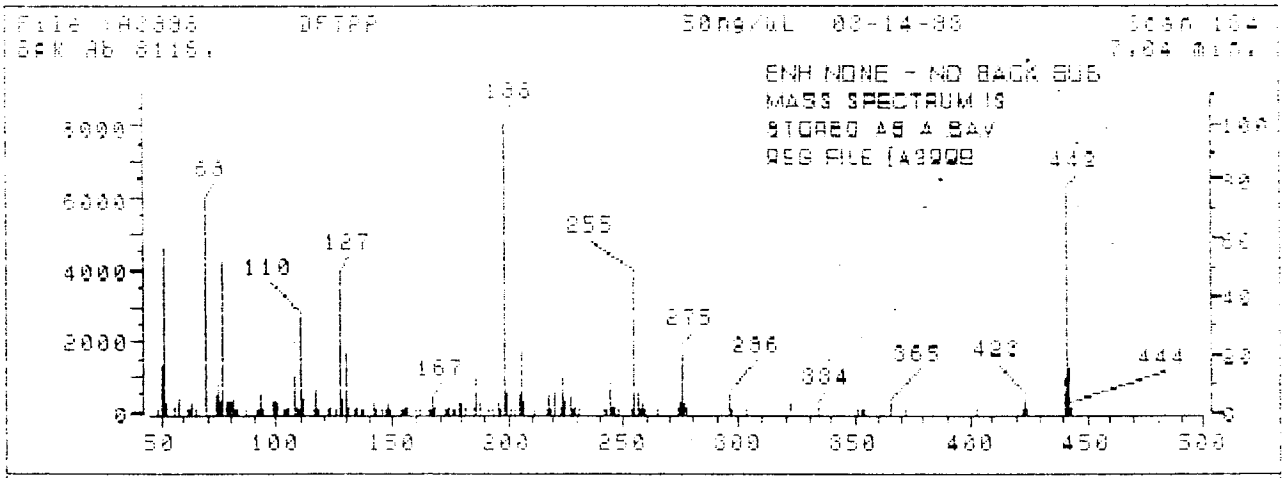
015082

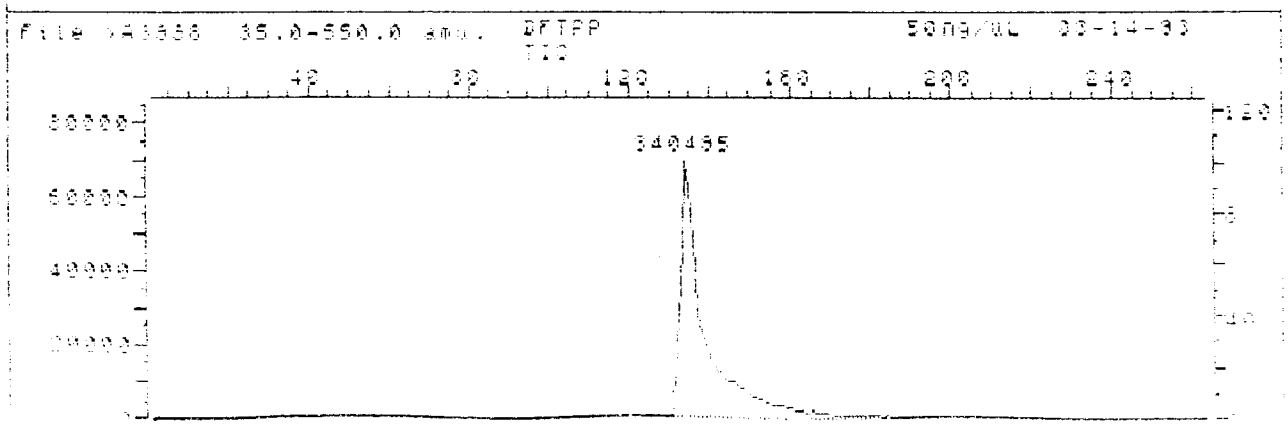
GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	56.97	56.97	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	72.49	72.49	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	47.54	47.54	Ok
197	Less than 1% of mass 198	.79	.79	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.78	6.78	Ok
275	10-30% of mass 198	20.80	20.80	Ok
365	Greater than 1% of mass 198	2.28	2.28	Ok
441	0-100% of mass 443	11.13	74.81	Ok
442	Greater than 40% of mass 198	75.59	75.59	Ok
443	17-23% of mass 442	14.87	19.67	Ok

Injection Date: 03/15/93
Injection Time: 10:46
Data File: >A3998
Scan: 134

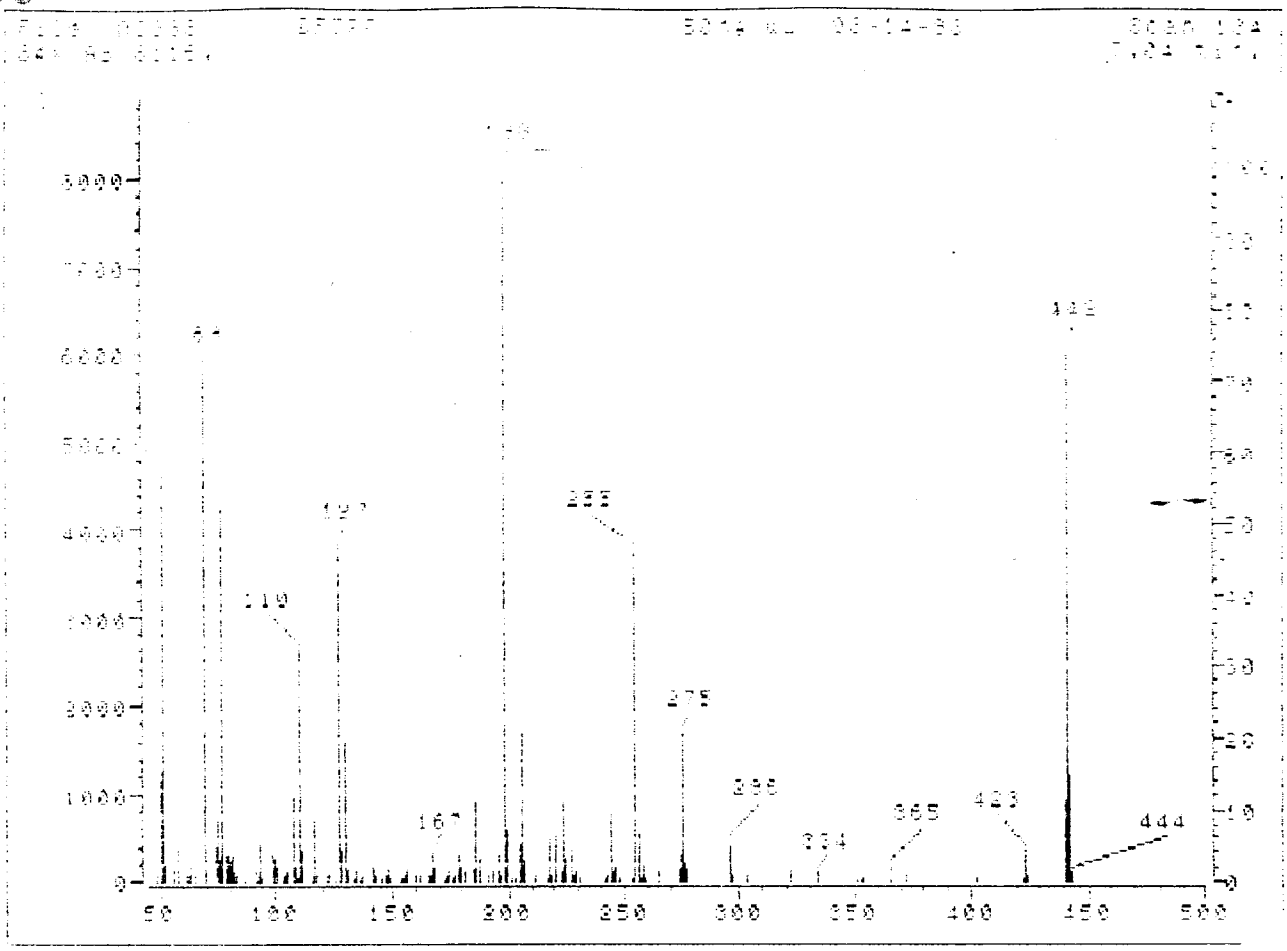




Instrument ID: ABN1 Analyzed on: 3/15/93 10:46

015083

01508



Instrument ID: ABN1 Analyzed on: 3/15/93 10:46

A1996 DFTPP 50ng/uL 3-14-93
134 NBM

015085

File: A1996 Scan #: 134 Retn. time: 7.04

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
[illegible]	.324	93.05	5.582	145.05	.357	190.90	.799	256.00	6.432
69.05	3.678	94.05	.345	146.95	.924	198.00	100.000	257.00	.505
44.00	.781	98.10	5.499	148.05	2.267	199.00	6.777	258.00	2.469
47.10	.655	99.00	3.179	149.05	.534	201.80	.505	259.00	.320
50.20	17.303	101.00	2.382	153.05	.591	203.05	.730	265.00	.961
51.10	58.974	103.00	.604	154.05	.554	204.10	2.563	273.10	1.552
52.10	3.612	104.10	1.047	155.05	1.134	205.10	5.101	274.00	3.425
55.00	.308	105.00	1.257	156.05	1.626	206.10	20.749	275.10	20.798
56.00	1.787	107.00	12.210	160.05	.826	207.10	2.772	276.10	2.612
57.10	4.339	108.00	1.737	161.15	.850	211.00	.850	277.10	1.516
61.05	.653	109.10	.542	165.05	.769	216.05	.481	296.05	5.545
62.05	.690	110.00	32.220	166.05	.727	216.95	5.865	297.05	.801
63.05	2.193	111.00	4.239	167.05	3.857	218.05	.702	303.05	.616
65.05	.899	116.00	.789	168.05	1.700	221.05	6.161	323.15	1.897
68.95	72.486	117.00	8.551	172.05	.345	223.05	1.183	334.10	1.072
74.05	4.793	118.00	.678	173.05	.419	224.05	11.200	352.00	.468
75.05	6.724	122.10	.699	174.00	.739	225.05	3.056	353.10	.357
76.05	3.105	123.00	1.589	175.00	1.405	227.05	4.460	354.10	.517
77.05	52.169	125.10	.530	176.00	.431	228.05	.604	365.10	2.279
78.05	3.512	127.10	47.536	177.00	.739	229.05	1.121	372.05	.924
79.05	3.436	128.10	4.177	179.00	3.376	231.05	.357	403.05	.554
80.05	2.760	129.00	19.690	180.00	2.181	242.05	.579	422.10	.493
81.05	5.955	130.10	1.552	181.00	1.257	243.05	.739	423.10	4.165
82.05	.986	134.10	.431	185.10	1.540	244.05	9.623	424.10	.752
83.05	.899	135.10	1.503	186.10	11.212	245.15	1.183	441.10	11.126
86.05	.949	135.95	.468	187.10	2.994	246.05	1.639	442.10	75.591
87.05	.567	137.05	.653	192.00	.899	249.05	.333	443.10	14.872
91.05	.949	140.95	2.242	193.00	1.035	254.10	.505	444.05	1.244
92.05	.764	142.05	.715	196.10	3.302	255.00	46.205		

Instrument ID: ABN1 Analyzed on: 3/15/93 10:46

015086 OIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: New CLP Forms Contract: 8270

Lab Code: HP001 Case No.: AD-76 SAS No.: 03-10-93 SDG No.: 03-13-93

Matrix Spike - EPA Sample No.: 2685-17 MS/MSD Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	#	QC LIMITS REC.
Phenol	3330.00	0.00	2900.00	87		26- 90
2-Chlorophenol	3330.00	0.00	2760.00	83		25-102
1,4-Dichlorobenzene	1670.00	0.00	1570.00	94		28-104
N-Nitroso-di-n-prop.(1)	1670.00	0.00	1830.00	110		41-126
1,2,4-Trichlorobenzene	1670.00	0.00	1680.00	100		38-107
4-Chloro-3-methylphenol	3330.00	0.00	3470.00	100		26-103
Acenaphthene	1670.00	0.00	1750.00	110		31-137
4-Nitrophenol	3330.00	0.00	3470.00	100		11-114
2,4-Dinitrotoluene	1670.00	0.00	1590.00	95	*	28- 89
Pentachlorophenol	3330.00	0.00	3600.00	110	*	17-109
Pyrene	1670.00	0.00	1830.00	110		35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
Phenol	3330.00	3180.00	95	*	8		35	26- 90
2-Chlorophenol	3330.00	2780.00	83		0		50	25-102
1,4-Dichlorobenzene	1670.00	1770.00	110	*	15		27	28-104
N-Nitroso-di-n-prop.(1)	1670.00	1820.00	110		0		38	41-126
1,2,4-Trichlorobenzene	1670.00	1810.00	110	*	9		23	38-107
4-Chloro-3-methylphenol	3330.00	3560.00	110	*	9		33	26-103
Acenaphthene	1670.00	1890.00	110		0		19	31-137
4-Nitrophenol	3330.00	3730.00	110		9		50	11-114
2,4-Dinitrotoluene	1670.00	1480.00	89		6		47	28- 89
Pentachlorophenol	3330.00	3580.00	110	*	0		47	17-109
Pyrene	1670.00	1990.00	120		8		36	35-142

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

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

RPD: 0 out of 11 outside limits
Spike Recovery: 7 out of 22 outside limits

COMMENTS: SW-846 EPA METHOD 8270

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

015087

Lab Name: New CLP Forms Contract: 8270

Code: HP001 Case No.: AD-76 SAS No.: 03-10-93 SDG No.: 03-13-93

Matrix Spike - EPA Sample No.: 2685-6 MS/MSD Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	#	QC LIMITS REC.
Phenol	3330.00	0.00	2800.00	84		26- 90
2-Chlorophenol	3330.00	0.00	2850.00	86		25-102
1,4-Dichlorobenzene	1670.00	0.00	1730.00	100		28-104
N-Nitroso-di-n-prop.(1)	1670.00	0.00	1660.00	100		41-126
1,2,4-Trichlorobenzene	1670.00	0.00	1680.00	100		38-107
4-Chloro-3-methylphenol	3330.00	0.00	3360.00	100		26-103
Acenaphthene	1670.00	0.00	1710.00	100		31-137
4-Nitrophenol	3330.00	0.00	3420.00	100		11-114
2,4-Dinitrotoluene	1670.00	0.00	1310.00	79		28- 89
Pentachlorophenol	3330.00	0.00	3590.00	110	*	17-109
Pyrene	1670.00	0.00	1860.00	110		35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
Phenol	3330.00	2800.00	84		0		35	26- 90
2-Chlorophenol	3330.00	2890.00	87		1		50	25-102
1,4-Dichlorobenzene	1670.00	1760.00	110	*	9		27	28-104
N-Nitroso-di-n-prop.(1)	1670.00	1710.00	100		0		38	41-126
1,2,4-Trichlorobenzene	1670.00	1770.00	110	*	9		23	38-107
4-Chloro-3-methylphenol	3330.00	3380.00	100		0		33	26-103
Acenaphthene	1670.00	1740.00	100		0		19	31-137
4-Nitrophenol	3330.00	3550.00	110		9		50	11-114
2,4-Dinitrotoluene	1670.00	1330.00	80		1		47	28- 89
Pentachlorophenol	3330.00	3550.00	110	*	0		47	17-109
Pyrene	1670.00	1960.00	120		8		36	35-142

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

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

RPD: 0 out of 11 outside limits
Spike Recovery: 4 out of 22 outside limits

COMMENTS: SW-846 EPA METHOD 8270

015086

NDRC LABORATORIES, INC. № 24327

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SAMPLE PRESERVATION INFORMATION SHEET

Field Sampling ☐ Incoming Samples ☐

GENERAL

Company: Enviro Job No: 0685

No. of Cooler(s): 1 Temperature of Cooler(s): 4°C

PRESERVATION INFORMATION

Sample No.	Temperature of Sample	Sample Container	Volume	Preservation used *	Initial pH	Final pH	Bottles generated	Comments

DO NOT ANALYZE

PRESERVATION USED *

1 - Cool to 4° C
2 - H_2SO_4 to pH < 2
3 - HNO_3 to pH < 2
4 - HCL to pH < 2
5 - NaOH to pH > 12
6 - $Na_2S_2O_2$ 0.008%
7 - 2 mL Zinc Acetate and NaOH to pH > 12
8 - None required

NAK
Preserved by

2-8-93
Date/Time

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2693
REPORT DATE: 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
Dallas, TX 75201
ATTENTION : Ms. Kay Hawthorne

PROJECT : Longhorn

DATE SAMPLED : 5-MAR-1993

CASE NARRATIVE COMMENTS:

No problems were encountered during the sample analysis for this project.

Please refer to the attached Case Narrative Summary for a comparison of sample identifications and analytical requests.

NDRC Laboratories, Inc. Belinda Feuerbacher
Project Manager

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2693-1 DATE SAMPLED : 5-MAR-1993
ID MARKS : LH13-GG-07

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
CHLORIDE			BWB	10-MAR-1993
EXPLOS_L			JS	15-MAR-1993
NITR_N_I_L			MKS	15-MAR-1993
PHENOL_D_L			JAO	16-MAR-1993
SULFATE_L			MKS	16-MAR-1993
TOC_L			JSL	9-MAR-1993
TOX_UG_L			JSL	10-MAR-1993

SAMPLE ID : D93-2693-2 DATE SAMPLED : 5-MAR-1993
ID MARKS : LH13-GG-08

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
CHLORIDE			BWB	10-MAR-1993
EXPLOS_L			JS	15-MAR-1993
NITR_N_I_L			MKS	15-MAR-1993
PHENOL_D_L			JAO	16-MAR-1993
SULFATE_L			MKS	16-MAR-1993
TOC_L			JSL	9-MAR-1993
TOX_UG_L			JSL	10-MAR-1993

SAMPLE ID : D93-2693-3 DATE SAMPLED : 5-MAR-1993
ID MARKS : LH13-GG-08-QC

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
CHLORIDE			BWB	10-MAR-1993
EXPLOS_L			JS	15-MAR-1993
NITR_N_I_L			MKS	15-MAR-1993
PHENOL_D_L			JAO	16-MAR-1993
SULFATE_L			MKS	16-MAR-1993
TOC_L			JSL	9-MAR-1993
TOX_UG_L			JSL	10-MAR-1993

SAMPLE ID : D93-2693-4 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-GG-09

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
CHLORIDE			BWB	10-MAR-1993
EXPLOS_L			JS	15-MAR-1993
NITR_N_I_L			MKS	15-MAR-1993
PHENOL_D_L			JAO	16-MAR-1993
SULFATE_L			MKS	16-MAR-1993
TOC_L			JSL	9-MAR-1993
TOX_UG_L			JSL	11-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2693-5 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-GG-10

ANALYSIS	PRP BY PREP DATE	ANL BY ANALYSIS DATE
CHLORIDE		BWB 10-MAR-1993
EXPLOS_L		JS 15-MAR-1993
NITR_N_I_L		MKS 15-MAR-1993
PHENOL_D_L		JAO 16-MAR-1993
SULFATE_L		MKS 16-MAR-1993
TOC_L		JSL 9-MAR-1993
TOX_UG_L		JSL 11-MAR-1993

SAMPLE ID : D93-2693-6 DATE SAMPLED : 8-MAR-1993
ID MARKS : MS

ANALYSIS	PRP BY PREP DATE	ANL BY ANALYSIS DATE
EXPLOS_L		JS 15-MAR-1993

SAMPLE ID : D93-2693-7 DATE SAMPLED : 8-MAR-1993
ID MARKS : MSD

ANALYSIS	PRP BY PREP DATE	ANL BY ANALYSIS DATE
EXPLOS_L		JS 15-MAR-1993

SAMPLE ID : D93-2693-8 DATE SAMPLED : 8-MAR-1993
ID MARKS : Method Blank

ANALYSIS	PRP BY PREP DATE	ANL BY ANALYSIS DATE
EXPLOS_L		JS 15-MAR-1993

SAMPLE ID : D93-2693-9 DATE SAMPLED : 8-MAR-1993
ID MARKS : Blank Spike

ANALYSIS	PRP BY PREP DATE	ANL BY ANALYSIS DATE

ANALYSIS ID	DESCRIPTION
CHLORIDE	Chloride, Liquid Matrix, Titration
EXPLOS_L	Explosives, Liquid Matrix, HPLC Method 8330
NITR_N_I_L	Nitrate-Nitrite Nitrogen as N, Liquid
PHENOL_D_L	Phenols, Direct, Liquid, Colorimetric
SULFATE_L	Sulfate, Liquid Matrix
TOC_L	Total Organic Carbon, Liquid Matrix
TOX_UG_L	Total Organic Halogen in Micrograms

015092

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2693-1
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-GG-07
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2693-1
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-GG-07
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	1.0 mg/L	248 mg/L
Dilution Factor : 1 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Nitrate-Nitrite Nitrogen	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Analyzed using EPA 353.3 on 15-MAR-1993 by MKS		
Total Phenols, Direct	0.1 mg/L	< 0.1 mg/L
Dilution Factor : 1 Analyzed using EPA 9065 on 16-MAR-1993 by JAO		
Sulfate	1 mg/L	30 mg/L
Dilution Factor : 1 Analyzed using EPA 9038 on 16-MAR-1993 by MKS		
Total Organic Carbon	1.0 mg/L	< 1.0 mg/L
Dilution Factor : 1 Analyzed using EPA 9060 on 9-MAR-1993 by JSL		
Total Organic Halogen	5 µg/L	37 µg/L
Dilution Factor : 1 Analyzed using EPA 9020 on 10-MAR-1993 by JSL		

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Chief Executive Officer

015094

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2693-2
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-GG-08
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2693-2
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-GG-08
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	1.0 mg/L	1450 mg/L
Dilution Factor : 1 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Nitrate-Nitrite Nitrogen	0.01 mg/L	0.40 mg/L
Dilution Factor : 1 Analyzed using EPA 353.3 on 15-MAR-1993 by MKS		
Total Phenols, Direct	0.1 mg/L	< 0.1 mg/L
Dilution Factor : 1 Analyzed using EPA 9065 on 16-MAR-1993 by JAO		
Sulfate	2 mg/L	94 mg/L
Dilution Factor : 2 Analyzed using EPA 9038 on 16-MAR-1993 by MKS		
Total Organic Carbon	1.0 mg/L	< 1.0 mg/L
Dilution Factor : 1 Analyzed using EPA 9060 on 9-MAR-1993 by JSL		
Total Organic Halogen	5 µg/L	57 µg/L
Dilution Factor : 1 Analyzed using EPA 9020 on 10-MAR-1993 by JSL		

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Chief Executive Officer

015096

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2693-3
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-GG-08-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

NDRC Laboratories, Inc. David R. Godwin

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2693-3
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-GG-08-QC
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 5-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	1.0 mg/L	1470 mg/L
Dilution Factor : 1 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Nitrate-Nitrite Nitrogen	0.01 mg/L	0.31 mg/L
Dilution Factor : 1 Analyzed using EPA 353.3 on 15-MAR-1993 by MKS		
Total Phenols, Direct	0.1 mg/L	< 0.1 mg/L
Dilution Factor : 1 Analyzed using EPA 9065 on 16-MAR-1993 by JAO		
Sulfate	2 mg/L	110 mg/L
Dilution Factor : 2 Analyzed using EPA 9038 on 16-MAR-1993 by MKS		
Total Organic Carbon	1.0 mg/L	< 1.0 mg/L
Dilution Factor : 1 Analyzed using EPA 9060 on 9-MAR-1993 by JSL		
Total Organic Halogen	5 µg/L	65 µg/L
Dilution Factor : 1 Analyzed using EPA 9020 on 10-MAR-1993 by JSL		

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

015096

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2693-4
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-GG-09
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2693-4
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-GG-09
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	1.0 mg/L	230 mg/L
Dilution Factor : 1 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Nitrate-Nitrite Nitrogen	0.01 mg/L	0.14 mg/L
Dilution Factor : 1 Analyzed using EPA 353.3 on 15-MAR-1993 by MKS		
Total Phenols, Direct	0.1 mg/L	< 0.1 mg/L
Dilution Factor : 1 Analyzed using EPA 9065 on 16-MAR-1993 by JAO		
Sulfate	1 mg/L	49 mg/L
Dilution Factor : 1 Analyzed using EPA 9038 on 16-MAR-1993 by MKS		
Total Organic Carbon	1.0 mg/L	26.0 mg/L
Dilution Factor : 1 Analyzed using EPA 9060 on 9-MAR-1993 by JSL		
Total Organic Halogen	5 µg/L	44 µg/L
Dilution Factor : 1 Analyzed using EPA 9020 on 11-MAR-1993 by JSL		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2693-5
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-GG-10
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2693-5
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-GG-10
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	1.0 mg/L	780 mg/L
Dilution Factor : 1 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Nitrate-Nitrite Nitrogen	0.01 mg/L	0.19 mg/L
Dilution Factor : 1 Analyzed using EPA 353.3 on 15-MAR-1993 by MKS		
Total Phenols, Direct	0.1 mg/L	< 0.1 mg/L
Dilution Factor : 1 Analyzed using EPA 9065 on 16-MAR-1993 by JAO		
Sulfate	1 mg/L	49 mg/L
Dilution Factor : 1 Analyzed using EPA 9038 on 16-MAR-1993 by MKS		
Total Organic Carbon	1.0 mg/L	< 1.0 mg/L
Dilution Factor : 1 Analyzed using EPA 9060 on 9-MAR-1993 by JSL		
Total Organic Halogen	5 µg/L	15 µg/L
Dilution Factor : 1 Analyzed using EPA 9020 on 11-MAR-1993 by JSL		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2693-6
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	6.70 µg/L
2,4-DNT	0.10 µg/L	5.92 µg/L
2,6-DNT	0.10 µg/L	5.75 µg/L
HMX	0.10 µg/L	7.48 µg/L
NB	0.10 µg/L	5.99 µg/L
2-NT	0.10 µg/L	5.27 µg/L
3-NT	0.10 µg/L	4.92 µg/L
4-NT	0.10 µg/L	4.95 µg/L
RDX	0.10 µg/L	7.85 µg/L
Tetryl	0.10 µg/L	6.93 µg/L
1,3,5-TNB	0.10 µg/L	6.82 µg/L
2,4,6-TNT	0.10 µg/L	5.80 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2693-7
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	5.74 µg/L
2,4-DNT	0.10 µg/L	5.22 µg/L
2,6-DNT	0.10 µg/L	5.08 µg/L
HMX	0.10 µg/L	6.54 µg/L
NB	0.10 µg/L	5.37 µg/L
2-NT	0.10 µg/L	4.82 µg/L
3-NT	0.10 µg/L	4.46 µg/L
4-NT	0.10 µg/L	4.53 µg/L
RDX	0.10 µg/L	6.32 µg/L
Tetryl	0.10 µg/L	5.68 µg/L
1,3,5-TNB	0.10 µg/L	5.67 µg/L
2,4,6-TNT	0.10 µg/L	5.08 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2693-8
REPORT DATE : 25-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

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BEAUMONT DALLAS HOUSTON

015105

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2693

REPORT DATE: 25-MAR-1993

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Chloride	Nitrate	Phenol	Sulfate	TOX	TOC
BATCH No.	----	----	----	----	----	----
MATRIX	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid
PREP METHOD	----	----	----	----	EPA 9020	----
PREP DATE	----	----	----	----	3/3/93	----
PREP TECHNICIAN	----	----	----	----	JSL	----
ANALYSIS METHOD	EPA 9252	EPA 353.2	EPA 9065	EPA 9038	EPA 9020	EPA 9060
ANALYSIS DATE	3/10/93	3/15/93	3/16/93	3/16/93	3/3/93	3/9/93
ANALYST	BWB	MKS	JAO	MKS	JSL	JSL
METHOD BLANK	< 1.0 mg/L	< 0.01 mg/L	< 0.1 mg/L	< 1.0 mg/L	< 5 µg/L	< 1.0 mg/L
MS % RECOVERY	100	82	88	99	104	105
LCS % RECOVERY	100	101	88	97	98.9	87.2
DUPLICATE RPD	0.0	6.2	0.0	2.3	----	----
MS/MSD RPD	0.0	0.7	1.1	1.4	1.9	2.8
SPIKE LEVEL	868.5 mg/L	1.0 mg/L	2.0 mg/L	40 mg/L	50 µg/L	25 mg/L
SPIKED SAMPLE ID No.	D93-2694-1	D93-2693-1	D93-2693-1	D93-2695-1	D93-2053-7	D93-2586-4
DUPLICATE SAMPLE ID No.	D93-2694-1	D93-2806-5	D93-2693-1	D93-2693-3	----	----

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993 REPORT NUMBER: D93-2693

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	HMX	RDX	TNT	Nitbenzene	2,6-DNT	m-Nitrotoluene
BATCH No.	----	----	----	----	----	----
MATRIX	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid
PREP METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330
PREP DATE	3/11/93	3/11/93	3/11/93	3/11/93	3/11/93	3/11/93
PREP TECHNICIAN	LR	LR	LR	LR	LR	LR
ANALYSIS METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330
ANALYSIS DATE	3/15/93	3/15/93	3/15/93	3/15/93	3/15/93	3/15/93
ANALYST	JS	JS	JS	JS	JS	JS
METHOD BLANK	< 0.1 µg/L	< 0.1 µg/L	< 0.1 µg/L	< 0.1 µg/L	< 0.1 µg/L	< 0.1 µg/L
MS % RECOVERY	120	126	93	96	92	79
LCS % RECOVERY	----	----	----	----	----	----
DUPLICATE RPD	----	----	----	----	----	----
MS/MSD RPD	13.3	22.0	13.8	11.0	12.7	10.7
SPIKE LEVEL	6.25 µg/L	6.25 µg/L	6.25 µg/L	6.25 µg/L	6.25 µg/L	6.25 µg/L
SPIKED SAMPLE ID No.	Reagent Water	Reagent Water	Reagent Water	Reagent Water	Reagent Water	Reagent Water
DUPLICATE SAMPLE ID No.	----	----	----	----	----	-----

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

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SAMPLE PRESERVATION INFORMATION SHEET

Field Sampling ☐ Incoming Samples ☐

GENERAL

Company: Mobil Job No: 2643

No. of Cooler(s): ~~4~~ 5 Temperature of Cooler(s): <4°

PRESERVATION INFORMATION

Sample No.	Temperature of Sample	Sample Container	Volume	Preservation used *	Initial pH	Final pH	Bottles generated	Comments
2642-1		1AG	500mL	8	7.5	7.5	1	NP
1		1	500mL	1	1	1	1	1
1		1	1L	2	<2	<2	1	TOX
1		1	1	1	1	1	1	TOC
1		1	1	1	1	1	1	Phenols
2		1AG	1L	8	6.9	6.9	1	NP
2		1	850mL	1	1	1	1	1
2		1	1L	2	<2	<2	1	TOX
2		1	1	1	1	1	1	TOC
2		1	1	1	1	1	1	Phenols
3		1AG	1L	8	6.8	6.8	1	NP
3		1	500mL	1	1	1	1	1
3		1	1L	2	<2	<2	1	TOX
3		1	1	1	1	1	1	TOC
3		1	1	1	1	1	1	Phenols
4		1AG	1L	8	6.4	6.4	1	NP
4		1	500mL	1	1	1	1	1
4		1	1L	2	<2	<2	1	TOX
4		1	1	1	1	1	1	TOC
4		1	1	1	1	1	1	Phenols

PRESERVATION USED *

1 - Cool to 4° C
2 - H_2SO_4 to pH < 2
3 - HNO_3 to pH < 2
4 - HCL to pH < 2
5 - NaOH to pH > 12
6 - $Na_2S_2O_2$ 0.008%
7 - 2 mL Zinc Acetate and NaOH to pH > 12
8 - None required

NJK
Preserved by

3:93
Date/Time

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SAMPLE PRESERVATION INFORMATION SHEET #2

Field Sampling ☐ Incoming Samples ☐

GENERAL

Company: Ebasco Job No: 2693

No. of Cooler(s): 5 Temperature of Cooler(s): <4°C

PRESERVATION INFORMATION

Sample No.	Temperature of Sample	Sample Container	Volume	Preservation used *	Initial pH	Final pH	Bottles generated	Comments
2693-5		HG	1L	3	6.6	6.6	1	NP
5		1	1Gal	1	1	1	1	1
5		1	1L	2	<2	<2	1	TOX
5		1	1	1	1	1	1	TOC
5		1	1	1	1	1	1	Phenols
								already preserved

015109

Level II QC

ORIGINAL

GC

Lab Name: NDRC	Phone: 214-238-5591
Address: 1809 E. Collins Blvd., Richardson, Tx. 75081	
Ebasco Contact Person: Kay Hawthorne	
PROJECT: Longhorn	CLIENT: USACE, Tulsa District
SAMPLERS: (Signature) MKay Hawthorn	

Ebasco Environmental
400 N. Olive St., L.B. 259
Suite 900
Dallas, Texas 75201
(214) 978-3100

Page 1 of 1

Analytical GROUNDWATER GRAB ~~CHAIN OF CUSTODY~~ RECORD

SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	NO. CONTAINERS	S - Soil W - Water N - NAPL G - Gaseous	TOX	TOC	Nitrate/Nitrite	Sulfate	Chloride	Explosives	Total Phenol				CHEMICAL USED FOR PRESERVATION / REMARKS
							H_2SO_4	H_2SO_4					H_2SO_4				Due 3-17-93
LH13-GG-07	3-5-93	1100		✓	5	W	1	1		1		1	1				2693 -1
LH13-GG-08	3-5-93	1300		✓	5	W	1	1		1		1	1				-2
LH13-GG-08-QC	3-5-93	1300		✓	5	W	1	1		1		1	1				-3
LH13-GG-09	3-6-93	1230		✓	5	W	1	1		1		1	1				-4
LH13-GG-10	3-6-93	1300		✓	5	W	1	1		1		1	1				-5
MS												✓					-6
MSD												✓					-7
Method Blank												✓					-8
Blank Spike												✓					-9

Relinquished by: (Signature) ① MKay Hawthorn	Date / Time 3-8-93 1100	Received by: (Signature)	Relinquished by: (Signature) ③	Date / Time 3/8/93 1552
Relinquished by: (Signature) ②	Date / Time	Received by: (Signature)	Received for Lab by: (Signature) Mike Bricker	Date / Time 3-8-93 1552

Shipped via: Delivered

Shipping Ticket No.: NA

SAMPLE RECEIPT REPORT	YES	NO
Samples OK		
Temp 4°C Min.		
Custody Seals		
Custody Seals Intact		
Head Space in VOAs		

Remarks:

Iced Yes ✓ No ___

Cooler ___ of ___

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-5
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYZED BY : MCS
ANALYZED ON : 15-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 10 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-5
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	10.0 µg/L	< 10.0 µg/L
Di-n-octylphthalate	10.0 µg/L	< 10.0 µg/L
Benzo(b)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(k)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(a)pyrene	10.0 µg/L	< 10.0 µg/L
Indeno(1,2,3-cd)pyrene	10.0 µg/L	< 10.0 µg/L
Dibenzo(a,h)anthracene	10.0 µg/L	< 10.0 µg/L
Benzo(g,h,i)perylene	10.0 µg/L	< 10.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/L	101 %
2-Fluorobiphenyl (SS)	50.0 µg/L	97.2 %
Terphenyl-d14 (SS)	50.0 µg/L	112 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2695-5
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Hexachlorocyclopentadiene	10.0 µg/L	< 10.0 µg/L
2-Chloronaphthalene	10.0 µg/L	< 10.0 µg/L
2-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Dimethylphthalate	10.0 µg/L	< 10.0 µg/L
Acenaphthylene	10.0 µg/L	< 10.0 µg/L
2,6-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
3-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Acenaphthene	10.0 µg/L	< 10.0 µg/L
Dibenzofuran	10.0 µg/L	< 10.0 µg/L
2,4-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
Diethylphthalate	10.0 µg/L	< 10.0 µg/L
4-Chlorophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Fluorene	10.0 µg/L	< 10.0 µg/L
4-Nitroaniline	50.0 µg/L	< 50.0 µg/L
N-Nitrosodiphenylamine	10.0 µg/L	< 10.0 µg/L
4-Bromophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Hexachlorobenzene	10.0 µg/L	< 10.0 µg/L
Phenanthrene	10.0 µg/L	< 10.0 µg/L
Anthracene	10.0 µg/L	< 10.0 µg/L
Di-n-butylphthalate	10.0 µg/L	< 10.0 µg/L
Fluoranthene	10.0 µg/L	< 10.0 µg/L
Pyrene	10.0 µg/L	< 10.0 µg/L
Butyl benzyl phthalate	10.0 µg/L	< 10.0 µg/L
3,3'-Dichlorobenzidine	20.0 µg/L	< 20.0 µg/L
Benzo(a)anthracene	10.0 µg/L	< 10.0 µg/L
Chrysene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-5
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : MCS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	10.0 µg/L	< 10.0 µg/L
1,3-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
1,4-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Benzyl alcohol	20.0 µg/L	< 20.0 µg/L
1,2-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroisopropyl)ether	10.0 µg/L	< 10.0 µg/L
N-Nitroso-Di-N-propylamine	10.0 µg/L	< 10.0 µg/L
Hexachloroethane	10.0 µg/L	< 10.0 µg/L
Nitrobenzene	10.0 µg/L	< 10.0 µg/L
Isophorone	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroethoxy)methane	10.0 µg/L	< 10.0 µg/L
1,2,4-Trichlorobenzene	10.0 µg/L	< 10.0 µg/L
Naphthalene	10.0 µg/L	< 10.0 µg/L
4-Chloroaniline	20.0 µg/L	< 20.0 µg/L
Hexachlorobutadiene	10.0 µg/L	< 10.0 µg/L
2-Methylnaphthalene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-5
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA				
SURROGATE COMPOUND	SPIKE LEVEL		SPIKE RECOVERED	
Phenol-d5 (SS)	100	µg/L	92.6	%
2-Fluorophenol (SS)	100	µg/L	89.3	%
2,4,6-Tribromophenol (SS)	100	µg/L	86.5	%

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-5
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : MCS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Phenol	10.0 µg/L	< 10.0 µg/L
2-Chlorophenol	10.0 µg/L	< 10.0 µg/L
2-Methylphenol	10.0 µg/L	< 10.0 µg/L
4-Methylphenol	10.0 µg/L	< 10.0 µg/L
2-Nitrophenol	10.0 µg/L	< 10.0 µg/L
2,4-Dimethylphenol	10.0 µg/L	< 10.0 µg/L
Benzoic acid	50.0 µg/L	< 50.0 µg/L
2,4-Dichlorophenol	10.0 µg/L	< 10.0 µg/L
4-Chloro-3-methylphenol	20.0 µg/L	< 20.0 µg/L
2,4,6-Trichlorophenol	10.0 µg/L	< 10.0 µg/L
2,4,5-Trichlorophenol	50.0 µg/L	< 50.0 µg/L
2,4-Dinitrophenol	50.0 µg/L	< 50.0 µg/L
4-Nitrophenol	50.0 µg/L	< 50.0 µg/L
4,6-Dinitro-2-methylphenol	50.0 µg/L	< 50.0 µg/L
Pentachlorophenol	50.0 µg/L	< 50.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2695-5
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	< 5.0 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	< 5.0 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	< 5.0 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	< 5.0 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	96.6 %
Toluene-d8 (SS)	50.0 µg/L	101 %
Bromofluorobenzene (SS)	50.0 µg/L	98.6 %

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-5
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-5
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/L	62.3 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-5
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	10	µg/L	<	10	µg/L
2,4-DB	10	µg/L	<	10	µg/L
2,4,5-T	2	µg/L	<	2	µg/L
2,4,5-TP(Silvex)	2	µg/L	<	2	µg/L
Dalapon	58	µg/L	<	58	µg/L
Dicamba	3	µg/L	<	3	µg/L
Dichloroprop	7	µg/L	<	7	µg/L
Dinoseb	1	µg/L	<	1	µg/L
MCPA	2500	µg/L	<	2500	µg/L
MCPP	2000	µg/L	<	2000	µg/L

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BEAUMONT **DALLAS** **HOUSTON**

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REPORT NUMBER : D93-2695-5
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	0.83 µg/L	< 0.83 µg/L
Methoxychlor	1.76 µg/L	< 1.76 µg/L
Toxaphene	2.4 µg/L	< 2.4 µg/L
Aroclor-1016	0.09 µg/L	< 0.09 µg/L
Aroclor-1221	0.09 µg/L	< 0.09 µg/L
Aroclor-1232	0.09 µg/L	< 0.09 µg/L
Aroclor-1242	0.09 µg/L	< 0.09 µg/L
Aroclor-1248	0.09 µg/L	< 0.09 µg/L
Aroclor-1254	0.09 µg/L	< 0.09 µg/L
Aroclor-1260	0.09 µg/L	< 0.09 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	0.2 µg/L	53.6 %
2,4,5,6-Tetrachloro-m-xylene (SS)	0.2 µg/L	88.3 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-5
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : RLP
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	0.04 µg/L	< 0.04 µg/L
Alpha-BHC	0.03 µg/L	< 0.03 µg/L
Beta-BHC	0.06 µg/L	< 0.06 µg/L
Delta-BHC	0.09 µg/L	< 0.09 µg/L
Gamma-BHC(Lindane)	0.04 µg/L	< 0.04 µg/L
Chlordane	0.14 µg/L	< 0.14 µg/L
4,4'-DDD	0.11 µg/L	< 0.11 µg/L
4,4'-DDE	0.04 µg/L	< 0.04 µg/L
4,4'-DDT	0.12 µg/L	< 0.12 µg/L
Dieldrin	0.02 µg/L	< 0.02 µg/L
Endosulfan I	0.14 µg/L	< 0.14 µg/L
Endosulfan II	0.04 µg/L	< 0.04 µg/L
Endosulfan Sulfate	0.66 µg/L	< 0.66 µg/L
Endrin	0.06 µg/L	< 0.06 µg/L
Endrin Aldehyde	0.23 µg/L	< 0.23 µg/L
Heptachlor	0.03 µg/L	< 0.03 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-4
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: 2682-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	5.74 µg/L
2,4-DNT	0.10 µg/L	5.22 µg/L
2,6-DNT	0.10 µg/L	5.08 µg/L
HMX	0.10 µg/L	6.54 µg/L
NB	0.10 µg/L	5.37 µg/L
2-NT	0.10 µg/L	4.82 µg/L
3-NT	0.10 µg/L	4.46 µg/L
4-NT	0.10 µg/L	4.53 µg/L
RDX	0.10 µg/L	6.32 µg/L
Tetryl	0.10 µg/L	5.68 µg/L
1,3,5-TNB	0.10 µg/L	5.67 µg/L
2,4,6-TNT	0.10 µg/L	5.08 µg/L

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-4
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chrysene	20.0 µg/L	< 20.0 µg/L
Bis(2-ethylhexyl)phthalate	20.0 µg/L	< 20.0 µg/L
Di-n-octylphthalate	20.0 µg/L	< 20.0 µg/L
Benzo(b)fluoranthene	20.0 µg/L	< 20.0 µg/L
Benzo(k)fluoranthene	20.0 µg/L	< 20.0 µg/L
Benzo(a)pyrene	20.0 µg/L	< 20.0 µg/L
Indeno(1,2,3-cd)pyrene	20.0 µg/L	< 20.0 µg/L
Dibenzo(a,h)anthracene	20.0 µg/L	< 20.0 µg/L
Benzo(g,h,i)perylene	20.0 µg/L	< 20.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/L	91.2 %
2-Fluorobiphenyl (SS)	50.0 µg/L	101 %
Terphenyl-d14 (SS)	50.0 µg/L	105 %

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2695-4
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
2-Methylnaphthalene	20.0 µg/L	< 20.0 µg/L
Hexachlorocyclopentadiene	20.0 µg/L	< 20.0 µg/L
2-Chloronaphthalene	20.0 µg/L	< 20.0 µg/L
2-Nitroaniline	100 µg/L	< 100 µg/L
Dimethylphthalate	20.0 µg/L	< 20.0 µg/L
Acenaphthylene	20.0 µg/L	< 20.0 µg/L
2,6-Dinitrotoluene	20.0 µg/L	< 20.0 µg/L
3-Nitroaniline	100 µg/L	< 100 µg/L
Acenaphthene	20.0 µg/L	110 µg/L
Dibenzofuran	20.0 µg/L	< 20.0 µg/L
2,4-Dinitrotoluene	20.0 µg/L	90.0 µg/L
Diethylphthalate	20.0 µg/L	< 20.0 µg/L
4-Chlorophenylphenyl ether	20.0 µg/L	< 20.0 µg/L
Fluorene	20.0 µg/L	< 20.0 µg/L
4-Nitroaniline	100 µg/L	< 100 µg/L
N-Nitrosodiphenylamine	20.0 µg/L	< 20.0 µg/L
4-Bromophenylphenyl ether	20.0 µg/L	< 20.0 µg/L
Hexachlorobenzene	20.0 µg/L	< 20.0 µg/L
Phenanthrene	20.0 µg/L	< 20.0 µg/L
Anthracene	20.0 µg/L	< 20.0 µg/L
Di-n-butylphthalate	20.0 µg/L	< 20.0 µg/L
Fluoranthene	20.0 µg/L	< 20.0 µg/L
Pyrene	20.0 µg/L	120 µg/L
Butyl benzyl phthalate	20.0 µg/L	< 20.0 µg/L
3,3'-Dichlorobenzidine	40.0 µg/L	< 40.0 µg/L
Benzo(a)anthracene	20.0 µg/L	< 20.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-4
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: 2682-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 7-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	20.0 µg/L	< 20.0 µg/L
1,3-Dichlorobenzene	20.0 µg/L	< 20.0 µg/L
1,4-Dichlorobenzene	20.0 µg/L	91.0 µg/L
Benzyl alcohol	40.0 µg/L	< 40.0 µg/L
1,2-Dichlorobenzene	20.0 µg/L	< 20.0 µg/L
Bis(2-chloroisopropyl)ether	20.0 µg/L	< 20.0 µg/L
N-Nitroso-Di-N-propylamine	20.0 µg/L	78.0 µg/L
Hexachloroethane	20.0 µg/L	< 20.0 µg/L
Nitrobenzene	20.0 µg/L	< 20.0 µg/L
Isophorone	20.0 µg/L	< 20.0 µg/L
Bis(2-chloroethoxy)methane	20.0 µg/L	< 20.0 µg/L
1,2,4-Trichlorobenzene	20.0 µg/L	95.0 µg/L
Naphthalene	20.0 µg/L	< 20.0 µg/L
4-Chloroaniline	40.0 µg/L	< 40.0 µg/L
Hexachlorobutadiene	20.0 µg/L	< 20.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-4
ANALYSIS METHOD : EPA 8270

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/L	82.5 %
2-Fluorophenol (SS)	100 µg/L	83.7 %
2,4,6-Tribromophenol (SS)	100 µg/L	98.8 %

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-4
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: 2682-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 7-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Phenol	20.0 µg/L	190 µg/L
2-Chlorophenol	20.0 µg/L	190 µg/L
2-Methylphenol	20.0 µg/L	< 20.0 µg/L
4-Methylphenol	20.0 µg/L	< 20.0 µg/L
2-Nitrophenol	20.0 µg/L	< 20.0 µg/L
2,4-Dimethylphenol	20.0 µg/L	< 20.0 µg/L
Benzoic acid	100 µg/L	< 100 µg/L
2,4-Dichlorophenol	20.0 µg/L	< 20.0 µg/L
4-Chloro-3-methylphenol	40.0 µg/L	200 µg/L
2,4,6-Trichlorophenol	20.0 µg/L	< 20.0 µg/L
2,4,5-Trichlorophenol	100 µg/L	< 100 µg/L
2,4-Dinitrophenol	100 µg/L	< 100 µg/L
4-Nitrophenol	100 µg/L	200 µg/L
4,6-Dinitro-2-methylphenol	100 µg/L	< 100 µg/L
Pentachlorophenol	100 µg/L	200 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-4
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	48.4 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	48.9 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	52.8 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	49.2 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	95.0 %
Toluene-d8 (SS)	50.0 µg/L	104 %
Bromofluorobenzene (SS)	50.0 µg/L	103 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-4
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: 2682-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	47.5 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-4
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/L	71.9 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-4
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: 2682-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
2,4-D	1.0 µg/L	9.1 µg/L
2,4-DB	10.0 µg/L	< 10.0 µg/L
2,4,5-T	0.2 µg/L	7.9 µg/L
2,4,5-TP(Silvex)	0.2 µg/L	7.9 µg/L
Dalapon	58.0 µg/L	< 58.0 µg/L
Dicamba	3.0 µg/L	< 3.0 µg/L
Dichloroprop	7.0 µg/L	< 7.0 µg/L
Dinoseb	1.0 µg/L	< 1.0 µg/L
MCPA	2500 µg/L	< 2500 µg/L
MCPP	2000 µg/L	< 2000 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-4
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor	0.03 µg/L	1.62 µg/L
Heptachlor Epoxide	0.83 µg/L	< 0.83 µg/L
Methoxychlor	1.76 µg/L	< 1.76 µg/L
Toxaphene	2.4 µg/L	< 2.4 µg/L
Aroclor-1016	0.09 µg/L	< 0.09 µg/L
Aroclor-1221	0.09 µg/L	< 0.09 µg/L
Aroclor-1232	0.09 µg/L	< 0.09 µg/L
Aroclor-1242	0.09 µg/L	< 0.09 µg/L
Aroclor-1248	0.09 µg/L	< 0.09 µg/L
Aroclor-1254	0.09 µg/L	< 0.09 µg/L
Aroclor-1260	0.09 µg/L	< 0.09 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	0.2 µg/L	51.9 %
2,4,5,6-Tetrachloro-m-xylene (SS)	0.2 µg/L	81.8 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-4
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: 2682-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 28-FEB-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : RLP
ANALYZED ON : 3-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	0.04 µg/L	1.4 µg/L
Alpha-BHC	0.03 µg/L	< 0.03 µg/L
Beta-BHC	0.06 µg/L	< 0.06 µg/L
Delta-BHC	0.09 µg/L	< 0.09 µg/L
Gamma-BHC(Lindane)	0.04 µg/L	1.55 µg/L
Chlordane	0.14 µg/L	< 0.14 µg/L
4,4'-DDD	0.11 µg/L	< 0.11 µg/L
4,4'-DDE	0.04 µg/L	< 0.04 µg/L
4,4'-DDT	0.12 µg/L	2.73 µg/L
Dieldrin	0.02 µg/L	2.83 µg/L
Endosulfan I	0.14 µg/L	< 0.14 µg/L
Endosulfan II	0.04 µg/L	< 0.04 µg/L
Endosulfan Sulfate	0.66 µg/L	< 0.66 µg/L
Endrin	0.06 µg/L	3.07 µg/L
Endrin Aldehyde	0.23 µg/L	< 0.23 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-3
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: 2682-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	6.70 µg/L
2,4-DNT	0.10 µg/L	5.92 µg/L
2,6-DNT	0.10 µg/L	5.75 µg/L
HMX	0.10 µg/L	7.48 µg/L
NB	0.10 µg/L	5.99 µg/L
2-NT	0.10 µg/L	5.27 µg/L
3-NT	0.10 µg/L	4.92 µg/L
4-NT	0.10 µg/L	4.95 µg/L
RDX	0.10 µg/L	7.85 µg/L
Tetryl	0.10 µg/L	6.93 µg/L
1,3,5-TNB	0.10 µg/L	6.82 µg/L
2,4,6-TNT	0.10 µg/L	5.80 µg/L

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-3
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chrysene	20.0 µg/L	< 20.0 µg/L
Bis(2-ethylhexyl)phthalate	20.0 µg/L	< 20.0 µg/L
Di-n-octylphthalate	20.0 µg/L	< 20.0 µg/L
Benzo(b)fluoranthene	20.0 µg/L	< 20.0 µg/L
Benzo(k)fluoranthene	20.0 µg/L	< 20.0 µg/L
Benzo(a)pyrene	20.0 µg/L	< 20.0 µg/L
Indeno(1,2,3-cd)pyrene	20.0 µg/L	< 20.0 µg/L
Dibenzo(a,h)anthracene	20.0 µg/L	< 20.0 µg/L
Benzo(g,h,i)perylene	20.0 µg/L	< 20.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/L	97.3 %
2-Fluorobiphenyl (SS)	50.0 µg/L	103 %
Terphenyl-d14 (SS)	50.0 µg/L	112 %

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-3
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
2-Methylnaphthalene	20.0 µg/L	< 20.0 µg/L
Hexachlorocyclopentadiene	20.0 µg/L	< 20.0 µg/L
2-Chloronaphthalene	20.0 µg/L	< 20.0 µg/L
2-Nitroaniline	100 µg/L	< 100 µg/L
Dimethylphthalate	20.0 µg/L	< 20.0 µg/L
Acenaphthylene	20.0 µg/L	< 20.0 µg/L
2,6-Dinitrotoluene	20.0 µg/L	< 20.0 µg/L
3-Nitroaniline	100 µg/L	< 100 µg/L
Acenaphthene	20.0 µg/L	110 µg/L
Dibenzofuran	20.0 µg/L	< 20.0 µg/L
2,4-Dinitrotoluene	20.0 µg/L	87.0 µg/L
Diethylphthalate	20.0 µg/L	< 20.0 µg/L
4-Chlorophenylphenyl ether	20.0 µg/L	< 20.0 µg/L
Fluorene	20.0 µg/L	< 20.0 µg/L
4-Nitroaniline	100 µg/L	< 100 µg/L
N-Nitrosodiphenylamine	20.0 µg/L	< 20.0 µg/L
4-Bromophenylphenyl ether	20.0 µg/L	< 20.0 µg/L
Hexachlorobenzene	20.0 µg/L	< 20.0 µg/L
Phenanthrene	20.0 µg/L	< 20.0 µg/L
Anthracene	20.0 µg/L	< 20.0 µg/L
Di-n-butylphthalate	20.0 µg/L	< 20.0 µg/L
Fluoranthene	20.0 µg/L	< 20.0 µg/L
Pyrene	20.0 µg/L	120 µg/L
Butyl benzyl phthalate	20.0 µg/L	< 20.0 µg/L
3,3'-Dichlorobenzidine	40.0 µg/L	< 40.0 µg/L
Benzo(a)anthracene	20.0 µg/L	< 20.0 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-3
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: 2682-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 7-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	20.0 µg/L	< 20.0 µg/L
1,3-Dichlorobenzene	20.0 µg/L	< 20.0 µg/L
1,4-Dichlorobenzene	20.0 µg/L	88.0 µg/L
Benzyl alcohol	40.0 µg/L	< 40.0 µg/L
1,2-Dichlorobenzene	20.0 µg/L	< 20.0 µg/L
Bis(2-chloroisopropyl)ether	20.0 µg/L	< 20.0 µg/L
N-Nitroso-Di-N-propylamine	20.0 µg/L	86.0 µg/L
Hexachloroethane	20.0 µg/L	< 20.0 µg/L
Nitrobenzene	20.0 µg/L	< 20.0 µg/L
Isophorone	20.0 µg/L	< 20.0 µg/L
Bis(2-chloroethoxy)methane	20.0 µg/L	< 20.0 µg/L
1,2,4-Trichlorobenzene	20.0 µg/L	97.0 µg/L
Naphthalene	20.0 µg/L	< 20.0 µg/L
4-Chloroaniline	40.0 µg/L	< 40.0 µg/L
Hexachlorobutadiene	20.0 µg/L	< 20.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-3
ANALYSIS METHOD : EPA 8270

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/L	85.5 %
2-Fluorophenol (SS)	100 µg/L	96.4 %
2,4,6-Tribromophenol (SS)	100 µg/L	103 %

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-3
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: 2682-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 7-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Phenol	20.0 µg/L	200 µg/L
2-Chlorophenol	20.0 µg/L	180 µg/L
2-Methylphenol	20.0 µg/L	< 20.0 µg/L
4-Methylphenol	20.0 µg/L	< 20.0 µg/L
2-Nitrophenol	20.0 µg/L	< 20.0 µg/L
2,4-Dimethylphenol	20.0 µg/L	< 20.0 µg/L
Benzoic acid	100 µg/L	< 100 µg/L
2,4-Dichlorophenol	20.0 µg/L	< 20.0 µg/L
4-Chloro-3-methylphenol	40.0 µg/L	210 µg/L
2,4,6-Trichlorophenol	20.0 µg/L	< 20.0 µg/L
2,4,5-Trichlorophenol	100 µg/L	< 100 µg/L
2,4-Dinitrophenol	100 µg/L	< 100 µg/L
4-Nitrophenol	100 µg/L	190 µg/L
4,6-Dinitro-2-methylphenol	100 µg/L	< 100 µg/L
Pentachlorophenol	100 µg/L	200 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2695-3
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	45.8 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	46.4 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	48.1 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	46.4 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	102 %
Toluene-d8 (SS)	50.0 µg/L	103 %
Bromofluorobenzene (SS)	50.0 µg/L	104 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-3
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: 2682-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JK
ANALYZED ON : 13-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	45.9 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

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REPORT NUMBER : D93-2695-3
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/L	85.9 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-3
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: 2682-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
2,4-D	1.0 µg/L	11.1 µg/L
2,4-DB	10.0 µg/L	< 10.0 µg/L
2,4,5-T	0.2 µg/L	8.7 µg/L
2,4,5-TP(Silvex)	0.2 µg/L	8.4 µg/L
Dalapon	58.0 µg/L	< 58.0 µg/L
Dicamba	3.0 µg/L	< 3.0 µg/L
Dichloroprop	7.0 µg/L	< 7.0 µg/L
Dinoseb	1.0 µg/L	< 1.0 µg/L
MCPA	2500 µg/L	< 2500 µg/L
MCPP	2000 µg/L	< 2000 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-3
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor	0.03 µg/L	1.92 µg/L
Heptachlor Epoxide	0.83 µg/L	< 0.83 µg/L
Methoxychlor	1.76 µg/L	< 1.76 µg/L
Toxaphene	2.4 µg/L	< 2.4 µg/L
Aroclor-1016	0.09 µg/L	< 0.09 µg/L
Aroclor-1221	0.09 µg/L	< 0.09 µg/L
Aroclor-1232	0.09 µg/L	< 0.09 µg/L
Aroclor-1242	0.09 µg/L	< 0.09 µg/L
Aroclor-1248	0.09 µg/L	< 0.09 µg/L
Aroclor-1254	0.09 µg/L	< 0.09 µg/L
Aroclor-1260	0.09 µg/L	< 0.09 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	0.2 µg/L	50.0 %
2,4,5,6-Tetrachloro-m-xylene (SS)	0.2 µg/L	99.6 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-3
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: 2682-1 (VOA)/2530-2 (ABN)
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 28-FEB-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : RLP
ANALYZED ON : 3-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	0.04 µg/L	1.8 µg/L
Alpha-BHC	0.03 µg/L	< 0.03 µg/L
Beta-BHC	0.06 µg/L	< 0.06 µg/L
Delta-BHC	0.09 µg/L	< 0.09 µg/L
Gamma-BHC(Lindane)	0.04 µg/L	1.98 µg/L
Chlordane	0.14 µg/L	< 0.14 µg/L
4,4'-DDD	0.11 µg/L	< 0.11 µg/L
4,4'-DDE	0.04 µg/L	< 0.04 µg/L
4,4'-DDT	0.12 µg/L	2.86 µg/L
Dieldrin	0.02 µg/L	3.58 µg/L
Endosulfan I	0.14 µg/L	< 0.14 µg/L
Endosulfan II	0.04 µg/L	< 0.04 µg/L
Endosulfan Sulfate	0.66 µg/L	< 0.66 µg/L
Endrin	0.06 µg/L	3.90 µg/L
Endrin Aldehyde	0.23 µg/L	< 0.23 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-2
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Trip Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JKA
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2695-2
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	< 5.0 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	< 5.0 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	< 5.0 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	< 5.0 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	101 %
Toluene-d8 (SS)	50.0 µg/L	108 %
Bromofluorobenzene (SS)	50.0 µg/L	102 %

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BEAUMONT DALLAS HOUSTON

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DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-2
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Trip Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-1
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB11(5-7)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	1.0 mg/L	1.8 mg/L
Dilution Factor : 1 Analyzed using EPA 9252 on 10-MAR-1993 by BWB		
Nitrate-Nitrite Nitrogen	0.01 mg/L	0.02 mg/L
Dilution Factor : 1 Analyzed using EPA 353.3 on 15-MAR-1993 by MKS		
Sulfate	1 mg/L	< 1 mg/L
Dilution Factor : 1 Analyzed using EPA 9038 on 16-MAR-1993 by MKS		

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TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	0.05 mg/L	< 0.05 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 9-MAR-1993 by CCM Analyzed using EPA 6010 on 9-MAR-1993 by KJS		
Lead	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 19-MAR-1993 by CCM Analyzed using EPA 7421 on 22-MAR-1993 by MES		
Antimony	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 9-MAR-1993 by CCM Analyzed using EPA 6010 on 9-MAR-1993 by KJS		
Selenium	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 9-MAR-1993 by CCM Analyzed using EPA 7740 on 15-MAR-1993 by MES		
Thallium	0.002 mg/L	< 0.002 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 19-MAR-1993 by CCM Analyzed using EPA 7841 on 22-MAR-1993 by MES		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

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REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB11(5-7)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 9-MAR-1993 by CCM Analyzed using EPA 6010 on 9-MAR-1993 by KJS		
Arsenic	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 19-MAR-1993 by CCM Analyzed using EPA 7060 on 21-MAR-1993 by MES		
Barium	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 9-MAR-1993 by CCM Analyzed using EPA 6010 on 9-MAR-1993 by KJS		
Cadmium	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 9-MAR-1993 by CCM Analyzed using EPA 6010 on 9-MAR-1993 by KJS		
Chromium	0.05 mg/L	< 0.05 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 9-MAR-1993 by CCM Analyzed using EPA 6010 on 9-MAR-1993 by KJS		
Mercury	0.001 mg/L	< 0.001 mg/L
Dilution Factor : 1 Prepared using EPA 7470 on 9-MAR-1993 by CCM Analyzed using EPA 7470 on 10-MAR-1993 by AH		

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-1
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB11(5-7)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : JKA
ANALYZED ON : 14-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-1
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB11(5-7)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-1
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB11(5-7)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYZED BY : MCS
ANALYZED ON : 16-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 10 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2695-1
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	10.0 µg/L	< 10.0 µg/L
Di-n-octylphthalate	10.0 µg/L	< 10.0 µg/L
Benzo(b)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(k)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(a)pyrene	10.0 µg/L	< 10.0 µg/L
Indeno(1,2,3-cd)pyrene	10.0 µg/L	< 10.0 µg/L
Dibenzo(a,h)anthracene	10.0 µg/L	< 10.0 µg/L
Benzo(g,h,i)perylene	10.0 µg/L	< 10.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/L	89.7 %
2-Fluorobiphenyl (SS)	50.0 µg/L	98.4 %
Terphenyl-d14 (SS)	50.0 µg/L	125 %

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2695-1
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Hexachlorocyclopentadiene	10.0 µg/L	< 10.0 µg/L
2-Chloronaphthalene	10.0 µg/L	< 10.0 µg/L
2-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Dimethylphthalate	10.0 µg/L	< 10.0 µg/L
Acenaphthylene	10.0 µg/L	< 10.0 µg/L
2,6-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
3-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Acenaphthene	10.0 µg/L	< 10.0 µg/L
Dibenzofuran	10.0 µg/L	< 10.0 µg/L
2,4-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
Diethylphthalate	10.0 µg/L	< 10.0 µg/L
4-Chlorophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Fluorene	10.0 µg/L	< 10.0 µg/L
4-Nitroaniline	50.0 µg/L	< 50.0 µg/L
N-Nitrosodiphenylamine	10.0 µg/L	< 10.0 µg/L
4-Bromophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Hexachlorobenzene	10.0 µg/L	< 10.0 µg/L
Phenanthrene	10.0 µg/L	< 10.0 µg/L
Anthracene	10.0 µg/L	< 10.0 µg/L
Di-n-butylphthalate	10.0 µg/L	< 10.0 µg/L
Fluoranthene	10.0 µg/L	< 10.0 µg/L
Pyrene	10.0 µg/L	< 10.0 µg/L
Butyl benzyl phthalate	10.0 µg/L	< 10.0 µg/L
3,3'-Dichlorobenzidine	20.0 µg/L	< 20.0 µg/L
Benzo(a)anthracene	10.0 µg/L	< 10.0 µg/L
Chrysene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-1
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB11(5-7)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : MCS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	10.0 µg/L	< 10.0 µg/L
1,3-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
1,4-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Benzyl alcohol	20.0 µg/L	< 20.0 µg/L
1,2-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroisopropyl)ether	10.0 µg/L	< 10.0 µg/L
N-Nitroso-Di-N-propylamine	10.0 µg/L	< 10.0 µg/L
Hexachloroethane	10.0 µg/L	< 10.0 µg/L
Nitrobenzene	10.0 µg/L	< 10.0 µg/L
Isophorone	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroethoxy)methane	10.0 µg/L	< 10.0 µg/L
1,2,4-Trichlorobenzene	10.0 µg/L	< 10.0 µg/L
Naphthalene	10.0 µg/L	< 10.0 µg/L
4-Chloroaniline	20.0 µg/L	< 20.0 µg/L
Hexachlorobutadiene	10.0 µg/L	< 10.0 µg/L
2-Methylnaphthalene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-1
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/L	89.7 %
2-Fluorophenol (SS)	100 µg/L	88.4 %
2,4,6-Tribromophenol (SS)	100 µg/L	94.5 %

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-1
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB11(5-7)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : MCS
ANALYZED ON : 16-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Phenol	10.0 µg/L	< 10.0 µg/L
2-Chlorophenol	10.0 µg/L	< 10.0 µg/L
2-Methylphenol	10.0 µg/L	< 10.0 µg/L
4-Methylphenol	10.0 µg/L	< 10.0 µg/L
2-Nitrophenol	10.0 µg/L	< 10.0 µg/L
2,4-Dimethylphenol	10.0 µg/L	< 10.0 µg/L
Benzoic acid	50.0 µg/L	< 50.0 µg/L
2,4-Dichlorophenol	10.0 µg/L	< 10.0 µg/L
4-Chloro-3-methylphenol	20.0 µg/L	< 20.0 µg/L
2,4,6-Trichlorophenol	10.0 µg/L	< 10.0 µg/L
2,4,5-Trichlorophenol	50.0 µg/L	< 50.0 µg/L
2,4-Dinitrophenol	50.0 µg/L	< 50.0 µg/L
4-Nitrophenol	50.0 µg/L	< 50.0 µg/L
4,6-Dinitro-2-methylphenol	50.0 µg/L	< 50.0 µg/L
Pentachlorophenol	50.0 µg/L	< 50.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2695-1
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	< 5.0 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	< 5.0 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	< 5.0 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	< 5.0 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	102 %
Toluene-d8 (SS)	50.0 µg/L	104 %
Bromofluorobenzene (SS)	50.0 µg/L	106 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-1
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB11(5-7)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : JKA
ANALYZED ON : 14-MAR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
*Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	23.3 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-1
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/L	105 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-1
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB11(5-7)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 12-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	10	µg/L	<	10	µg/L
2,4-DB	10	µg/L	<	10	µg/L
2,4,5-T	2	µg/L	<	2	µg/L
2,4,5-TP(Silvex)	2	µg/L	<	2	µg/L
Dalapon	58	µg/L	<	58	µg/L
Dicamba	3	µg/L	<	3	µg/L
Dichloroprop	7	µg/L	<	7	µg/L
Dinoseb	1	µg/L	<	1	µg/L
MCPA	2500	µg/L	<	2500	µg/L
MCPP	2000	µg/L	<	2000	µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-1
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	0.83 µg/L	< 0.83 µg/L
Methoxychlor	1.76 µg/L	< 1.76 µg/L
Toxaphene	2.4 µg/L	< 2.4 µg/L
Aroclor-1016	0.09 µg/L	< 0.09 µg/L
Aroclor-1221	0.09 µg/L	< 0.09 µg/L
Aroclor-1232	0.09 µg/L	< 0.09 µg/L
Aroclor-1242	0.09 µg/L	< 0.09 µg/L
Aroclor-1248	0.09 µg/L	< 0.09 µg/L
Aroclor-1254	0.09 µg/L	< 0.09 µg/L
Aroclor-1260	0.09 µg/L	< 0.09 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	0.2 µg/L	48.5 %
2,4,5,6-Tetrachloro-m-xylene (SS)	0.2 µg/L	94.5 %

NDRC Laboratories, Inc. David R. Godwin

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-1
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-SB11(5-7)-EB
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 6-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : RLP
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	0.04 µg/L	< 0.04 µg/L
Alpha-BHC	0.03 µg/L	< 0.03 µg/L
Beta-BHC	0.06 µg/L	< 0.06 µg/L
Delta-BHC	0.09 µg/L	< 0.09 µg/L
Gamma-BHC(Lindane)	0.04 µg/L	< 0.04 µg/L
Chlordane	0.14 µg/L	< 0.14 µg/L
4,4'-DDD	0.11 µg/L	< 0.11 µg/L
4,4'-DDE	0.04 µg/L	< 0.04 µg/L
4,4'-DDT	0.12 µg/L	< 0.12 µg/L
Dieldrin	0.02 µg/L	< 0.02 µg/L
Endosulfan I	0.14 µg/L	< 0.14 µg/L
Endosulfan II	0.04 µg/L	< 0.04 µg/L
Endosulfan Sulfate	0.66 µg/L	< 0.66 µg/L
Endrin	0.06 µg/L	< 0.06 µg/L
Endrin Aldehyde	0.23 µg/L	< 0.23 µg/L
Heptachlor	0.03 µg/L	< 0.03 µg/L

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

ANALYSIS ID	DESCRIPTION
8080_L	Chlorinated Pesticides/PCB, Liquid Matrix
8150_L	Chlorinated Herbicides, Liquid Matrix
8240_FL_L	Volatile Organics, Full List, Liquid Matrix
8270A_FL_L	Acid Extractables, Full List, Liquid Matrix
8270B_FL_L	Base-Neutral Extractables, Full List, Liquid
ABN_TIC	Tentatively Identified Compounds - ABN
CHLORIDE	Chloride, Liquid Matrix, Titration
EXPLOS_L	Explosives, Liquid Matrix, HPLC Method 8330
M_AG_T_L_I	Silver, Total, Liquid, by ICP
M_AS_T_L_F	Arsenic, Total Liquid, By GFAA
M_BA_T_L_I	Barium, Total, Liquid, by ICP
M_CD_T_L_I	Cadmium, Total, Liquid, by ICP
M_CR_T_L_I	Chromium, Total, Liquid, by ICP
M_HG_T_L_V	Mercury, Total, Liquid, by GVAA
M_NI_T_L_I	Nickel, Total, Liquid, by ICP
M_PB_T_L_F	Lead, Total. Liquid, by GFAA
M_SB_T_L_I	Antimony, Total, Liquid, by ICP
M_SE_T_L_F	Selenium, Total, Liquid, by GFAA
M_TL_T_L_F	Thallium, Total, Liquid, by Graphite Furnace
NITR_N_I_L	Nitrate-Nitrite Nitrogen as N, Liquid
SULFATE_L	Sulfate, Liquid Matrix
VOA_TIC	Tentatively Identified Compounds - VOA

CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2695-4 DATE SAMPLED : 8-MAR-1993
ID MARKS : MSD 2682-1 (VOA)/2530-2 (ABN)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_L	TLR	28-FEB-1993	RLP	3-MAR-1993
8150_L	TLR	9-MAR-1993	SRW	12-MAR-1993
8240_FL_L			JK	13-MAR-1993
8270A_FL_L	TLR	7-MAR-1993	BJC	12-MAR-1993
8270B_FL_L	TLR	7-MAR-1993	BJC	12-MAR-1993
EXPLOS_L			JS	15-MAR-1993

SAMPLE ID : D93-2695-5 DATE SAMPLED : 8-MAR-1993
ID MARKS : Method Blank

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_L	TLR	9-MAR-1993	RLP	11-MAR-1993
8150_L	TLR	9-MAR-1993	SRW	11-MAR-1993
8240_FL_L			JK	13-MAR-1993
8270A_FL_L	TLR	9-MAR-1993	MCS	15-MAR-1993
8270B_FL_L	TLR	9-MAR-1993	MCS	15-MAR-1993
ABN_TIC			MCS	15-MAR-1993
EXPLOS_L			JS	15-MAR-1993
VOA_TIC			JKA	13-MAR-1993

SAMPLE ID : D93-2695-6 DATE SAMPLED : 8-MAR-1993
ID MARKS : Blank Spike

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_L	TLR	28-FEB-1993	RLP	3-MAR-1993
8150_L	TLR	9-MAR-1993	SRW	11-MAR-1993

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CUSTOMER : Ebasco
PROJECT : Longhorn-USACE, Tulsa District

SAMPLE ID : D93-2695-1 DATE SAMPLED : 6-MAR-1993
ID MARKS : LH13-SB11(5-7)-EB

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_L	TLR	9-MAR-1993	RLP	11-MAR-1993
8150_L	TLR	9-MAR-1993	SRW	12-MAR-1993
8240_FL_L			JKA	14-MAR-1993
8270A_FL_L	TLR	9-MAR-1993	MCS	16-MAR-1993
8270B_FL_L	TLR	9-MAR-1993	MCS	16-MAR-1993
ABN_TIC			MCS	16-MAR-1993
CHLORIDE			BWB	10-MAR-1993
EXPLOS_L			JS	15-MAR-1993
M_AG_T_L_I	CCM	9-MAR-1993	KJS	9-MAR-1993
M_AS_T_L_F	CCM	19-MAR-1993	MES	21-MAR-1993
M_BA_T_L_I	CCM	9-MAR-1993	KJS	9-MAR-1993
M_CD_T_L_I	CCM	9-MAR-1993	KJS	9-MAR-1993
M_CR_T_L_I	CCM	9-MAR-1993	KJS	9-MAR-1993
M_HG_T_L_V	CCM	9-MAR-1993	AH	10-MAR-1993
M_NI_T_L_I	CCM	9-MAR-1993	KJS	9-MAR-1993
M_PB_T_L_F	CCM	19-MAR-1993	MES	22-MAR-1993
M_SB_T_L_I	CCM	9-MAR-1993	KJS	9-MAR-1993
M_SE_T_L_F	CCM	9-MAR-1993	MES	15-MAR-1993
M_TL_T_L_F	CCM	19-MAR-1993	MES	22-MAR-1993
NITR_N_I_L			MKS	15-MAR-1993
SULFATE_L			MKS	16-MAR-1993
VOA_TIC			JKA	14-MAR-1993

SAMPLE ID : D93-2695-2 DATE SAMPLED : 6-MAR-1993
ID MARKS : Trip Blank

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8240_FL_L			JKA	14-MAR-1993
VOA_TIC			JKA	14-MAR-1993

SAMPLE ID : D93-2695-3 DATE SAMPLED : 8-MAR-1993
ID MARKS : MS 2682-1 (VOA)/2530-2 (ABN)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_L	TLR	28-FEB-1993	RLP	3-MAR-1993
8150_L	TLR	9-MAR-1993	SRW	12-MAR-1993
8240_FL_L			JK	13-MAR-1993
8270A_FL_L	TLR	7-MAR-1993	BJC	12-MAR-1993
8270B_FL_L	TLR	7-MAR-1993	BJC	12-MAR-1993
EXPLOS_L			JS	15-MAR-1993

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2695
REPORT DATE: 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
Dallas, TX 75201
ATTENTION : Ms. Kay Hawthorne

PROJECT : Longhorn

DATE SAMPLED : 6-MAR-1993

CASE NARRATIVE COMMENTS:

Chloroform was found present in the Volatile Organics analysis, EPA 8240 in the equipment blank for soil boring, LH13-SB11(5-7)-EB (D93-2695-1).

The matrix spike and matrix spike duplicate for the Semi-Volatile Organics analysis, EPA 8270 has several compounds outside the quality criteria set for this method. The laboratory control sample analyzed with the samples had acceptable recoveries and was used to validate the data of the batch.

No further problems were encountered during the sample analysis for this project.

Please refer to the attached Case Narrative Summary for a comparison of sample identifications and analytical requests.

NDRC Laboratories, Inc. Belinda Feuerbacher

Belinda Feuerbacher
Project Manager

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-5
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-5
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYZED BY : JKA
ANALYZED ON : 13-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/L

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-6
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Blank Spike
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 28-FEB-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : RLP
ANALYZED ON : 3-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	0.04 µg/L	0.95 µg/L
Alpha-BHC	0.03 µg/L	< 0.03 µg/L
Beta-BHC	0.06 µg/L	< 0.06 µg/L
Delta-BHC	0.09 µg/L	< 0.09 µg/L
Gamma-BHC(Lindane)	0.04 µg/L	0.98 µg/L
Chlordane	0.14 µg/L	< 0.14 µg/L
4,4'-DDD	0.11 µg/L	< 0.11 µg/L
4,4'-DDE	0.04 µg/L	< 0.04 µg/L
4,4'-DDT	0.12 µg/L	1.99 µg/L
Dieldrin	0.02 µg/L	1.85 µg/L
Endosulfan I	0.14 µg/L	< 0.14 µg/L
Endosulfan II	0.04 µg/L	< 0.04 µg/L
Endosulfan Sulfate	0.66 µg/L	< 0.66 µg/L
Endrin	0.06 µg/L	1.99 µg/L
Endrin Aldehyde	0.23 µg/L	< 0.23 µg/L
Heptachlor	0.03 µg/L	1.07 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-2695-6
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	0.83 µg/L	< 0.83 µg/L
Methoxychlor	1.76 µg/L	< 1.76 µg/L
Toxaphene	2.4 µg/L	< 2.4 µg/L
Aroclor-1016	0.09 µg/L	< 0.09 µg/L
Aroclor-1221	0.09 µg/L	< 0.09 µg/L
Aroclor-1232	0.09 µg/L	< 0.09 µg/L
Aroclor-1242	0.09 µg/L	< 0.09 µg/L
Aroclor-1248	0.09 µg/L	< 0.09 µg/L
Aroclor-1254	0.09 µg/L	< 0.09 µg/L
Aroclor-1260	0.09 µg/L	< 0.09 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	0.2 µg/L	87.9 %
2,4,5,6-Tetrachloro-m-xylene (SS)	0.2 µg/L	102 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-6
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Blank Spike
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 9-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 11-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
2,4-D	1.0 µg/L	5.2 µg/L
2,4-DB	10.0 µg/L	< 10.0 µg/L
2,4,5-T	0.2 µg/L	3.9 µg/L
2,4,5-TP(Silvex)	0.2 µg/L	4.0 µg/L
Dalapon	58.0 µg/L	< 58.0 µg/L
Dicamba	3.0 µg/L	< 3.0 µg/L
Dichloroprop	7.0 µg/L	< 7.0 µg/L
Dinoseb	1.0 µg/L	< 1.0 µg/L
MCPA	2500 µg/L	< 2500 µg/L
MCPP	2000 µg/L	< 2000 µg/L

015175

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-2695-6
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/L	73.7 %

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 8-MAR-1993

REPORT NUMBER : D93-2695-6
REPORT DATE : 26-MAR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Blank Spike
PROJECT : Longhorn-USACE, Tulsa District
DATE SAMPLED : 8-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : JS
ANALYZED ON : 15-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2695

REPORT DATE: 26-MAR-1993

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Arsenic	Mercury	Selenium	Chloride	Nitrate	Sulfate
BATCH No.	538	555	538	----	----	----
MATRIX	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid
PREP METHOD	EPA 7062	EPA 7470	EPA 7740	----	----	----
PREP DATE	3/9/93	3/9/93	3/9/93	----	----	----
PREP TECHNICIAN	CCM	CCM	CCM	----	----	----
ANALYSIS METHOD	EPA 7062	EPA 7470	EPA 7740	EPA 9252	EPA 353.3	EPA 9038
ANALYSIS DATE	3/9/93	3/10/93	3/15/93	3/10/93	3/15/93	3/16/93
ANALYST	AH	AH	MES	BWB	MKS	MKS
METHOD BLANK	< 0.01 mg/L	< 0.001 mg/L	< 0.01 mg/L	< 1.0 mg/L	< 0.01 mg/L	< 1.0 mg/L
MS % RECOVERY	84	109	---- *	100	82	99
LCS % RECOVERY	99	113	100	100	101	97
DUPLICATE RPD	1	----	----	0.0	6.2	2.3
MS/MSD RPD	4	3	----	0.0	0.7	1.4
SPIKE LEVEL	0.030 mg/L	0.025 mg/L	0.030 mg/L	868.5 mg/L	1.0 mg/L	40 mg/L
SPIKED SAMPLE ID No.	D93-2670-1	D93-2587-1	D93-2670-1	D93-2694-1	D93-2806-5	D93-2695-1
DUPLICATE SAMPLE ID No.	D93-2670-1	D93-2587-1	D93-2670-1	D93-2694-1	D93-2806-5	D93-2693-3

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS: * Strong matrix interference. MS and MSD spikes were not recovered.

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BEAUMONT DALLAS HOUSTON

015176

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2695

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Arsenic	Lead	Thallium	Silver
BATCH No.	755	794	794	037
MATRIX	Liquid	Liquid	Liquid	Liquid
PREP METHOD	EPA 7060	EPA 3015	EPA 3015	EPA 7760
PREP DATE	3/19/93	3/19/93	3/19/93	3/9/93
PREP TECHNICIAN	CCM	CCM	CCM	CCM
ANALYSIS METHOD	EPA 7060	EPA 7421	EPA 7841	EPA 6010
ANALYSIS DATE	3/21/93	3/22/93	3/22/93	3/9/93
ANALYST	RKD/MES	RKD/MES	RKD/MES	KJS
METHOD BLANK	< 0.01 mg/L	< 0.005 mg/L	< 0.002 mg/L	< 0.01 mg/L
MS % RECOVERY	96	102	109	88
LCS % RECOVERY	102	104	97	103
DUPLICATE RPD	----	----	----	----
MS/MSD RPD	1	3	10	5.5
SPIKE LEVEL	0.030 mg/L	0.030 mg/L	0.030 mg/L	0.1 mg/L
SPIKED SAMPLE ID No.	D93-3250-3	D93-2587-1	D93-2587-1	D93-2670-1
DUPLICATE SAMPLE ID No.	D93-3205-3	D93-2587-1	D93-2587-1	D93-2670-1

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

015179

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993 REPORT NUMBER: D93-2695

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Gamma-BHC	Heptachlor	Aldrin	Dieldrin	Endrin	pp-DDT
BATCH No.	001	001	001	001	001	001
MATRIX	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid
PREP METHOD	EPA 3520	EPA 3520	EPA 3520	EPA 3520	EPA 3520	EPA 3520
PREP DATE	2/28/93	2/28/93	2/28/93	2/28/93	2/28/93	2/28/93
PREP TECHNICIAN	TLR	TLR	TLR	TLR	TLR	TLR
ANALYSIS METHOD	EPA 8080	EPA 8080	EPA 8080	EPA 8080	EPA 8080	EPA 8080
ANALYSIS DATE	3/3/93	3/3/93	3/3/93	3/3/93	3/3/93	3/3/93
ANALYST	RLP	RLP	RLP	RLP	RLP	RLP
METHOD BLANK	< 0.04 µg/L	< 0.03 µg/L	< 0.04 µg/L	< 0.02 µg/L	< 0.06 µg/L	< 0.12 µg/L
MS % RECOVERY	99.2	96.0	87.5	89.6	97.4	71.6
LCS % RECOVERY	98.4	107	94.7	92.6	99.3	99.3
DUPLICATE RPD	----	----	----	----	----	----
MS/MSD RPD	24.4	16.7	2.10	23.6	23.8	4.6
SPIKE LEVEL	2.0 µg/L	2.0 µg/L	2.0 µg/L	4.0 µg/L	4.0 µg/L	4.0 µg/L
SPIKED SAMPLE ID No.	D93-2221-1	D93-2221-1	D93-2221-1	D93-2221-1	D93-2221-1	D93-2221-1
DUPLICATE SAMPLE ID No.	----	----	----	----	----	----

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

015180

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993 REPORT NUMBER: D93-2695

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	2,4-D	2,4,5-TP	2,4,5-T
BATCH No.	002	002	002
MATRIX	Liquid	Liquid	Liquid
PREP METHOD	EPA 8150	EPA 8150	EPA 8150
PREP DATE	3/9/93	3/9/93	3/9/93
PREP TECHNICIAN	TLR	TLR	TLR
ANALYSIS METHOD	EPA 8150	EPA 8150	EPA 8150
ANALYSIS DATE	3/12/93	3/12/93	3/12/93
ANALYST	SRW	SRW	SRW
METHOD BLANK	< 10.0 µg/L	< 2.0 µg/L	< 2.0 µg/L
MS % RECOVERY	111	83.9	87.1
LCS % RECOVERY	104	79.8	78.4
DUPLICATE RPD	----	----	----
MS/MSD RPD	19.3	5.6	9.9
SPIKE LEVEL	10 µg/L	10 µg/L	10 µg/L
SPIKED SAMPLE ID No.	D93-2683-1	D93-2683-1	D93-2683-1
DUPLICATE SAMPLE ID No.	----	----	----

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

015181

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2695

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	HMX	RDX	TNT	Nitrobenzene	2,6-DNT	m-Nitrotoluene
BATCH No.	----	----	----	----	----	----
MATRIX	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid
PREP METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330
PREP DATE	3/11/93	3/11/93	3/11/93	3/11/93	3/11/93	3/11/93
PREP TECHNICIAN	LR	LR	LR	LR	LR	LR
ANALYSIS METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330	EPA 8330
ANALYSIS DATE	3/15/93	3/15/93	3/15/93	3/15/93	3/15/93	3/15/93
ANALYST	JS	JS	JS	JS	JS	JS
METHOD BLANK	< 0.1 µg/L	< 0.1 µg/L	< 0.1 µg/L	< 0.1 µg/L	< 0.1 µg/L	< 0.1 µg/L
MS % RECOVERY	120	126	93	96	92	79
LCS % RECOVERY	----	----	----	----	----	----
DUPLICATE RPD	----	----	----	----	----	----
MS/MSD RPD	13.3	22.0	13.8	11.0	12.7	10.7
SPIKE LEVEL	6.25 µg/L	6.25 µg/L	6.25 µg/L	6.25 µg/L	6.25 µg/L	6.25 µg/L
SPIKED SAMPLE ID No.	Reagent Water	Reagent Water	Reagent Water	Reagent Water	Reagent Water	Reagent Water
DUPLICATE SAMPLE ID No.	----	----	----	----	----	----

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 8-MAR-1993

REPORT NUMBER: D93-2695

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ICP METALS SCAN

BATCH No.	537	MATRIX	Liquid
PREP METHOD	EPA 3015	ANALYSIS METHOD	EPA 6010
PREP DATE	3/9/93	ANALYSIS DATE	3/9/93
PREP TECHNICIAN	CCM	ANALYST	KJS
SPIKED SAMPLE ID No.	D93-2670-1	DUPLICATE SAMPLE ID No.	D93-2670-1

ANALYTE	Barium	Cadmium	Chromium	Nickel
METHOD BLANK	< 0.01 mg/L	< 0.005 mg/L	< 0.05 mg/L	< 0.05 mg/L
MS % RECOVERY	101	90	90	78
LCS % RECOVERY	97	92	89	91
DUPLICATE RPD	1.0	----	----	0.7
MS/MSD RPD	0.2	0.7	3.1	0.8
SPIKE LEVEL	1 mg/L	1 mg/L	1 mg/L	1 mg/L

ANALYTE	Lead	Antimony	Thallium
METHOD BLANK	< 0.02 mg/L	< 0.005 mg/L	< 0.01 mg/L
MS % RECOVERY	99	86	84
LCS % RECOVERY	98	82	88
DUPLICATE RPD	---	----	----
MS/MSD RPD	7.6	3.4	1.3
SPIKE LEVEL	1 mg/L	1 mg/L	1 mg/L

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name:New CLP Forms Contract:8270

Lab Code: HP002 Case No.: AD-76 SAS No.: 3/7/93 SDG No.: 3/12/93

Matrix Spike - EPA Sample No.: 93-2530-2

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
Phenol	200.00	0.00	200.00	100		12-110
2-Chlorophenol	200.00	0.00	180.00	90		27-123
1,4-Dichlorobenzene	100.00	0.00	88.00	88		36- 97
N-Nitroso-di-n-prop.(1)	100.00	18.00	86.00	68		41-116
1,2,4-Trichlorobenzene	100.00	0.00	97.00	97		39- 98
4-Chloro-3-methylphenol	200.00	0.00	210.00	100	*	23- 97
Acenaphthene	100.00	0.00	110.00	110		46-118
4-Nitrophenol	200.00	0.00	190.00	97	*	10- 80
2,4-Dinitrotoluene	100.00	0.00	87.00	87		24- 96
Pentachlorophenol	200.00	0.00	200.00	100		9-103
Pyrene	100.00	0.00	120.00	120		26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
Phenol	200.00	190.00	97		3		42	12-110
2-Chlorophenol	200.00	190.00	93		3		40	27-123
1,4-Dichlorobenzene	100.00	91.00	91		3		28	36- 97
N-Nitroso-di-n-prop.(1)	100.00	78.00	60		12		38	41-116
1,2,4-Trichlorobenzene	100.00	95.00	95		2		28	39- 98
4-Chloro-3-methylphenol	200.00	200.00	98	*	2		42	23- 97
Acenaphthene	100.00	110.00	110		0		31	46-118
4-Nitrophenol	200.00	200.00	100	*	3		50	10- 80
2,4-Dinitrotoluene	100.00	90.00	90		3		38	24- 96
Pentachlorophenol	200.00	200.00	98		2		50	9-103
Pyrene	100.00	120.00	120		0		31	26-127

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

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

RPD: 0 out of 11 outside limits
Spike Recovery: 4 out of 22 outside limits

COMMENTS: SW-846 EPA METHOD 8270

3C
LABORATORY CONTROL SAMPLE

Lab Name:New CLP Forms Contract:8270/APP IX

Lab Code: HP001 Case No.: AD-76 SAS No.: 3/7/93 SDG No.: 3/8/93

Matrix Spike - EPA Sample No.: BNA LCS

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	#	QC LIMITS REC.
Phenol	100.00	75.00	75		12- 89
2-Chlorophenol	100.00	77.00	77		27-123
1,4-Dichlorobenzene	50.00	43.00	86		36- 97
N-Nitroso-di-n-prop.(1)	50.00	41.00	83		41-116
1,2,4-Trichlorobenzene	50.00	48.00	96		39- 98
4-Chloro-3-methylphenol	100.00	93.00	93		23- 97
Acenaphthene	50.00	49.00	99		46-118
4-Nitrophenol	100.00	100.00	100	*	10- 80
2,4-Dinitrotoluene	50.00	42.00	85		24- 96
Pentachlorophenol	100.00	110.00	110	*	9-103
Pyrene	50.00	53.00	110		26-127

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

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

Spike Recovery: 2 out of 11 outside limits

COMMENTS: SW-846 EPA METHOD 8270

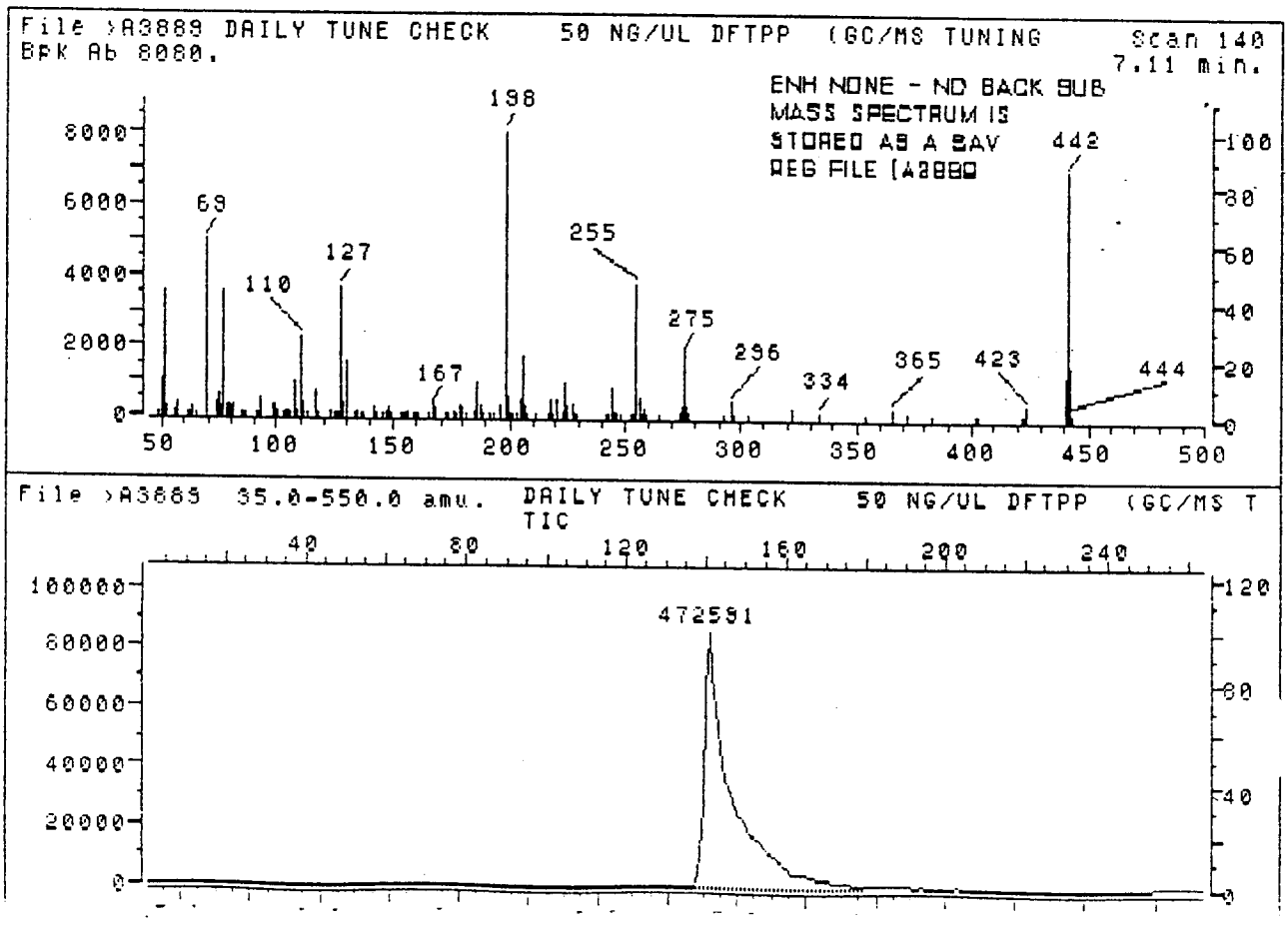
015185

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	43.11	43.11	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	61.89	61.89	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	44.75	44.75	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.49	6.49	Ok
275	10-30% of mass 198	23.08	23.08	Ok
365	Greater than 1% of mass 198	2.72	2.72	Ok
441	0-100% of mass 443	13.75	79.81	Ok
442	Greater than 40% of mass 198	87.09	87.09	Ok
443	17-23% of mass 442	17.23	19.78	Ok

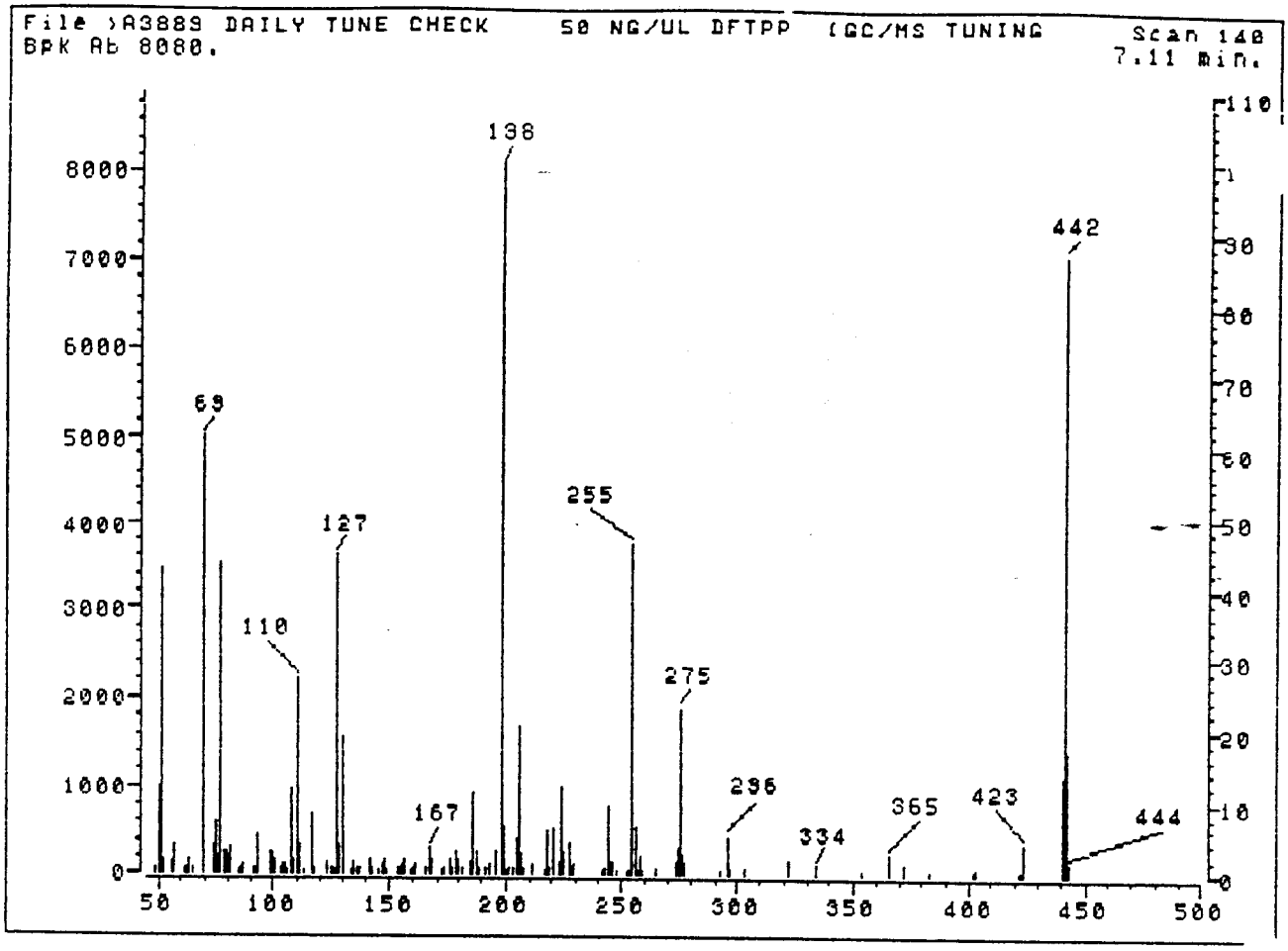
Injection Date: 03/07/93
Injection Time: 12:04
Data File: >A3889
Scan: 140



Instrument ID: ABN1 Analyzed on: 3/07/93 12:04

015136

015187



Instrument ID: ABN1 Analyzed on: 3/07/93 12:04

>A3889 DAILY TUNE CHECK 50 NG/UL DFTPP (GC/MS TUNING STANDARD)

015183

140 NRM

)

ile: >A3889 Scan #: 140 Retn. time: 7.11

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.90	.384	91.05	.743	140.95	1.894	198.00	100.000	256.00	6.460
38.00	.495	92.15	.829	141.95	.644	199.00	6.485	257.00	.507
39.00	3.601	93.05	5.532	145.95	.384	200.00	.582	258.00	2.426
40.00	.656	98.00	3.020	147.05	1.213	201.60	.619	259.00	.495
41.00	.446	99.00	2.946	148.05	1.955	203.00	.594	265.00	.891
43.00	.582	100.00	.470	149.05	.495	204.10	2.958	273.10	1.559
43.90	.879	101.00	1.745	153.05	.718	205.00	4.901	274.00	3.329
49.10	.780	103.00	.792	153.95	.743	206.10	20.619	275.10	23.082
50.10	12.290	104.00	1.262	155.05	1.002	207.10	2.785	276.10	2.809
51.10	43.106	105.00	1.126	156.05	1.621	208.00	.606	277.10	1.411
52.10	2.191	105.90	.483	158.95	.507	211.10	1.015	292.95	.446
55.10	.470	107.00	11.646	159.95	.718	216.05	.507	295.95	5.285
56.00	1.386	108.10	1.720	160.95	.941	216.95	5.854	296.95	.854
57.00	3.849	110.00	27.265	165.05	.656	218.05	.631	303.05	.681
61.05	.619	111.00	3.960	167.05	3.589	221.05	6.002	323.15	1.993
61.95	.644	112.00	.520	168.05	2.129	223.05	1.312	334.10	1.139
63.05	1.968	116.20	.705	171.95	.347	224.05	11.918	354.10	.569
65.05	.854	117.00	8.069	174.00	.780	225.05	3.218	365.00	2.723
68.95	61.894	118.00	.755	175.10	1.671	227.05	4.171	372.05	1.077
74.05	3.960	123.10	1.448	176.00	.483	228.05	.644	383.05	.322
.95	7.290	124.00	.693	177.00	.755	229.05	1.052	402.05	.458
6.05	2.413	125.10	.656	179.00	3.205	242.05	.483	403.05	.780
77.05	43.688	125.90	.421	180.00	2.215	243.05	.743	421.10	.495
78.05	2.983	127.00	44.752	181.10	.891	244.05	9.666	422.00	.483
79.05	3.131	128.10	3.725	185.00	1.374	245.05	1.559	423.10	4.257
80.05	2.525	129.00	19.072	186.00	11.213	246.05	1.510	424.00	.817
81.05	3.329	130.00	1.312	187.00	3.144	249.05	.396	441.10	13.750
83.95	.384	134.10	.470	189.00	.619	253.00	.285	442.10	87.092
85.05	.792	135.00	1.411	191.90	.829	254.00	.421	443.10	17.228
86.05	1.002	135.95	.644	193.10	.978	255.00	46.238	444.05	1.485
87.05	.582	136.95	.644	196.10	3.045				

Instrument ID: ABN1 Analyzed on: 3/07/93 12:04

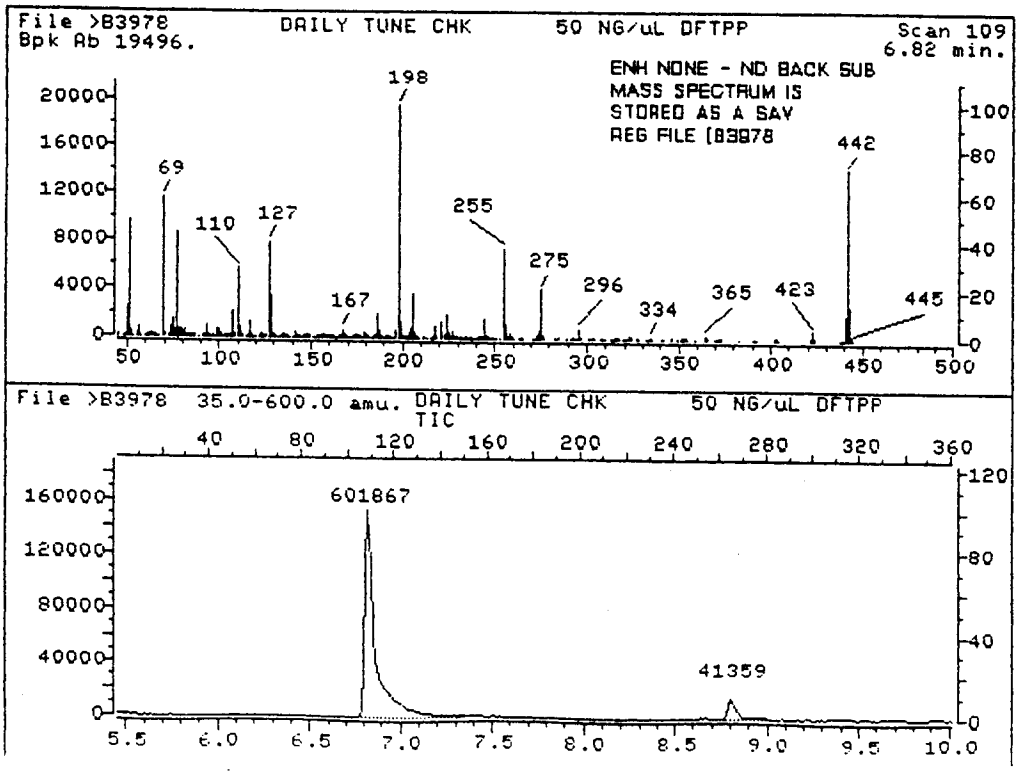
015185

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

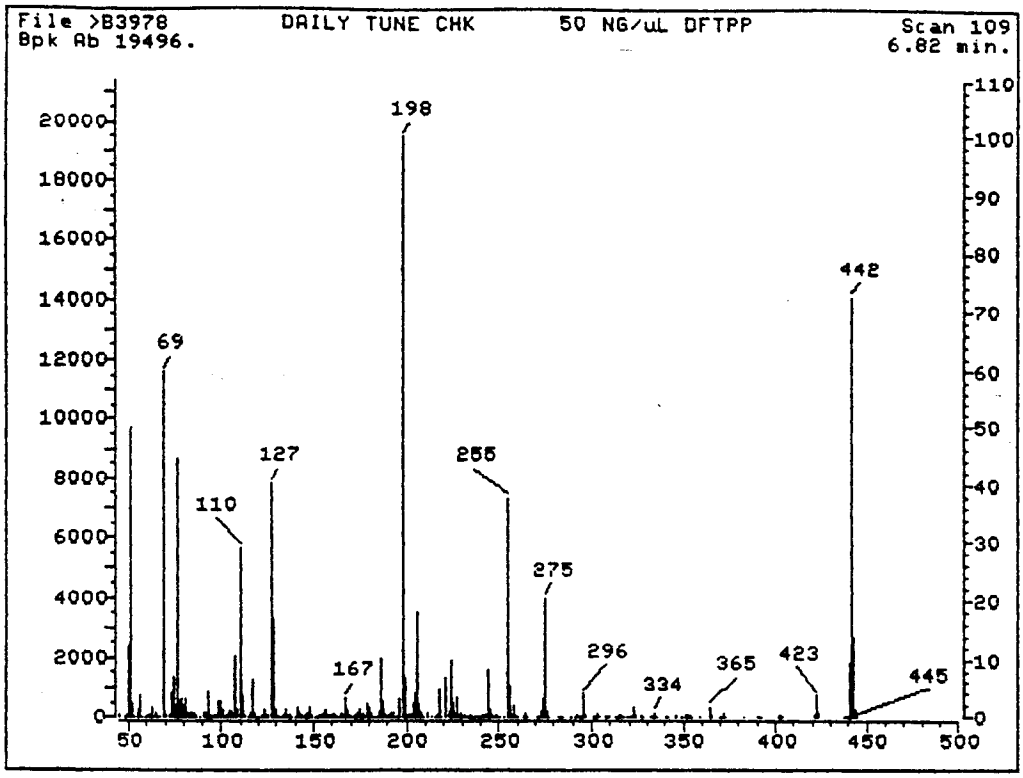
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	49.67	49.67	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	59.52	59.52	Ok
70	Less than 2% of mass 69	.27	.46	Ok
127	40-60% of mass 198	40.23	40.23	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.81	6.81	Ok
275	10-30% of mass 198	20.40	20.40	Ok
365	Greater than 1% of mass 198	1.86	1.86	Ok
441	0-100% of mass 443	9.56	68.80	Ok
442	Greater than 40% of mass 198	72.45	72.45	Ok
443	17-23% of mass 442	13.89	19.17	Ok

Injection Date: 03/12/93
Injection Time: 11:36
Data File: >B3978
Scan: 109



Instrument ID: ABN2 Analyzed on: 3/12/93 11:36

015130



Instrument ID: ABN2 Analyzed on: 3/12/93 11:36

015191

>B3978 DAILY TUNE CHK 50 NG/uL DFTPP
109 NRM

File: >B3978 Scan #: 109 Retn. time: 6.82

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
35.90	.082	102.95	.580	165.00	.646	227.90	.554	303.95	.118
36.90	.231	103.95	1.031	165.90	.467	228.90	.800	307.95	.072
38.10	.713	104.95	1.041	167.00	3.437	229.90	.113	308.85	.036
39.10	5.232	105.95	.354	168.00	1.570	230.90	.318	309.85	.041
40.10	.241	106.95	10.710	169.00	.308	231.80	.077	312.55	.051
41.10	.282	108.05	1.600	170.00	.113	233.00	.041	312.85	.051
42.00	.092	110.05	29.093	171.00	.138	234.00	.246	313.95	.190
43.10	.441	111.05	3.703	172.00	.297	234.90	.328	314.85	.467
44.00	.564	112.05	.477	173.00	.405	235.90	.174	315.95	.287
45.00	.272	114.65	.051	174.00	.744	237.00	.236	316.85	.056
48.00	.056	116.05	.626	174.95	1.272	237.80	.041	319.85	.036
49.00	.513	116.95	6.601	176.05	.477	239.00	.138	320.85	.159
50.10	12.310	117.95	.657	176.95	.698	239.80	.154	322.05	.097
51.10	49.672	118.85	.077	177.75	.195	241.00	.308	322.90	1.652
52.10	2.288	120.05	.097	178.95	2.452	241.90	.539	323.90	.333
53.10	.174	122.05	.544	179.95	1.636	243.00	.487	326.80	.256
55.10	.462	122.95	1.272	180.85	.816	243.90	8.268	327.90	.128
56.00	1.503	123.85	.410	181.75	.164	244.90	1.164	331.90	.087
57.00	3.867	125.00	.533	182.85	.092	245.90	1.334	333.00	.118
58.10	.200	127.00	40.234	184.05	.231	246.90	.308	333.90	.790
60.00	.128	128.00	3.016	184.95	1.195	247.80	.087	334.90	.236
61.10	.580	128.90	17.075	185.95	10.279	248.90	.364	336.00	.056
62.00	.554	129.90	1.452	186.95	2.924	249.80	.087	340.90	.164
63.10	1.667	130.80	.256	187.95	.256	250.80	.082	341.70	.067
64.00	.251	132.00	.128	188.95	.513	252.90	.180	345.80	.297
65.10	.892	132.90	.144	189.95	.108	254.90	37.654	349.80	.036
66.00	.072	134.00	.472	191.05	.318	255.90	5.447	352.00	.492
67.10	.097	135.00	1.323	191.85	.780	256.90	.415	352.90	.277
69.00	59.520	136.00	.585	192.95	.810	257.90	1.959	353.90	.533
70.10	.272	137.00	.585	193.95	.169	259.00	.256	355.00	.149
73.10	.364	137.70	.092	194.95	.185	259.90	.036	358.90	.056
74.00	4.026	138.00	.097	195.95	3.006	260.80	.072	364.90	1.857
75.05	6.971	138.20	.103	197.95	100.000	263.80	.072	365.90	.318
76.05	2.041	139.90	.200	198.85	6.812	264.90	.728	369.80	.077
77.05	44.250	141.00	1.908	199.95	.492	265.90	.144	370.90	.138
78.05	2.734	142.00	.687	201.25	.528	270.70	.087	372.00	.892
78.95	3.206	143.00	.385	201.45	.528	272.00	.128	372.95	.251
79.95	2.226	144.00	.113	202.85	.349	272.90	1.216	382.85	.205
80.95	3.252	145.90	.313	203.95	2.375	273.95	3.196	389.85	.128
81.95	.851	147.00	.923	204.95	4.196	274.95	20.404	390.95	.092
83.05	.677	147.90	1.770	205.95	18.029	275.85	2.765	391.95	.046
83.95	.154	149.00	.441	206.95	2.621	276.85	1.211	401.85	.369
84.95	.616	151.10	.200	207.95	.595	277.85	.200	402.95	.431
85.95	.821	151.30	.195	208.95	.164	282.95	.164	403.95	.118
86.95	.354	151.60	.190	211.05	.769	283.65	.092	420.95	.528
88.95	.164	153.00	.549	212.95	.077	284.95	.246	421.95	.467
90.95	.759	154.00	.539	214.85	.144	288.85	.067	422.80	3.765
91.95	.631	155.00	.887	215.95	.333	291.95	.087	423.80	.754
92.95	4.534	156.00	1.529	216.95	4.652	292.85	.292	437.40	.031
93.95	.405	157.00	.359	217.95	.549	293.65	.046	437.60	.031
95.15	.138	158.00	.364	218.95	.113	294.95	.123	438.90	.026
95.95	.267	159.00	.297	220.95	6.714	295.85	4.067	439.40	.036

97.95	2.929	160.90	.928	223.90	9.817	300.75	.072	441.90	72.4	01519
98.95	2.780	161.90	.292	224.90	2.472	302.05	.082	442.90	13.890	
100.05	.318	163.10	.067	225.90	.267	302.95	.621	443.90	1.328	
101.05	1.452	164.10	.138	226.90	3.421	303.75	.113	445.00	.077	
101.85	.087									

Instrument ID: ABN2 Analyzed on: 3/12/93 11:36

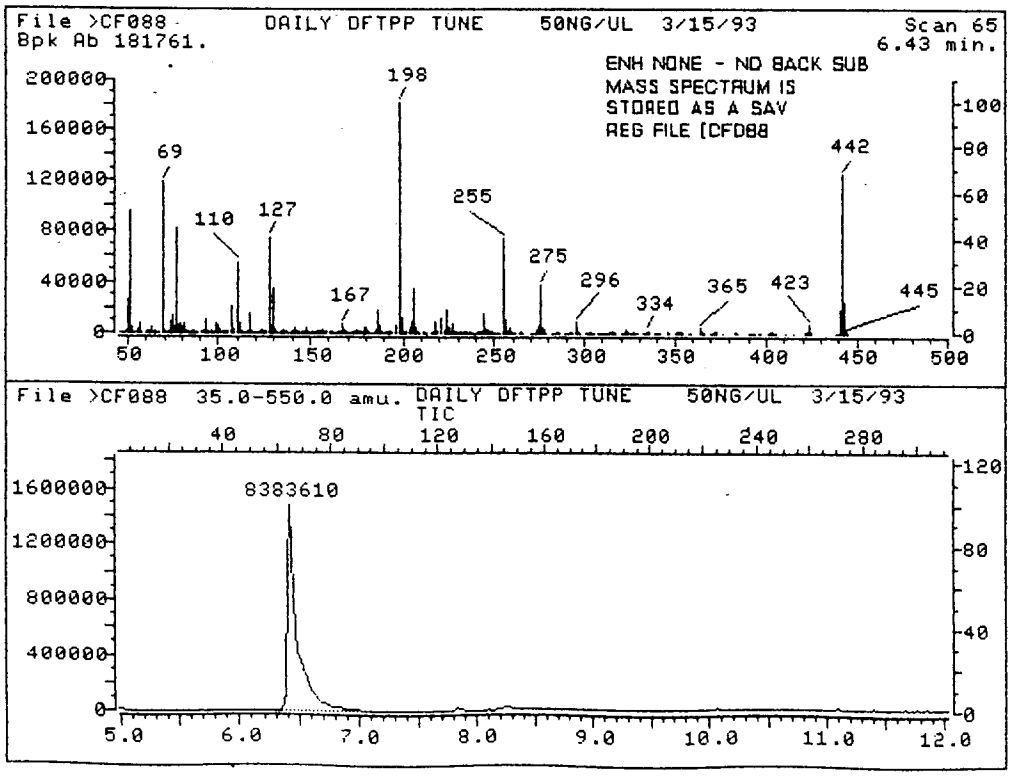
015193

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

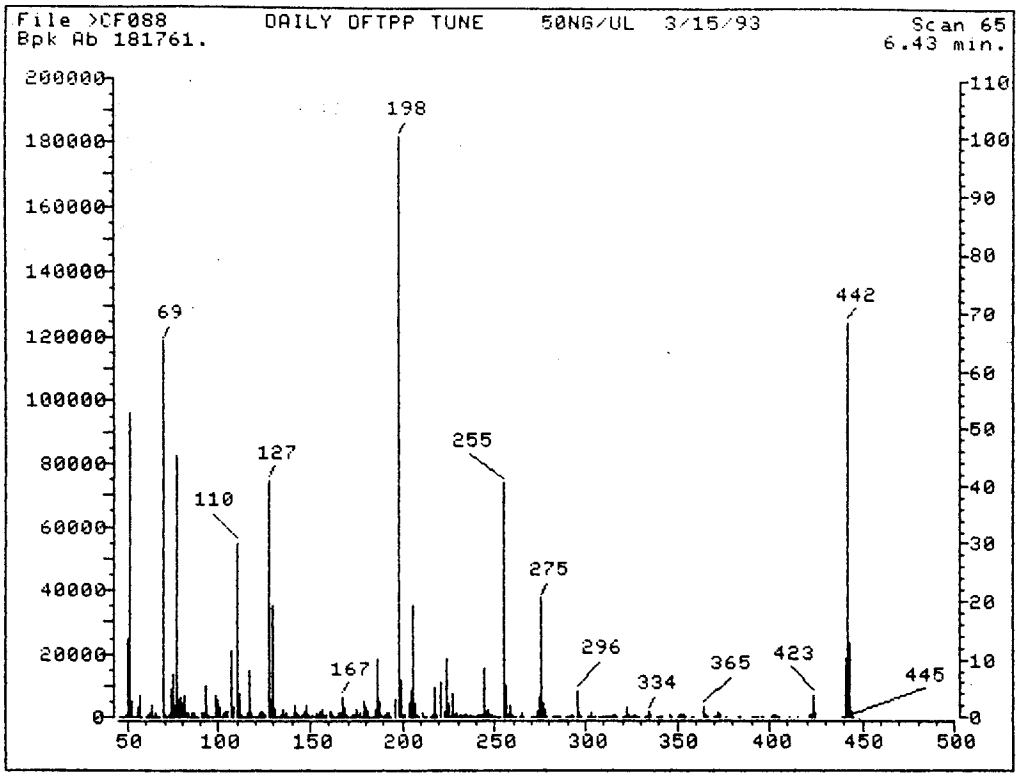
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	52.76	52.76	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	65.25	65.25	Ok
70	Less than 2% of mass 69	.27	.42	Ok
127	40-60% of mass 198	41.07	41.07	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.46	6.46	Ok
275	10-30% of mass 198	20.59	20.59	Ok
365	Greater than 1% of mass 198	1.90	1.90	Ok
441	0-100% of mass 443	10.13	78.91	Ok
442	Greater than 40% of mass 198	68.44	68.44	Ok
443	17-23% of mass 442	12.83	18.75	Ok

Injection Date: 03/15/93
Injection Time: 12:36
Data File: >CF088
Scan: 65



Instrument ID: ABN3 Analyzed on: 3/15/93 12:36

015194



Instrument ID: ABN3 Analyzed on: 3/15/93 12:36

015195

>CF088 DAILY DFTPP TUNE 50NG/UL 3/15/93
65 NRM

File: >CF088 Scan #: 65 Retn. time: 6.43

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.05	.068	103.00	.607	168.05	1.664	240.10	.111	317.05	.078
37.05	.270	104.00	1.015	169.05	.300	241.00	.261	319.95	.029
38.00	.762	105.00	1.043	170.05	.133	242.00	.483	321.05	.191
39.00	4.979	107.10	11.554	171.05	.181	243.10	.566	322.05	.087
40.00	.529	108.00	1.807	172.05	.316	244.10	8.552	323.05	1.712
41.00	.238	110.10	30.286	173.05	.419	245.10	1.190	324.05	.331
42.10	.044	111.10	4.077	174.05	.779	246.00	1.583	324.95	.039
43.00	.108	112.10	.419	175.05	1.392	247.00	.292	326.05	.032
44.00	.283	113.05	.150	176.05	.513	248.00	.080	327.05	.267
44.90	.118	113.65	.025	177.05	.715	248.40	.057	328.05	.176
46.00	.033	113.95	.032	178.05	.209	249.00	.292	329.15	.049
47.00	.041	115.15	.057	179.05	2.635	250.10	.065	332.05	.125
47.80	.051	116.05	.741	180.05	1.901	251.10	.064	333.15	.180
48.10	.052	116.95	8.106	181.05	.952	252.10	.092	334.05	.992
49.10	.429	118.05	.623	182.05	.138	253.00	.142	335.05	.293
50.00	13.715	119.05	.093	183.05	.100	255.00	40.515	339.00	.022
51.10	52.755	119.95	.151	184.05	.200	256.10	5.530	340.00	.032
52.10	2.647	121.05	.066	185.05	1.372	257.10	.438	341.00	.212
53.10	.131	122.05	.879	186.05	10.251	258.10	2.208	341.90	.051
53.90	.036	123.05	1.231	187.05	2.791	259.10	.311	346.00	.290
55.00	.338	124.05	.630	188.00	.297	260.10	.075	347.00	.054
56.00	1.676	125.05	.557	189.00	.569	261.00	.087	351.00	.034
57.00	3.798	127.05	41.074	190.10	.115	264.05	.083	352.10	.558
58.10	.179	128.05	3.181	191.00	.268	265.05	.847	353.00	.357
60.00	.037	129.05	19.441	192.00	.827	266.05	.127	354.10	.558
61.10	.590	130.05	1.489	193.10	.853	270.05	.041	355.10	.113
62.10	.629	131.05	.309	194.00	.176	271.05	.117	358.00	.013
63.05	1.992	132.05	.136	196.00	2.983	272.05	.105	359.10	.047
63.95	.209	133.05	.078	198.00	100.000	273.05	1.220	364.95	1.902
65.05	.864	134.05	.454	199.00	6.465	274.05	3.315	365.95	.279
66.05	.055	135.05	1.481	200.00	.386	275.05	20.594	367.15	.021
67.05	.087	136.05	.574	201.50	.496	276.05	2.517	370.05	.041
68.95	65.246	137.05	.597	203.10	.528	277.05	1.425	370.95	.153
70.05	.274	138.00	.130	204.00	2.481	278.05	.229	372.05	.860
70.95	.052	139.00	.108	205.10	4.491	279.05	.064	373.05	.279
71.85	.034	140.00	.245	206.10	19.498	282.05	.030	376.45	.012
73.05	.291	141.00	2.030	207.10	2.508	283.05	.151	383.05	.243
74.05	4.683	142.00	.744	208.10	.580	284.05	.098	384.05	.060
75.05	7.668	143.00	.473	209.00	.178	285.05	.245	390.00	.133
76.05	2.236	144.00	.120	211.00	.698	286.05	.050	391.10	.090
77.05	45.339	145.10	.118	212.10	.099	289.00	.087	392.00	.085
78.05	2.962	146.00	.336	213.05	.046	290.00	.068	393.10	.025
79.05	3.619	147.00	1.019	215.05	.189	291.10	.048	395.70	.015
80.05	2.618	148.00	2.056	216.05	.409	292.10	.080	397.00	.017
81.05	3.698	149.00	.492	216.95	5.015	293.00	.295	401.00	.048
82.05	.837	150.10	.130	218.05	.569	294.10	.069	402.00	.347
83.05	.842	151.10	.282	221.05	6.199	296.00	4.570	403.00	.493
84.05	.113	151.60	.185	223.05	1.087	297.00	.665	404.10	.184
85.05	.704	152.00	.156	224.05	10.277	298.00	.061	405.00	.030
86.05	.915	153.00	.694	225.05	2.615	301.00	.068	410.10	.023
87.05	.468	154.00	.530	226.05	.234	302.00	.131	415.25	.029

88.00	.157	155.10	1.032	227.05	4.152	303.10	.624	421.05	.458
89.00	.063	156.10	1.522	228.05	.550	304.00	.162	422.05	.420
91.00	.831	157.10	.338	229.05	.895	305.00	.019	423.05	3.809
92.00	.836	158.00	.398	230.05	.105	308.10	.066	424.05	.722
93.00	5.338	159.00	.285	231.05	.377	309.10	.048	425.05	.102
94.00	.328	160.10	.644	232.05	.081	310.00	.074	438.10	.017
95.00	.094	161.10	.931	233.05	.086	310.90	.014	438.90	.023
96.10	.246	162.10	.277	234.05	.256	311.20	.013	439.40	.036
97.10	.163	162.95	.062	235.05	.280	312.00	.022	441.10	10.128
98.00	3.759	164.05	.137	236.05	.163	312.95	.042	442.10	68.442
99.00	2.980	164.95	.686	237.05	.304	314.05	.233	443.00	12.834
100.00	.266	166.05	.651	238.00	.040	315.05	.508	444.10	1.170
101.00	1.834	167.05	3.628	238.90	.153	316.05	.310	445.10	.081
101.90	.058								

Instrument ID: ABN3 Analyzed on: 3/15/93 12:36

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKD DUPLICATE RECOVERY

Lab Name:New CLP Forms Contract:1234-56

Lab Code: HP002 Case No.: AD-76 SAS No.: JKK SDG No.: 03/13/93

Matrix Spike - EPA Sample No.: D93-2682-01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.00	0.00	45.9	91.8	61-145
Trichloroethene	50.00	0.00	45.8	91.6	71-120
Benzene	50.00	0.00	46.4	92.8	76-127
Toluene	50.00	0.00	48.1	96.2	76-125
Chlorobenzene	50.00	0.00	46.4	92.8	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.00	47.5	95.0	3	14	61-145
Trichloroethene	50.00	48.4	96.8	6	14	71-120
Benzene	50.00	48.9	97.8	5	11	76-127
Toluene	50.00	52.8	106	10	13	76-125
Chlorobenzene	50.00	49.2	98.4	6	13	75-130

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

* Values outside of qc limits

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

COMMENTS: METHOD 624

LABORATORY CONTROL SAMPLE

Lab Name:New CLP Forms Contract:NDRC DALLAS

Lab Code: HP002 Case No.: AD-76 SAS No.: JKk SDG No.: 05/13/93

Matrix Spike - EPA Sample No.: LCS

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	49.2	98.4	61-145
Trichloroethene	50	52.2	104	71-120
Benzene	50	54.2	108	76-127
Toluene	50	51.4	103	76-125
Chlorobenzene	50	50.9	102	75-130

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS: METHOD 8240

015193

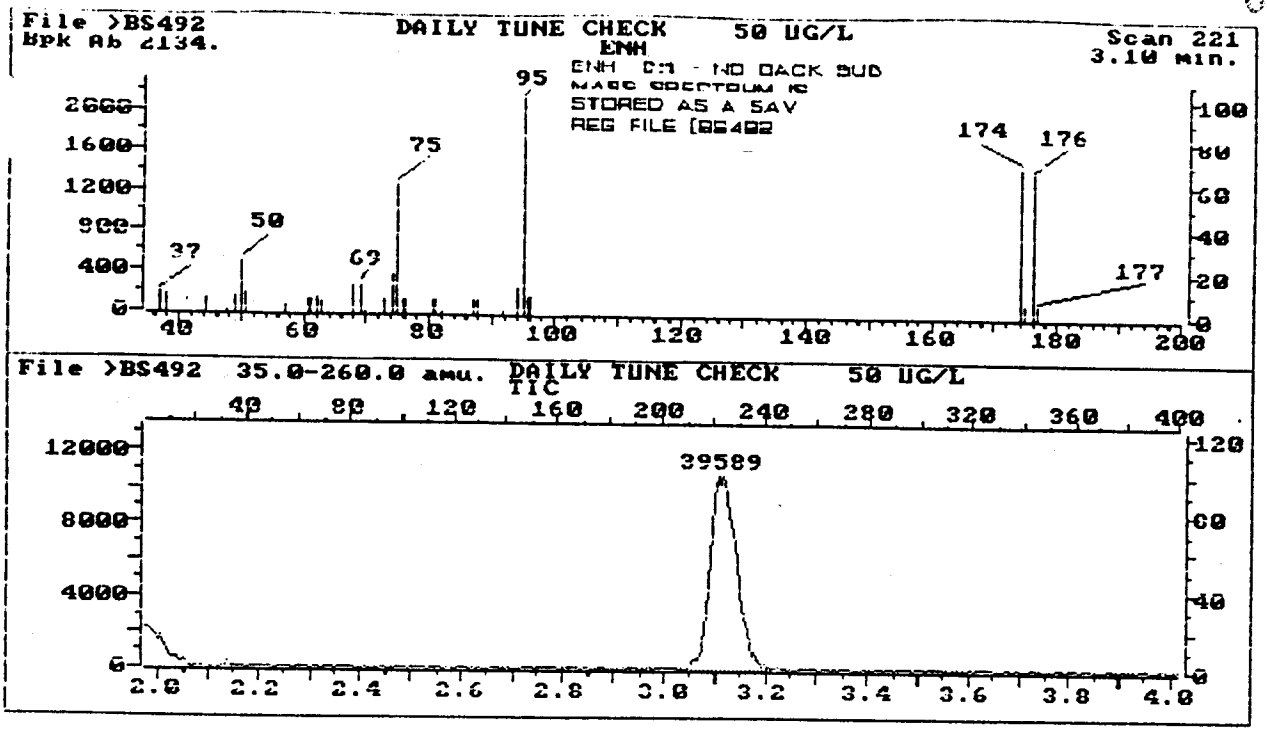
GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.56	22.56	Ok
75	30-60% of mass 95	59.23	59.23	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.15	7.15	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	69.00	69.00	Ok
175	5-9% of mass 174	4.80	6.96	Ok
176	95-101% of mass 174	65.75	95.28	Ok
177	5-9% of mass 176	5.58	8.48	Ok

Injection Date: 03/13/93
Injection Time: 18:17
Data File: >BS492
Scan: 221

015206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DAILY TUNE CHECK 50 UG/L
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MASS SPECTRUM IS
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REG FILE [BS492
Scan 221
3.10 min.
95
75
174
176
50
37
69
177
2000
1600
1200
800
400
0
100
80
60
40
20
0
40
60
80
100
120
140
160
180
200

File >BS492 35.0-260.0 amu. DAILY TUNE CHECK 50 UG/L
TIC
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12000
8000
4000
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80
40
0
40
80
120
160
200
240
280
320
360
400
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2.2
2.4
2.6
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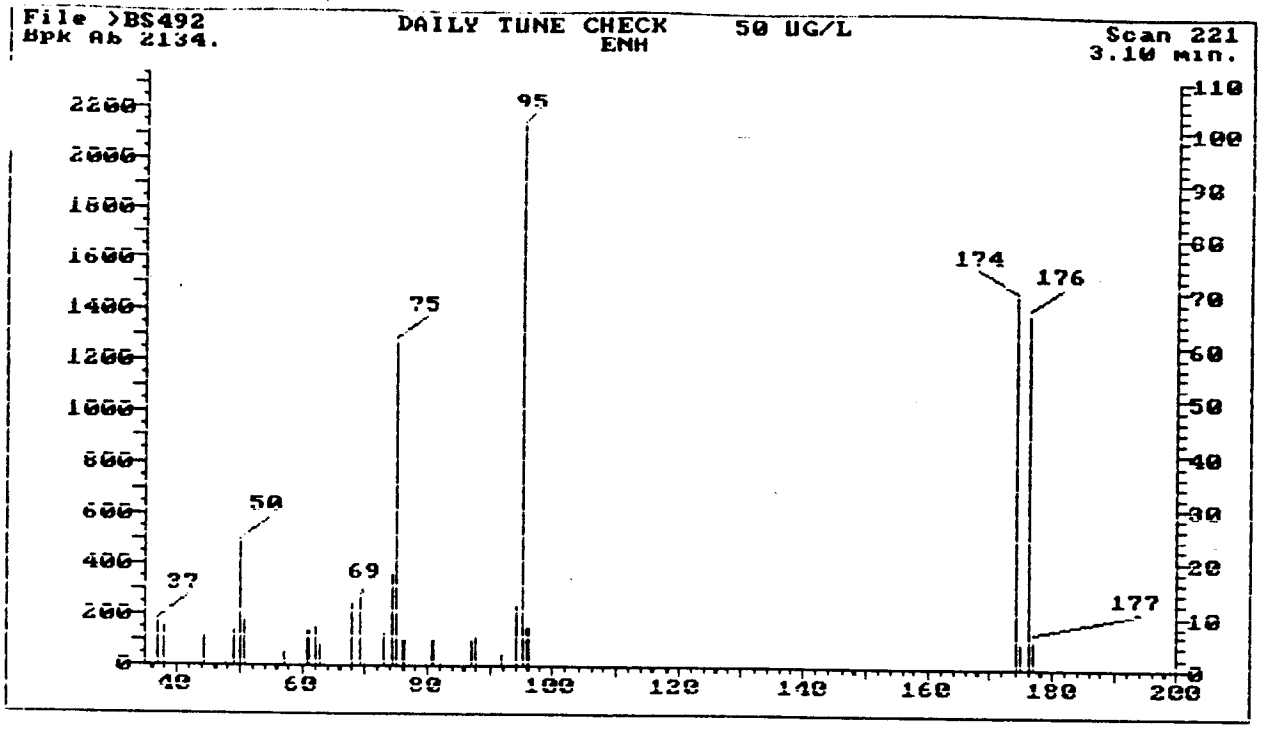
015201

Instrument ID: VOA2 Analyzed on: 3/13/93 18:17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BPk Ab 2134.
DAILY TUNE CHECK
ENH
50 UG/L
Scan 221
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95
174
176
75
50
37
69
177
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
110
100
90
80
70
60
50
40
30
20
10
0
40
60
80
100
120
140
160
180
200

015203

Instrument ID: VOA2 Analyzed on: 3/13/93 18:17

015204

>BS492 DAILY TUNE CHECK 50 UG/L
221 NRM ENH

File: >BS492 Scan #: 221 Retn. time: 3.10

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.00	7.802	51.05	8.294	69.05	12.441	80.95	4.592	95.05	100.000
38.00	6.959	57.05	2.437	69.95	.586	81.85	.469	96.15	7.146
44.05	5.459	61.05	6.022	73.05	5.717	87.05	4.452	174.00	69.002
47.85	.562	62.05	6.912	74.05	16.612	87.95	5.553	175.00	4.803
48.95	6.092	63.05	3.913	75.05	59.231	91.85	1.734	176.00	65.745
50.05	22.563	68.05	11.387	76.15	4.663	94.05	10.754	177.00	5.576

Instrument ID: VOA2 Analyzed on: 3/13/93 18:17

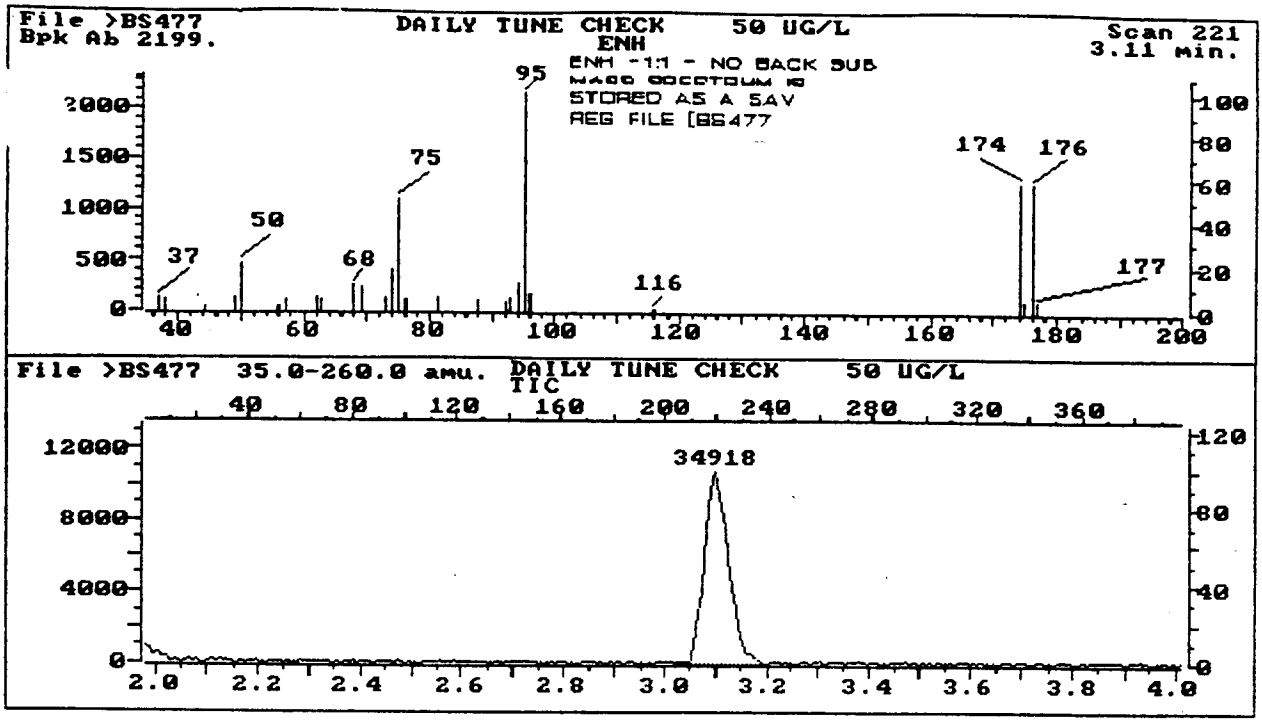
015205

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	21.11	21.11	Ok
75	30-60% of mass 95	50.32	50.32	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.70	7.70	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	58.75	58.75	Ok
175	5-9% of mass 174	3.82	6.50	Ok
176	95-101% of mass 174	58.23	99.12	Ok
177	5-9% of mass 176	4.08	7.00	Ok

Injection Date: 03/13/93
Injection Time: 07:53
Data File: >BS477
Scan: 221

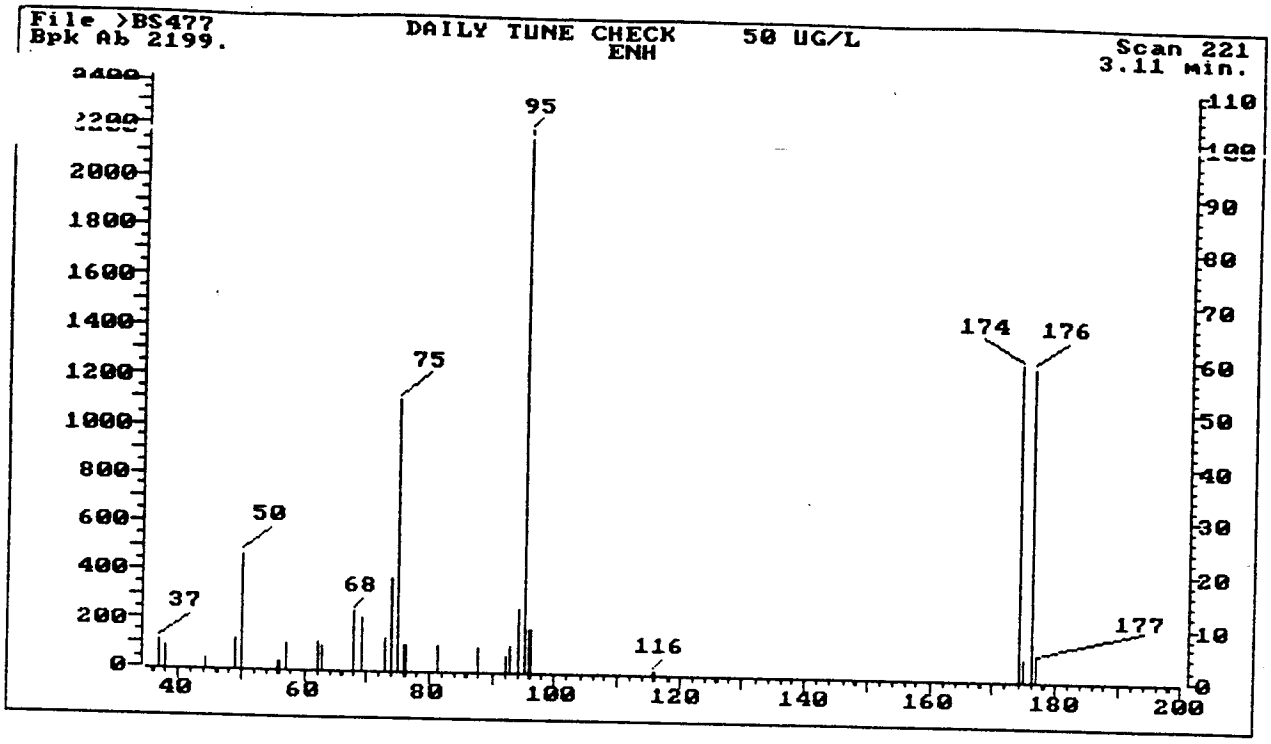

File >BS477
Bpk Ab 2199.
DAILY TUNE CHECK 50 UG/L
ENH
ENH -1:1 - NO BACK SUB
MASS SPECTRUM IS
STORED AS A SAV
REG FILE [BS477
Scan 221
3.11 min.
95
75
50
37
68
116
174
176
177
2000
1500
1000
500
0
100
80
60
40
20
0
40
60
80
100
120
140
160
180
200

File >BS477 35.0-260.0 amu. DAILY TUNE CHECK 50 UG/L
TIC
34918
12000
8000
4000
0
120
80
40
0
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
3.6
3.8
4.0

015206

015207

Instrument ID: VOA2 Analyzed on: 3/13/93 7:53


File >BS477
Bpk Ab 2199.
DAILY TUNE CHECK
ENH
50 UG/L
Scan 221
3.11 min.
95
75
174
176
50
68
37
116
177
2000
1800
1600
1400
1200
1000
800
600
400
200
0
110
90
80
70
60
50
40
30
20
10
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40
60
80
100
120
140
160
180
200

CT5209

Instrument ID: VOA2 Analyzed on: 3/13/93 7:53

>BS477
221

DAILY TUNE CHECK 50 UG/L
NRM ENH

015210

File: >BS477 Scan #: 221 Retn. time: 3.11

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.90	5.002	57.05	4.319	73.95	17.187	91.95	2.743	115.75	.409
38.00	3.880	61.95	5.153	75.05	50.318	93.05	4.547	174.00	58.745
44.05	1.561	63.05	4.001	76.15	4.365	94.15	11.625	175.10	3.819
48.95	5.411	67.95	10.867	81.05	4.517	95.05	100.000	176.00	58.230
49.95	21.112	69.05	10.049	87.95	4.244	96.05	7.699	177.00	4.077
55.95	1.243	73.15	5.790						

Instrument ID: VOA2 Analyzed on: 3/13/93 7:53

015211 **NDRC LABORATORIES, INC.** № 24326

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SAMPLE PRESERVATION INFORMATION SHEET

Field Sampling ☐ Incoming Samples ☐

GENERAL

Company: Enviro Job No: 3695

No. of Cooler(s): 1 Temperature of Cooler(s): <4°

PRESERVATION INFORMATION

Sample No.	Temperature of Sample	Sample Container	Volume	Preservation used *	Initial pH	Final pH	Bottles generated	Comments
3695-1		1AG	1L	3	<2	<2	1	metals
-1		"	"	2	1	1	"	NO_3-NO_2
-1		"	"	8	7.2	7.2	"	NP
-1		"	"	"	"	"	"	"
-1		"	"	"	"	"	"	"
-1		"	"	"	"	"	"	"
-1		"	"	"	"	"	"	"
								Already preserved

PRESERVATION USED *

1 - Cool to 4° C
2 - H_2SO_4 to pH < 2
3 - HNO_3 to pH < 2
4 - HCL to pH < 2
5 - NaOH to pH > 12
6 - $Na_2S_2O_2$ 0.008%
7 - 2 mL Zinc Acetate and NaOH to pH > 12
8 - None required

NJK
Preserved by

3-5 93
Date/Time

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-3
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
2-Methylnaphthalene	10.0 µg/L	< 10.0 µg/L
Hexachlorocyclopentadiene	10.0 µg/L	< 10.0 µg/L
2-Chloronaphthalene	10.0 µg/L	< 10.0 µg/L
2-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Dimethylphthalate	10.0 µg/L	< 10.0 µg/L
Acenaphthylene	10.0 µg/L	< 10.0 µg/L
2,6-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
3-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Acenaphthene	10.0 µg/L	51.0 µg/L
Dibenzofuran	10.0 µg/L	< 10.0 µg/L
2,4-Dinitrotoluene	10.0 µg/L	25.0 µg/L
Diethylphthalate	10.0 µg/L	< 10.0 µg/L
4-Chlorophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Fluorene	10.0 µg/L	< 10.0 µg/L
4-Nitroaniline	50.0 µg/L	< 50.0 µg/L
N-Nitrosodiphenylamine	10.0 µg/L	< 10.0 µg/L
4-Bromophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Hexachlorobenzene	10.0 µg/L	< 10.0 µg/L
Phenanthrene	10.0 µg/L	< 10.0 µg/L
Anthracene	10.0 µg/L	< 10.0 µg/L
Di-n-butylphthalate	10.0 µg/L	< 10.0 µg/L
Fluoranthene	10.0 µg/L	< 10.0 µg/L
Pyrene	10.0 µg/L	52.0 µg/L
Butyl benzyl phthalate	10.0 µg/L	< 10.0 µg/L
3,3'-Dichlorobenzidine	20.0 µg/L	< 20.0 µg/L
Benzo(a)anthracene	10.0 µg/L	< 10.0 µg/L

015213

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-3
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: R.W. (VOA)/R.W. (ABN)
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 14-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 18-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	10.0 µg/L	< 10.0 µg/L
1,3-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
1,4-Dichlorobenzene	10.0 µg/L	45.0 µg/L
Benzyl alcohol	20.0 µg/L	< 20.0 µg/L
1,2-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroisopropyl)ether	10.0 µg/L	< 10.0 µg/L
N-Nitroso-Di-N-propylamine	10.0 µg/L	41.0 µg/L
Hexachloroethane	10.0 µg/L	< 10.0 µg/L
Nitrobenzene	10.0 µg/L	< 10.0 µg/L
Isophorone	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroethoxy)methane	10.0 µg/L	< 10.0 µg/L
1,2,4-Trichlorobenzene	10.0 µg/L	47.0 µg/L
Naphthalene	10.0 µg/L	< 10.0 µg/L
4-Chloroaniline	20.0 µg/L	< 20.0 µg/L
Hexachlorobutadiene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

015214

REPORT NUMBER : D93-3493-3
ANALYSIS METHOD : EPA 8270

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/L	91.4 %
2-Fluorophenol (SS)	100 µg/L	90.6 %
2,4,6-Tribromophenol (SS)	100 µg/L	99.5 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-3
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: R.W. (VOA)/R.W. (ABN)
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 14-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 18-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Phenol	10.0 µg/L	95.0 µg/L
2-Chlorophenol	10.0 µg/L	97.0 µg/L
2-Methylphenol	10.0 µg/L	< 10.0 µg/L
4-Methylphenol	10.0 µg/L	< 10.0 µg/L
2-Nitrophenol	10.0 µg/L	< 10.0 µg/L
2,4-Dimethylphenol	10.0 µg/L	< 10.0 µg/L
Benzoic acid	50.0 µg/L	< 50.0 µg/L
2,4-Dichlorophenol	10.0 µg/L	< 10.0 µg/L
4-Chloro-3-methylphenol	20.0 µg/L	100 µg/L
2,4,6-Trichlorophenol	10.0 µg/L	< 10.0 µg/L
2,4,5-Trichlorophenol	50.0 µg/L	< 50.0 µg/L
2,4-Dinitrophenol	50.0 µg/L	< 50.0 µg/L
4-Nitrophenol	50.0 µg/L	79.0 µg/L
4,6-Dinitro-2-methylphenol	50.0 µg/L	< 50.0 µg/L
Pentachlorophenol	50.0 µg/L	99.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-3
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	51.6 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	53.5 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	51.8 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	51.0 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	99.4 %
Toluene-d8 (SS)	50.0 µg/L	99.1 %
Bromofluorobenzene (SS)	50.0 µg/L	101 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-3
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: R.W. (VOA)/R.W. (ABN)
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : SAP
ANALYZED ON : 1-APR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	51.2 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-3493-3
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/L	103 %

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-3
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: R.W. (VOA)/R.W. (ABN)
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 23-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 25-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT			RESULTS	
2,4-D	10	µg/L		52	µg/L
2,4-DB	10	µg/L	<	10	µg/L
2,4,5-T	2	µg/L		39	µg/L
2,4,5-TP(Silvex)	2	µg/L		39	µg/L
Dalapon	58	µg/L	<	58	µg/L
Dicamba	3	µg/L	<	3	µg/L
Dichloroprop	7	µg/L	<	7	µg/L
Dinoseb	1	µg/L	<	1	µg/L
MCPA	2500	µg/L	<	2500	µg/L
MCPP	2000	µg/L	<	2000	µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-3493-3
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor	0.03 µg/L	0.95 µg/L
Heptachlor Epoxide	0.83 µg/L	< 0.83 µg/L
Methoxychlor	1.76 µg/L	< 1.76 µg/L
Toxaphene	2.4 µg/L	< 2.4 µg/L
Aroclor-1016	0.09 µg/L	< 0.09 µg/L
Aroclor-1221	0.09 µg/L	< 0.09 µg/L
Aroclor-1232	0.09 µg/L	< 0.09 µg/L
Aroclor-1242	0.09 µg/L	< 0.09 µg/L
Aroclor-1248	0.09 µg/L	< 0.09 µg/L
Aroclor-1254	0.09 µg/L	< 0.09 µg/L
Aroclor-1260	0.09 µg/L	< 0.09 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	0.2 µg/L	76.5 %
2,4,5,6-Tetrachloro-m-xylene (SS)	0.2 µg/L	83.6 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-3
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: R.W. (VOA)/R.W. (ABN)
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 22-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : RLP
ANALYZED ON : 24-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	0.04 µg/L	0.89 µg/L
Alpha-BHC	0.03 µg/L	< 0.03 µg/L
Beta-BHC	0.06 µg/L	< 0.06 µg/L
Delta-BHC	0.09 µg/L	< 0.09 µg/L
Gamma-BHC(Lindane)	0.04 µg/L	0.92 µg/L
Chlordane	0.14 µg/L	< 0.14 µg/L
4,4'-DDD	0.11 µg/L	< 0.11 µg/L
4,4'-DDE	0.04 µg/L	< 0.04 µg/L
4,4'-DDT	0.12 µg/L	1.86 µg/L
Dieldrin	0.02 µg/L	1.75 µg/L
Endosulfan I	0.14 µg/L	< 0.14 µg/L
Endosulfan II	0.04 µg/L	< 0.04 µg/L
Endosulfan Sulfate	0.66 µg/L	< 0.66 µg/L
Endrin	0.06 µg/L	1.71 µg/L
Endrin Aldehyde	0.23 µg/L	< 0.23 µg/L

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BEAUMONT DALLAS HOUSTON

01522

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-2
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01-QC
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	1.0 mg/L	1030 mg/L
Dilution Factor : 1 Analyzed using EPA 9252 on 30-MAR-1993 by MKS		
Nitrate-Nitrite Nitrogen	0.01 mg/L	0.01 mg/L
Dilution Factor : 1 Analyzed using EPA 353.3 on 30-MAR-1993 by BAF		
Sulfate	1 mg/L	51 mg/L
Dilution Factor : 1 Analyzed using EPA 9038 on 29-MAR-1993 by MKS		

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David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	0.05 mg/L	< 0.05 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 6010 on 26-MAR-1993 by KJS		
Lead	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 7421 on 31-MAR-1993 by MES		
Antimony	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 6010 on 26-MAR-1993 by KJS		
Selenium	0.01 mg/L	0.01 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 7740 on 1-APR-1993 by RKD		
Thallium	0.002 mg/L	< 0.002 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 7841 on 1-APR-1993 by RKD		

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

015224

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-2
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01-QC
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 6010 on 26-MAR-1993 by KJS		
Arsenic	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 7060 on 2-APR-1993 by RKD		
Barium	0.01 mg/L	0.48 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 6010 on 26-MAR-1993 by KJS		
Cadmium	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 6010 on 26-MAR-1993 by KJS		
Chromium	0.05 mg/L	< 0.05 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 6010 on 26-MAR-1993 by KJS		
Mercury	0.001 mg/L	< 0.001 mg/L
Dilution Factor : 1 Prepared using EPA 7470 on 26-MAR-1993 by CCM Analyzed using EPA 7470 on 29-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-2
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01-QC
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
ANALYZED BY : SAP
ANALYZED ON : 1-APR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/L

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-2
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01-QC
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
PREPARATION METHOD : EPA 8330
PREPARED BY : TLR
PREPARED ON : 26-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : PJR
ANALYZED ON : 30-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-2
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01-QC
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 2-APR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 10 µg/L

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Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-3493-2
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	10.0 µg/L	< 10.0 µg/L
Di-n-octylphthalate	10.0 µg/L	< 10.0 µg/L
Benzo(b)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(k)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(a)pyrene	10.0 µg/L	< 10.0 µg/L
Indeno(1,2,3-cd)pyrene	10.0 µg/L	< 10.0 µg/L
Dibenzo(a,h)anthracene	10.0 µg/L	< 10.0 µg/L
Benzo(g,h,i)perylene	10.0 µg/L	< 10.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/L	77.5 %
2-Fluorobiphenyl (SS)	50.0 µg/L	79.4 %
Terphenyl-d14 (SS)	50.0 µg/L	68.1 %

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-2
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Hexachlorocyclopentadiene	10.0 µg/L	< 10.0 µg/L
2-Chloronaphthalene	10.0 µg/L	< 10.0 µg/L
2-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Dimethylphthalate	10.0 µg/L	< 10.0 µg/L
Acenaphthylene	10.0 µg/L	< 10.0 µg/L
2,6-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
3-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Acenaphthene	10.0 µg/L	< 10.0 µg/L
Dibenzofuran	10.0 µg/L	< 10.0 µg/L
2,4-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
Diethylphthalate	10.0 µg/L	< 10.0 µg/L
4-Chlorophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Fluorene	10.0 µg/L	< 10.0 µg/L
4-Nitroaniline	50.0 µg/L	< 50.0 µg/L
N-Nitrosodiphenylamine	10.0 µg/L	< 10.0 µg/L
4-Bromophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Hexachlorobenzene	10.0 µg/L	< 10.0 µg/L
Phenanthrene	10.0 µg/L	< 10.0 µg/L
Anthracene	10.0 µg/L	< 10.0 µg/L
Di-n-butylphthalate	10.0 µg/L	< 10.0 µg/L
Fluoranthene	10.0 µg/L	< 10.0 µg/L
Pyrene	10.0 µg/L	< 10.0 µg/L
Butyl benzyl phthalate	10.0 µg/L	< 10.0 µg/L
3,3'-Dichlorobenzidine	20.0 µg/L	< 20.0 µg/L
Benzo(a)anthracene	10.0 µg/L	< 10.0 µg/L
Chrysene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-2
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01-QC
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 26-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 2-APR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	10.0 µg/L	< 10.0 µg/L
1,3-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
1,4-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Benzyl alcohol	20.0 µg/L	< 20.0 µg/L
1,2-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroisopropyl)ether	10.0 µg/L	< 10.0 µg/L
N-Nitroso-Di-N-propylamine	10.0 µg/L	< 10.0 µg/L
Hexachloroethane	10.0 µg/L	< 10.0 µg/L
Nitrobenzene	10.0 µg/L	< 10.0 µg/L
Isophorone	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroethoxy)methane	10.0 µg/L	< 10.0 µg/L
1,2,4-Trichlorobenzene	10.0 µg/L	< 10.0 µg/L
Naphthalene	10.0 µg/L	< 10.0 µg/L
4-Chloroaniline	20.0 µg/L	< 20.0 µg/L
Hexachlorobutadiene	10.0 µg/L	< 10.0 µg/L
2-Methylnaphthalene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-3493-2
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/L	68.1 %
2-Fluorophenol (SS)	100 µg/L	63.8 %
2,4,6-Tribromophenol (SS)	100 µg/L	75.9 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-2
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01-QC
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 26-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 2-APR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Phenol	10.0 µg/L	< 10.0 µg/L
2-Chlorophenol	10.0 µg/L	< 10.0 µg/L
2-Methylphenol	10.0 µg/L	< 10.0 µg/L
4-Methylphenol	10.0 µg/L	< 10.0 µg/L
2-Nitrophenol	10.0 µg/L	< 10.0 µg/L
2,4-Dimethylphenol	10.0 µg/L	< 10.0 µg/L
Benzoic acid	50.0 µg/L	< 50.0 µg/L
2,4-Dichlorophenol	10.0 µg/L	< 10.0 µg/L
4-Chloro-3-methylphenol	20.0 µg/L	< 20.0 µg/L
2,4,6-Trichlorophenol	10.0 µg/L	< 10.0 µg/L
2,4,5-Trichlorophenol	50.0 µg/L	< 50.0 µg/L
2,4-Dinitrophenol	50.0 µg/L	< 50.0 µg/L
4-Nitrophenol	50.0 µg/L	< 50.0 µg/L
4,6-Dinitro-2-methylphenol	50.0 µg/L	< 50.0 µg/L
Pentachlorophenol	50.0 µg/L	< 50.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-2
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	< 5.0 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	< 5.0 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	< 5.0 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	< 5.0 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	99.3 %
Toluene-d8 (SS)	50.0 µg/L	96.6 %
Bromofluorobenzene (SS)	50.0 µg/L	101 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-2
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01-QC
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : SAP
ANALYZED ON : 1-APR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-2
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/L	109 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-2
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01-QC
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 29-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 1-APR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	10	µg/L	<	10	µg/L
2,4-DB	10	µg/L	<	10	µg/L
2,4,5-T	2	µg/L	<	2	µg/L
2,4,5-TP(Silvex)	2	µg/L	<	2	µg/L
Dalapon	58	µg/L	<	58	µg/L
Dicamba	3	µg/L	<	3	µg/L
Dichloroprop	7	µg/L	<	7	µg/L
Dinoseb	1	µg/L	<	1	µg/L
MCPA	2500	µg/L	<	2500	µg/L
MCPP	2000	µg/L	<	2000	µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-2
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	0.83 µg/L	< 0.83 µg/L
Methoxychlor	1.76 µg/L	< 1.76 µg/L
Toxaphene	2.4 µg/L	< 2.4 µg/L
Aroclor-1016	0.09 µg/L	< 0.09 µg/L
Aroclor-1221	0.09 µg/L	< 0.09 µg/L
Aroclor-1232	0.09 µg/L	< 0.09 µg/L
Aroclor-1242	0.09 µg/L	< 0.09 µg/L
Aroclor-1248	0.09 µg/L	< 0.09 µg/L
Aroclor-1254	0.09 µg/L	< 0.09 µg/L
Aroclor-1260	0.09 µg/L	< 0.09 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	0.2 µg/L	62.3 %
2,4,5,6-Tetrachloro-m-xylene (SS)	0.2 µg/L	69.0 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-2
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01-QC
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 26-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : RLP
ANALYZED ON : 1-APR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	0.04 µg/L	< 0.04 µg/L
Alpha-BHC	0.03 µg/L	< 0.03 µg/L
Beta-BHC	0.06 µg/L	< 0.06 µg/L
Delta-BHC	0.09 µg/L	< 0.09 µg/L
Gamma-BHC(Lindane)	0.04 µg/L	< 0.04 µg/L
Chlordane	0.14 µg/L	< 0.14 µg/L
4,4'-DDD	0.11 µg/L	< 0.11 µg/L
4,4'-DDE	0.04 µg/L	< 0.04 µg/L
4,4'-DDT	0.12 µg/L	< 0.12 µg/L
Dieldrin	0.02 µg/L	< 0.02 µg/L
Endosulfan I	0.14 µg/L	< 0.14 µg/L
Endosulfan II	0.04 µg/L	< 0.04 µg/L
Endosulfan Sulfate	0.66 µg/L	< 0.66 µg/L
Endrin	0.06 µg/L	< 0.06 µg/L
Endrin Aldehyde	0.23 µg/L	< 0.23 µg/L
Heptachlor	0.03 µg/L	< 0.03 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-1
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993

MISCELLANEOUS ANALYSES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloride	1.0 mg/L	1090 mg/L
Dilution Factor : 1 Analyzed using EPA 9252 on 30-MAR-1993 by MKS		
Nitrate-Nitrite Nitrogen	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Analyzed using EPA 353.3 on 30-MAR-1993 by BAF		
Sulfate	1 mg/L	51 mg/L
Dilution Factor : 1 Analyzed using EPA 9038 on 29-MAR-1993 by MKS		

NDRC Laboratories, Inc.

David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-3493-1

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Nickel	0.05 mg/L	< 0.05 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 6010 on 26-MAR-1993 by KJS		
Lead	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 7421 on 31-MAR-1993 by MES		
Antimony	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 6010 on 26-MAR-1993 by KJS		
Selenium	0.01 mg/L	0.01 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 7740 on 1-APR-1993 by RKD		
Thallium	0.002 mg/L	< 0.002 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 7841 on 1-APR-1993 by RKD		

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-1
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993

TOTAL METALS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Silver	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 6010 on 26-MAR-1993 by KJS		
Arsenic	0.01 mg/L	< 0.01 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 7060 on 2-APR-1993 by RKD		
Barium	0.01 mg/L	0.49 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 6010 on 26-MAR-1993 by KJS		
Cadmium	0.005 mg/L	< 0.005 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 6010 on 26-MAR-1993 by KJS		
Chromium	0.05 mg/L	< 0.05 mg/L
Dilution Factor : 1 Prepared using EPA 3015 on 26-MAR-1993 by CCM Analyzed using EPA 6010 on 26-MAR-1993 by KJS		
Mercury	0.001 mg/L	< 0.001 mg/L
Dilution Factor : 1 Prepared using EPA 7470 on 26-MAR-1993 by CCM Analyzed using EPA 7470 on 29-MAR-1993 by AH		

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-1
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
ANALYZED BY : SAP
ANALYZED ON : 1-APR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-1
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
PREPARATION METHOD : EPA 8330
PREPARED BY : TLR
PREPARED ON : 26-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : PJR
ANALYZED ON : 30-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-1
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 30-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 10 µg/L

NDRC Laboratories, Inc.

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-1
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	10.0 µg/L	< 10.0 µg/L
Di-n-octylphthalate	10.0 µg/L	< 10.0 µg/L
Benzo(b)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(k)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(a)pyrene	10.0 µg/L	< 10.0 µg/L
Indeno(1,2,3-cd)pyrene	10.0 µg/L	< 10.0 µg/L
Dibenzo(a,h)anthracene	10.0 µg/L	< 10.0 µg/L
Benzo(g,h,i)perylene	10.0 µg/L	< 10.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/L	99.6 %
2-Fluorobiphenyl (SS)	50.0 µg/L	106 %
Terphenyl-d14 (SS)	50.0 µg/L	96.1 %

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-3493-1
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Hexachlorocyclopentadiene	10.0 µg/L	< 10.0 µg/L
2-Chloronaphthalene	10.0 µg/L	< 10.0 µg/L
2-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Dimethylphthalate	10.0 µg/L	< 10.0 µg/L
Acenaphthylene	10.0 µg/L	< 10.0 µg/L
2,6-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
3-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Acenaphthene	10.0 µg/L	< 10.0 µg/L
Dibenzofuran	10.0 µg/L	< 10.0 µg/L
2,4-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
Diethylphthalate	10.0 µg/L	< 10.0 µg/L
4-Chlorophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Fluorene	10.0 µg/L	< 10.0 µg/L
4-Nitroaniline	50.0 µg/L	< 50.0 µg/L
N-Nitrosodiphenylamine	10.0 µg/L	< 10.0 µg/L
4-Bromophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Hexachlorobenzene	10.0 µg/L	< 10.0 µg/L
Phenanthrene	10.0 µg/L	< 10.0 µg/L
Anthracene	10.0 µg/L	< 10.0 µg/L
Di-n-butylphthalate	10.0 µg/L	< 10.0 µg/L
Fluoranthene	10.0 µg/L	< 10.0 µg/L
Pyrene	10.0 µg/L	< 10.0 µg/L
Butyl benzyl phthalate	10.0 µg/L	< 10.0 µg/L
3,3'-Dichlorobenzidine	20.0 µg/L	< 20.0 µg/L
Benzo(a)anthracene	10.0 µg/L	< 10.0 µg/L
Chrysene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-1
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 26-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 30-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	10.0 µg/L	< 10.0 µg/L
1,3-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
1,4-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Benzyl alcohol	20.0 µg/L	< 20.0 µg/L
1,2-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroisopropyl)ether	10.0 µg/L	< 10.0 µg/L
N-Nitroso-Di-N-propylamine	10.0 µg/L	< 10.0 µg/L
Hexachloroethane	10.0 µg/L	< 10.0 µg/L
Nitrobenzene	10.0 µg/L	< 10.0 µg/L
Isophorone	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroethoxy)methane	10.0 µg/L	< 10.0 µg/L
1,2,4-Trichlorobenzene	10.0 µg/L	< 10.0 µg/L
Naphthalene	10.0 µg/L	< 10.0 µg/L
4-Chloroaniline	20.0 µg/L	< 20.0 µg/L
Hexachlorobutadiene	10.0 µg/L	< 10.0 µg/L
2-Methylnaphthalene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

REPORT NUMBER : D93-3493-1 PAGE 2
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/L	105 %
2-Fluorophenol (SS)	100 µg/L	98.7 %
2,4,6-Tribromophenol (SS)	100 µg/L	111 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-1
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 26-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 30-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Phenol	10.0 µg/L	< 10.0 µg/L
2-Chlorophenol	10.0 µg/L	< 10.0 µg/L
2-Methylphenol	10.0 µg/L	< 10.0 µg/L
4-Methylphenol	10.0 µg/L	< 10.0 µg/L
2-Nitrophenol	10.0 µg/L	< 10.0 µg/L
2,4-Dimethylphenol	10.0 µg/L	< 10.0 µg/L
Benzoic acid	50.0 µg/L	< 50.0 µg/L
2,4-Dichlorophenol	10.0 µg/L	< 10.0 µg/L
4-Chloro-3-methylphenol	20.0 µg/L	< 20.0 µg/L
2,4,6-Trichlorophenol	10.0 µg/L	< 10.0 µg/L
2,4,5-Trichlorophenol	50.0 µg/L	< 50.0 µg/L
2,4-Dinitrophenol	50.0 µg/L	< 50.0 µg/L
4-Nitrophenol	50.0 µg/L	< 50.0 µg/L
4,6-Dinitro-2-methylphenol	50.0 µg/L	< 50.0 µg/L
Pentachlorophenol	50.0 µg/L	< 50.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-1
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	< 5.0 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	< 5.0 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	< 5.0 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	< 5.0 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	98.1 %
Toluene-d8 (SS)	50.0 µg/L	98.8 %
Bromofluorobenzene (SS)	50.0 µg/L	101 %

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David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-1
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : SAP
ANALYZED ON : 1-APR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT **DALLAS** **HOUSTON**

015252

REPORT NUMBER : D93-3493-1
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/L	109 %

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BEAUMONT **DALLAS** **HOUSTON**

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-1
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 29-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 1-APR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	10	µg/L	<	10	µg/L
2,4-DB	10	µg/L	<	10	µg/L
2,4,5-T	2	µg/L	<	2	µg/L
2,4,5-TP(Silvex)	2	µg/L	<	2	µg/L
Dalapon	58	µg/L	<	58	µg/L
Dicamba	3	µg/L	<	3	µg/L
Dichloroprop	7	µg/L	<	7	µg/L
Dinoseb	1	µg/L	<	1	µg/L
MCPA	2500	µg/L	<	2500	µg/L
MCPP	2000	µg/L	<	2000	µg/L

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BEAUMONT **DALLAS** **HOUSTON**

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REPORT NUMBER : D93-3493-1
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	0.83 µg/L	< 0.83 µg/L
Methoxychlor	1.76 µg/L	< 1.76 µg/L
Toxaphene	2.4 µg/L	< 2.4 µg/L
Aroclor-1016	0.09 µg/L	< 0.09 µg/L
Aroclor-1221	0.09 µg/L	< 0.09 µg/L
Aroclor-1232	0.09 µg/L	< 0.09 µg/L
Aroclor-1242	0.09 µg/L	< 0.09 µg/L
Aroclor-1248	0.09 µg/L	< 0.09 µg/L
Aroclor-1254	0.09 µg/L	< 0.09 µg/L
Aroclor-1260	0.09 µg/L	< 0.09 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	0.2 µg/L	49.5 %
2,4,5,6-Tetrachloro-m-xylene (SS)	0.2 µg/L	64.2 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-1
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : LH13-WW-02-01
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 24-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 26-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : RLP
ANALYZED ON : 1-APR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	0.04 µg/L	< 0.04 µg/L
Alpha-BHC	0.03 µg/L	< 0.03 µg/L
Beta-BHC	0.06 µg/L	< 0.06 µg/L
Delta-BHC	0.09 µg/L	< 0.09 µg/L
Gamma-BHC(Lindane)	0.04 µg/L	< 0.04 µg/L
Chlordane	0.14 µg/L	< 0.14 µg/L
4,4'-DDD	0.11 µg/L	< 0.11 µg/L
4,4'-DDE	0.04 µg/L	< 0.04 µg/L
4,4'-DDT	0.12 µg/L	< 0.12 µg/L
Dieldrin	0.02 µg/L	< 0.02 µg/L
Endosulfan I	0.14 µg/L	< 0.14 µg/L
Endosulfan II	0.04 µg/L	< 0.04 µg/L
Endosulfan Sulfate	0.66 µg/L	< 0.66 µg/L
Endrin	0.06 µg/L	< 0.06 µg/L
Endrin Aldehyde	0.23 µg/L	< 0.23 µg/L
Heptachlor	0.03 µg/L	< 0.03 µg/L

CUSTOMER : Ebasco
PROJECT : Longhorn USACE, Tulsa District

ANALYSIS ID	DESCRIPTION
8080_L	Chlorinated Pesticides/PCB, Liquid Matrix
8150_L	Chlorinated Herbicides, Liquid Matrix
8240_FL_L	Volatile Organics, Full List, Liquid Matrix
8270A_FL_L	Acid Extractables, Full List, Liquid Matrix
8270B_FL_L	Base-Neutral Extractables, Full List, Liquid
ABN_TIC	Tentatively Identified Compounds - ABN
CHLORIDE	Chloride, Liquid Matrix, Titration
EXPLOS_L	Explosives, Liquid Matrix, HPLC Method 8330
M_AG_T_L_I	Silver, Total, Liquid, by ICP
M_AS_T_L_F	Arsenic, Total Liquid, By GFAA
M_BA_T_L_I	Barium, Total, Liquid, by ICP
M_CD_T_L_I	Cadmium, Total, Liquid, by ICP
M_CR_T_L_I	Chromium, Total, Liquid, by ICP
M_HG_T_L_V	Mercury, Total, Liquid, by GVAA
M_NI_T_L_I	Nickel, Total, Liquid, by ICP
M_PB_T_L_F	Lead, Total. Liquid, by GFAA
M_SB_T_L_I	Antimony, Total, Liquid, by ICP
M_SE_T_L_F	Selenium, Total, Liquid, by GFAA
M_TL_T_L_F	Thallium, Total, Liquid, by Graphite Furnace
NITR_N_I_L	Nitrate-Nitrite Nitrogen as N, Liquid
SULFATE_L	Sulfate, Liquid Matrix
VOA_TIC	Tentatively Identified Compounds - VOA

CUSTOMER : Ebasco
PROJECT : Longhorn USACE, Tulsa District

SAMPLE ID : D93-3493-3 DATE SAMPLED : 25-MAR-1993
ID MARKS : MS R.W. (VOA)/R.W. (ABN)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_L	TLR	22-MAR-1993	RLP	24-MAR-1993
8150_L	TLR	23-MAR-1993	SRW	25-MAR-1993
8240_FL_L			SAP	1-APR-1993
8270A_FL_L	TLR	14-MAR-1993	BJC	18-MAR-1993
8270B_FL_L	TLR	14-MAR-1993	BJC	18-MAR-1993
EXPLOS_L	TLR	16-MAR-1993	PJR	17-MAR-1993

SAMPLE ID : D93-3493-4 DATE SAMPLED : 25-MAR-1993
ID MARKS : MSD R.W. (VOA)/R.W. (ABN)

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_L	TLR	22-MAR-1993	RLP	24-MAR-1993
8150_L	TLR	23-MAR-1993	SRW	25-MAR-1993
8240_FL_L			SAP	1-APR-1993
8270A_FL_L	TLR	14-MAR-1993	BJC	18-MAR-1993
8270B_FL_L	TLR	14-MAR-1993	BJC	18-MAR-1993
EXPLOS_L	TLR	16-MAR-1993	PJR	17-MAR-1993

SAMPLE ID : D93-3493-5 DATE SAMPLED : 25-MAR-1993
ID MARKS : Method Blank

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_L	TLR	26-MAR-1993	RLP	1-APR-1993
8150_L	TLR	29-MAR-1993	SRW	1-APR-1993
8240_FL_L			SAP	1-APR-1993
8270A_FL_L	TLR	26-MAR-1993	WSW	30-MAR-1993
8270B_FL_L	TLR	26-MAR-1993	WSW	30-MAR-1993
ABN_TIC			WSW	30-MAR-1993
EXPLOS_L	TLR	26-MAR-1993	PJR	30-MAR-1993
VOA_TIC			SAP	1-APR-1993

SAMPLE ID : D93-3493-6 DATE SAMPLED : 25-MAR-1993
ID MARKS : Blank Spike

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_L	TLR	22-MAR-1993	RLP	24-MAR-1993
8150_L	TLR	23-MAR-1993	SRW	25-MAR-1993
EXPLOS_L	TLR	26-MAR-1993	PJR	30-MAR-1993

CUSTOMER : Ebasco
PROJECT : Longhorn USACE, Tulsa District

SAMPLE ID : D93-3493-1 DATE SAMPLED : 24-MAR-1993
ID MARKS : LH13-WW-02-01

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_L	TLR	26-MAR-1993	RLP	1-APR-1993
8150_L	TLR	29-MAR-1993	SRW	1-APR-1993
8240_FL_L			SAP	1-APR-1993
8270A_FL_L	TLR	26-MAR-1993	WSW	30-MAR-1993
8270B_FL_L	TLR	26-MAR-1993	WSW	30-MAR-1993
ABN_TIC			WSW	30-MAR-1993
CHLORIDE			MKS	30-MAR-1993
EXPLOS_L	TLR	26-MAR-1993	PJR	30-MAR-1993
M_AG_T_L_I	CCM	26-MAR-1993	KJS	26-MAR-1993
M_AS_T_L_F	CCM	26-MAR-1993	RKD	2-APR-1993
M_BA_T_L_I	CCM	26-MAR-1993	KJS	26-MAR-1993
M_CD_T_L_I	CCM	26-MAR-1993	KJS	26-MAR-1993
M_CR_T_L_I	CCM	26-MAR-1993	KJS	26-MAR-1993
M_HG_T_L_V	CCM	26-MAR-1993	AH	29-MAR-1993
M_NI_T_L_I	CCM	26-MAR-1993	KJS	26-MAR-1993
M_PB_T_L_F	CCM	26-MAR-1993	MES	31-MAR-1993
M_SB_T_L_I	CCM	26-MAR-1993	KJS	26-MAR-1993
M_SE_T_L_F	CCM	26-MAR-1993	RKD	1-APR-1993
M_TL_T_L_F	CCM	26-MAR-1993	RKD	1-APR-1993
NITR_N_I_L			BAF	30-MAR-1993
SULFATE_L			MKS	29-MAR-1993
VOA_TIC			SAP	1-APR-1993

SAMPLE ID : D93-3493-2 DATE SAMPLED : 24-MAR-1993
ID MARKS : LH13-WW-02-01-QC

ANALYSIS	PRP BY	PREP DATE	ANL BY	ANALYSIS DATE
8080_L	TLR	26-MAR-1993	RLP	1-APR-1993
8150_L	TLR	29-MAR-1993	SRW	1-APR-1993
8240_FL_L			SAP	1-APR-1993
8270A_FL_L	TLR	26-MAR-1993	WSW	2-APR-1993
8270B_FL_L	TLR	26-MAR-1993	WSW	2-APR-1993
ABN_TIC			WSW	2-APR-1993
CHLORIDE			MKS	30-MAR-1993
EXPLOS_L	TLR	26-MAR-1993	PJR	30-MAR-1993
M_AG_T_L_I	CCM	26-MAR-1993	KJS	26-MAR-1993
M_AS_T_L_F	CCM	26-MAR-1993	RKD	2-APR-1993
M_BA_T_L_I	CCM	26-MAR-1993	KJS	26-MAR-1993
M_CD_T_L_I	CCM	26-MAR-1993	KJS	26-MAR-1993
M_CR_T_L_I	CCM	26-MAR-1993	KJS	26-MAR-1993
M_HG_T_L_V	CCM	26-MAR-1993	AH	29-MAR-1993
M_NI_T_L_I	CCM	26-MAR-1993	KJS	26-MAR-1993
M_PB_T_L_F	CCM	26-MAR-1993	MES	31-MAR-1993
M_SB_T_L_I	CCM	26-MAR-1993	KJS	26-MAR-1993
M_SE_T_L_F	CCM	26-MAR-1993	RKD	1-APR-1993
M_TL_T_L_F	CCM	26-MAR-1993	RKD	1-APR-1993
NITR_N_I_L			BAF	30-MAR-1993
SULFATE_L			MKS	29-MAR-1993
VOA_TIC			SAP	1-APR-1993

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 25-MAR-1993

REPORT NUMBER: D93-3493
REPORT DATE: 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
Dallas, TX 75201
ATTENTION : Ms. Kay Hawthorne

PROJECT : Longhorn

DATE SAMPLED : 24-MAR-1993

CASE NARRATIVE COMMENTS:

The matrix spike recoveries for Antimony were affected by matrix interferences within the samples. The laboratory control samples analyzed with each set of quality control were used to validate the data for the batch.

No further problems were encountered during the sample analysis for this project.

Please refer to the attached Case Narrative Summary for a comparison of sample identifications and analytical requests.

NDRC Laboratories, Inc. B A Feuerbacher

Belinda Feuerbacher
Project Manager

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BEAUMONT **DALLAS** **HOUSTON**

015260

REPORT NUMBER : D93-3493-3
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chrysene	10.0 µg/L	< 10.0 µg/L
Bis(2-ethylhexyl)phthalate	10.0 µg/L	< 10.0 µg/L
Di-n-octylphthalate	10.0 µg/L	< 10.0 µg/L
Benzo(b)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(k)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(a)pyrene	10.0 µg/L	< 10.0 µg/L
Indeno(1,2,3-cd)pyrene	10.0 µg/L	< 10.0 µg/L
Dibenzo(a,h)anthracene	10.0 µg/L	< 10.0 µg/L
Benzo(g,h,i)perylene	10.0 µg/L	< 10.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/L	91.1 %
2-Fluorobiphenyl (SS)	50.0 µg/L	97.6 %
Terphenyl-d14 (SS)	50.0 µg/L	99.5 %

NDRC Laboratories, Inc.

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-3
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MS
: R.W. (VOA)/R.W. (ABN)
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 8330
PREPARED BY : TLR
PREPARED ON : 16-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : PJR
ANALYZED ON : 17-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	3.16 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	4.13 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	3.69 µg/L
2,4,6-TNT	0.10 µg/L	3.83 µg/L

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-4
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: R.W. (VOA)/R.W. (ABN)
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 22-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : RLP
ANALYZED ON : 24-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	0.04 µg/L	1.0 µg/L
Alpha-BHC	0.03 µg/L	< 0.03 µg/L
Beta-BHC	0.06 µg/L	< 0.06 µg/L
Delta-BHC	0.09 µg/L	< 0.09 µg/L
Gamma-BHC(Lindane)	0.04 µg/L	1.05 µg/L
Chlordane	0.14 µg/L	< 0.14 µg/L
4,4'-DDD	0.11 µg/L	< 0.11 µg/L
4,4'-DDE	0.04 µg/L	< 0.04 µg/L
4,4'-DDT	0.12 µg/L	2.21 µg/L
Dieldrin	0.02 µg/L	2.01 µg/L
Endosulfan I	0.14 µg/L	< 0.14 µg/L
Endosulfan II	0.04 µg/L	< 0.04 µg/L
Endosulfan Sulfate	0.66 µg/L	< 0.66 µg/L
Endrin	0.06 µg/L	2.01 µg/L
Endrin Aldehyde	0.23 µg/L	< 0.23 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-4
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor	0.03 µg/L	1.13 µg/L
Heptachlor Epoxide	0.83 µg/L	< 0.83 µg/L
Methoxychlor	1.76 µg/L	< 1.76 µg/L
Toxaphene	2.4 µg/L	< 2.4 µg/L
Aroclor-1016	0.09 µg/L	< 0.09 µg/L
Aroclor-1221	0.09 µg/L	< 0.09 µg/L
Aroclor-1232	0.09 µg/L	< 0.09 µg/L
Aroclor-1242	0.09 µg/L	< 0.09 µg/L
Aroclor-1248	0.09 µg/L	< 0.09 µg/L
Aroclor-1254	0.09 µg/L	< 0.09 µg/L
Aroclor-1260	0.09 µg/L	< 0.09 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	0.2 µg/L	93.6 %
2,4,5,6-Tetrachloro-m-xylene (SS)	0.2 µg/L	99.6 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-4
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: R.W. (VOA)/R.W. (ABN)
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 23-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 25-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	10	µg/L		57	µg/L
2,4-DB	10	µg/L	<	10	µg/L
2,4,5-T	2	µg/L		37	µg/L
2,4,5-TP(Silvex)	2	µg/L		38	µg/L
Dalapon	58	µg/L	<	58	µg/L
Dicamba	3	µg/L	<	3	µg/L
Dichloroprop	7	µg/L	<	7	µg/L
Dinoseb	1	µg/L	<	1	µg/L
MCPA	2500	µg/L	<	2500	µg/L
MCPP	2000	µg/L	<	2000	µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-4
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/L	96.2 %

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015266

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-4
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: R.W. (VOA)/R.W. (ABN)
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : SAP
ANALYZED ON : 1-APR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	49.5 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-4
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	48.7 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	50.0 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	49.3 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	49.5 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	102 %
Toluene-d8 (SS)	50.0 µg/L	101 %
Bromofluorobenzene (SS)	50.0 µg/L	101 %

NDRC Laboratories, Inc. David R. Godwin

David R. Godwin, Ph.D.
Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

015268

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-4
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: R.W. (VOA)/R.W. (ABN)
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 14-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 18-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Phenol	10.0 µg/L	89.0 µg/L
2-Chlorophenol	10.0 µg/L	88.0 µg/L
2-Methylphenol	10.0 µg/L	< 10.0 µg/L
4-Methylphenol	10.0 µg/L	< 10.0 µg/L
2-Nitrophenol	10.0 µg/L	< 10.0 µg/L
2,4-Dimethylphenol	10.0 µg/L	< 10.0 µg/L
Benzoic acid	50.0 µg/L	< 50.0 µg/L
2,4-Dichlorophenol	10.0 µg/L	< 10.0 µg/L
4-Chloro-3-methylphenol	20.0 µg/L	100 µg/L
2,4,6-Trichlorophenol	10.0 µg/L	< 10.0 µg/L
2,4,5-Trichlorophenol	50.0 µg/L	< 50.0 µg/L
2,4-Dinitrophenol	50.0 µg/L	< 50.0 µg/L
4-Nitrophenol	50.0 µg/L	86.0 µg/L
4,6-Dinitro-2-methylphenol	50.0 µg/L	< 50.0 µg/L
Pentachlorophenol	50.0 µg/L	95.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-4
ANALYSIS METHOD : EPA 8270

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/L	90.5 %
2-Fluorophenol (SS)	100 µg/L	90.4 %
2,4,6-Tribromophenol (SS)	100 µg/L	103 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-4
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: R.W. (VOA)/R.W. (ABN)
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 14-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : BJC
ANALYZED ON : 18-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	10.0 µg/L	< 10.0 µg/L
1,3-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
1,4-Dichlorobenzene	10.0 µg/L	42.0 µg/L
Benzyl alcohol	20.0 µg/L	< 20.0 µg/L
1,2-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroisopropyl)ether	10.0 µg/L	< 10.0 µg/L
N-Nitroso-Di-N-propylamine	10.0 µg/L	40.0 µg/L
Hexachloroethane	10.0 µg/L	< 10.0 µg/L
Nitrobenzene	10.0 µg/L	< 10.0 µg/L
Isophorone	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroethoxy)methane	10.0 µg/L	< 10.0 µg/L
1,2,4-Trichlorobenzene	10.0 µg/L	45.0 µg/L
Naphthalene	10.0 µg/L	< 10.0 µg/L
4-Chloroaniline	20.0 µg/L	< 20.0 µg/L
Hexachlorobutadiene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-4
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
2-Methylnaphthalene	10.0 µg/L	< 10.0 µg/L
Hexachlorocyclopentadiene	10.0 µg/L	< 10.0 µg/L
2-Chloronaphthalene	10.0 µg/L	< 10.0 µg/L
2-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Dimethylphthalate	10.0 µg/L	< 10.0 µg/L
Acenaphthylene	10.0 µg/L	< 10.0 µg/L
2,6-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
3-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Acenaphthene	10.0 µg/L	51.0 µg/L
Dibenzofuran	10.0 µg/L	< 10.0 µg/L
2,4-Dinitrotoluene	10.0 µg/L	26.0 µg/L
Diethylphthalate	10.0 µg/L	< 10.0 µg/L
4-Chlorophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Fluorene	10.0 µg/L	< 10.0 µg/L
4-Nitroaniline	50.0 µg/L	< 50.0 µg/L
N-Nitrosodiphenylamine	10.0 µg/L	< 10.0 µg/L
4-Bromophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Hexachlorobenzene	10.0 µg/L	< 10.0 µg/L
Phenanthrene	10.0 µg/L	< 10.0 µg/L
Anthracene	10.0 µg/L	< 10.0 µg/L
Di-n-butylphthalate	10.0 µg/L	< 10.0 µg/L
Fluoranthene	10.0 µg/L	< 10.0 µg/L
Pyrene	10.0 µg/L	52.0 µg/L
Butyl benzyl phthalate	10.0 µg/L	< 10.0 µg/L
3,3'-Dichlorobenzidine	20.0 µg/L	< 20.0 µg/L
Benzo(a)anthracene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-4
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chrysene	10.0 µg/L	< 10.0 µg/L
Bis(2-ethylhexyl)phthalate	10.0 µg/L	< 10.0 µg/L
Di-n-octylphthalate	10.0 µg/L	< 10.0 µg/L
Benzo(b)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(k)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(a)pyrene	10.0 µg/L	< 10.0 µg/L
Indeno(1,2,3-cd)pyrene	10.0 µg/L	< 10.0 µg/L
Dibenzo(a,h)anthracene	10.0 µg/L	< 10.0 µg/L
Benzo(g,h,i)perylene	10.0 µg/L	< 10.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/L	93.5 %
2-Fluorobiphenyl (SS)	50.0 µg/L	98.8 %
Terphenyl-d14 (SS)	50.0 µg/L	103 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-4
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : MSD
: R.W. (VOA)/R.W. (ABN)
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 8330
PREPARED BY : TLR
PREPARED ON : 16-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : PJR
ANALYZED ON : 17-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	3.21 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	4.11 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	3.69 µg/L
2,4,6-TNT	0.10 µg/L	3.99 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-5
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 26-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : RLP
ANALYZED ON : 1-APR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	0.04 µg/L	< 0.04 µg/L
Alpha-BHC	0.03 µg/L	< 0.03 µg/L
Beta-BHC	0.06 µg/L	< 0.06 µg/L
Delta-BHC	0.09 µg/L	< 0.09 µg/L
Gamma-BHC(Lindane)	0.04 µg/L	< 0.04 µg/L
Chlordane	0.14 µg/L	< 0.14 µg/L
4,4'-DDD	0.11 µg/L	< 0.11 µg/L
4,4'-DDE	0.04 µg/L	< 0.04 µg/L
4,4'-DDT	0.12 µg/L	< 0.12 µg/L
Dieldrin	0.02 µg/L	< 0.02 µg/L
Endosulfan I	0.14 µg/L	< 0.14 µg/L
Endosulfan II	0.04 µg/L	< 0.04 µg/L
Endosulfan Sulfate	0.66 µg/L	< 0.66 µg/L
Endrin	0.06 µg/L	< 0.06 µg/L
Endrin Aldehyde	0.23 µg/L	< 0.23 µg/L
Heptachlor	0.03 µg/L	< 0.03 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-5
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	0.83 µg/L	< 0.83 µg/L
Methoxychlor	1.76 µg/L	< 1.76 µg/L
Toxaphene	2.4 µg/L	< 2.4 µg/L
Aroclor-1016	0.09 µg/L	< 0.09 µg/L
Aroclor-1221	0.09 µg/L	< 0.09 µg/L
Aroclor-1232	0.09 µg/L	< 0.09 µg/L
Aroclor-1242	0.09 µg/L	< 0.09 µg/L
Aroclor-1248	0.09 µg/L	< 0.09 µg/L
Aroclor-1254	0.09 µg/L	< 0.09 µg/L
Aroclor-1260	0.09 µg/L	< 0.09 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	0.2 µg/L	67.9 %
2,4,5,6-Tetrachloro-m-xylene (SS)	0.2 µg/L	81.0 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-5
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 29-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 1-APR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	10	µg/L	<	10	µg/L
2,4-DB	10	µg/L	<	10	µg/L
2,4,5-T	2	µg/L	<	2	µg/L
2,4,5-TP(Silvex)	2	µg/L	<	2	µg/L
Dalapon	58	µg/L	<	58	µg/L
Dicamba	3	µg/L	<	3	µg/L
Dichloroprop	7	µg/L	<	7	µg/L
Dinoseb	1	µg/L	<	1	µg/L
MCPA	2500	µg/L	<	2500	µg/L
MCPP	2000	µg/L	<	2000	µg/L

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REPORT NUMBER : D93-3493-5
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/L	120 %

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DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-5
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
ANALYSIS METHOD : EPA 8240
ANALYZED BY : SAP
ANALYZED ON : 1-APR-1993
DILUTION FACTOR : 1

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Chloromethane	10.0 µg/L	< 10.0 µg/L
Bromomethane	10.0 µg/L	< 10.0 µg/L
Vinyl chloride	10.0 µg/L	< 10.0 µg/L
Chloroethane	10.0 µg/L	< 10.0 µg/L
Methylene chloride	5.0 µg/L	< 5.0 µg/L
Acetone	100 µg/L	< 100 µg/L
Carbon disulfide	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethene	5.0 µg/L	< 5.0 µg/L
1,1-Dichloroethane	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethene	5.0 µg/L	< 5.0 µg/L
Chloroform	5.0 µg/L	< 5.0 µg/L
1,2-Dichloroethane	5.0 µg/L	< 5.0 µg/L
2-Butanone	50 µg/L	< 50 µg/L
1,1,1-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Carbon tetrachloride	5.0 µg/L	< 5.0 µg/L
Vinyl acetate	50.0 µg/L	< 50.0 µg/L
Bromodichloromethane	5.0 µg/L	< 5.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-5
ANALYSIS METHOD : EPA 8240

VOLATILE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,2-Dichloropropane	5.0 µg/L	< 5.0 µg/L
cis-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Trichloroethene	5.0 µg/L	< 5.0 µg/L
Chlorodibromomethane	5.0 µg/L	< 5.0 µg/L
1,1,2-Trichloroethane	5.0 µg/L	< 5.0 µg/L
Benzene	5.0 µg/L	< 5.0 µg/L
trans-1,3-Dichloropropene	5.0 µg/L	< 5.0 µg/L
Bromoform	5.0 µg/L	< 5.0 µg/L
2-Chloroethylvinyl ether	10.0 µg/L	< 10.0 µg/L
4-Methyl-2-pentanone	50.0 µg/L	< 50.0 µg/L
2-Hexanone	50.0 µg/L	< 50.0 µg/L
Tetrachloroethene	5.0 µg/L	< 5.0 µg/L
Toluene	5.0 µg/L	< 5.0 µg/L
1,1,2,2-Tetrachloroethane	5.0 µg/L	< 5.0 µg/L
Chlorobenzene	5.0 µg/L	< 5.0 µg/L
Ethylbenzene	5.0 µg/L	< 5.0 µg/L
Styrene	5.0 µg/L	< 5.0 µg/L
Xylenes	5.0 µg/L	< 5.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
1,2-Dichloroethane-d4 (SS)	50.0 µg/L	95.8 %
Toluene-d8 (SS)	50.0 µg/L	101 %
Bromofluorobenzene (SS)	50.0 µg/L	103 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

015280

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-5
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 26-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 30-MAR-1993
DILUTION FACTOR : 1

ACID EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Phenol	10.0 µg/L	< 10.0 µg/L
2-Chlorophenol	10.0 µg/L	< 10.0 µg/L
2-Methylphenol	10.0 µg/L	< 10.0 µg/L
4-Methylphenol	10.0 µg/L	< 10.0 µg/L
2-Nitrophenol	10.0 µg/L	< 10.0 µg/L
2,4-Dimethylphenol	10.0 µg/L	< 10.0 µg/L
Benzoic acid	50.0 µg/L	< 50.0 µg/L
2,4-Dichlorophenol	10.0 µg/L	< 10.0 µg/L
4-Chloro-3-methylphenol	20.0 µg/L	< 20.0 µg/L
2,4,6-Trichlorophenol	10.0 µg/L	< 10.0 µg/L
2,4,5-Trichlorophenol	50.0 µg/L	< 50.0 µg/L
2,4-Dinitrophenol	50.0 µg/L	< 50.0 µg/L
4-Nitrophenol	50.0 µg/L	< 50.0 µg/L
4,6-Dinitro-2-methylphenol	50.0 µg/L	< 50.0 µg/L
Pentachlorophenol	50.0 µg/L	< 50.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-5
ANALYSIS METHOD : EPA 8270

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Phenol-d5 (SS)	100 µg/L	97.4 %
2-Fluorophenol (SS)	100 µg/L	92.2 %
2,4,6-Tribromophenol (SS)	100 µg/L	93.6 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-5
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 26-MAR-1993
ANALYSIS METHOD : EPA 8270
ANALYZED BY : WSW
ANALYZED ON : 30-MAR-1993
DILUTION FACTOR : 1

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-chloroethyl)ether	10.0 µg/L	< 10.0 µg/L
1,3-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
1,4-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Benzyl alcohol	20.0 µg/L	< 20.0 µg/L
1,2-Dichlorobenzene	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroisopropyl)ether	10.0 µg/L	< 10.0 µg/L
N-Nitroso-Di-N-propylamine	10.0 µg/L	< 10.0 µg/L
Hexachloroethane	10.0 µg/L	< 10.0 µg/L
Nitrobenzene	10.0 µg/L	< 10.0 µg/L
Isophorone	10.0 µg/L	< 10.0 µg/L
Bis(2-chloroethoxy)methane	10.0 µg/L	< 10.0 µg/L
1,2,4-Trichlorobenzene	10.0 µg/L	< 10.0 µg/L
Naphthalene	10.0 µg/L	< 10.0 µg/L
4-Chloroaniline	20.0 µg/L	< 20.0 µg/L
Hexachlorobutadiene	10.0 µg/L	< 10.0 µg/L
2-Methylnaphthalene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-5
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Hexachlorocyclopentadiene	10.0 µg/L	< 10.0 µg/L
2-Chloronaphthalene	10.0 µg/L	< 10.0 µg/L
2-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Dimethylphthalate	10.0 µg/L	< 10.0 µg/L
Acenaphthylene	10.0 µg/L	< 10.0 µg/L
2,6-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
3-Nitroaniline	50.0 µg/L	< 50.0 µg/L
Acenaphthene	10.0 µg/L	< 10.0 µg/L
Dibenzofuran	10.0 µg/L	< 10.0 µg/L
2,4-Dinitrotoluene	10.0 µg/L	< 10.0 µg/L
Diethylphthalate	10.0 µg/L	< 10.0 µg/L
4-Chlorophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Fluorene	10.0 µg/L	< 10.0 µg/L
4-Nitroaniline	50.0 µg/L	< 50.0 µg/L
N-Nitrosodiphenylamine	10.0 µg/L	< 10.0 µg/L
4-Bromophenylphenyl ether	10.0 µg/L	< 10.0 µg/L
Hexachlorobenzene	10.0 µg/L	< 10.0 µg/L
Phenanthrene	10.0 µg/L	< 10.0 µg/L
Anthracene	10.0 µg/L	< 10.0 µg/L
Di-n-butylphthalate	10.0 µg/L	< 10.0 µg/L
Fluoranthene	10.0 µg/L	< 10.0 µg/L
Pyrene	10.0 µg/L	< 10.0 µg/L
Butyl benzyl phthalate	10.0 µg/L	< 10.0 µg/L
3,3'-Dichlorobenzidine	20.0 µg/L	< 20.0 µg/L
Benzo(a)anthracene	10.0 µg/L	< 10.0 µg/L
Chrysene	10.0 µg/L	< 10.0 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-5
ANALYSIS METHOD : EPA 8270

BASE-NEUTRAL EXTRACTABLE ORGANICS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Bis(2-ethylhexyl)phthalate	10.0 µg/L	< 10.0 µg/L
Di-n-octylphthalate	10.0 µg/L	< 10.0 µg/L
Benzo(b)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(k)fluoranthene	10.0 µg/L	< 10.0 µg/L
Benzo(a)pyrene	10.0 µg/L	< 10.0 µg/L
Indeno(1,2,3-cd)pyrene	10.0 µg/L	< 10.0 µg/L
Dibenzo(a,h)anthracene	10.0 µg/L	< 10.0 µg/L
Benzo(g,h,i)perylene	10.0 µg/L	< 10.0 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Nitrobenzene-d5 (SS)	50.0 µg/L	82.0 %
2-Fluorobiphenyl (SS)	50.0 µg/L	98.8 %
Terphenyl-d14 (SS)	50.0 µg/L	98.2 %

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-5
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
ANALYZED BY : WSW
ANALYZED ON : 30-MAR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		ABN	< 10 µg/L

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Chief Executive Officer

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-5
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 8330
PREPARED BY : TLR
PREPARED ON : 26-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : PJR
ANALYZED ON : 30-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	< 0.10 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	< 0.10 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	< 0.10 µg/L
2,4,6-TNT	0.10 µg/L	< 0.10 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-5
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Method Blank
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
ANALYZED BY : SAP
ANALYZED ON : 1-APR-1993

TENTATIVELY IDENTIFIED COMPOUNDS			
COMPOUND	RETENTION TIME	FRACTION	RESULT
No compounds detected		VOA	< 10 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-6
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Blank Spike
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 3520
PREPARED BY : TLR
PREPARED ON : 22-MAR-1993
ANALYSIS METHOD : EPA 8080
ANALYZED BY : RLP
ANALYZED ON : 24-MAR-1993
DILUTION FACTOR : 1

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Aldrin	0.04 µg/L	0.86 µg/L
Alpha-BHC	0.03 µg/L	< 0.03 µg/L
Beta-BHC	0.06 µg/L	< 0.06 µg/L
Delta-BHC	0.09 µg/L	< 0.09 µg/L
Gamma-BHC(Lindane)	0.04 µg/L	0.90 µg/L
Chlordane	0.14 µg/L	< 0.14 µg/L
4,4'-DDD	0.11 µg/L	< 0.11 µg/L
4,4'-DDE	0.04 µg/L	< 0.04 µg/L
4,4'-DDT	0.12 µg/L	1.72 µg/L
Dieldrin	0.02 µg/L	1.63 µg/L
Endosulfan I	0.14 µg/L	< 0.14 µg/L
Endosulfan II	0.04 µg/L	< 0.04 µg/L
Endosulfan Sulfate	0.66 µg/L	< 0.66 µg/L
Endrin	0.06 µg/L	1.61 µg/L
Endrin Aldehyde	0.23 µg/L	< 0.23 µg/L
Heptachlor	0.03 µg/L	0.92 µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-6
ANALYSIS METHOD : EPA 8080

CHLORINATED PESTICIDES AND PCBS		
TEST REQUESTED	DETECTION LIMIT	RESULTS
Heptachlor Epoxide	0.83 µg/L	< 0.83 µg/L
Methoxychlor	1.76 µg/L	< 1.76 µg/L
Toxaphene	2.4 µg/L	< 2.4 µg/L
Aroclor-1016	0.09 µg/L	< 0.09 µg/L
Aroclor-1221	0.09 µg/L	< 0.09 µg/L
Aroclor-1232	0.09 µg/L	< 0.09 µg/L
Aroclor-1242	0.09 µg/L	< 0.09 µg/L
Aroclor-1248	0.09 µg/L	< 0.09 µg/L
Aroclor-1254	0.09 µg/L	< 0.09 µg/L
Aroclor-1260	0.09 µg/L	< 0.09 µg/L

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
Decachlorobiphenyl (SS)	0.2 µg/L	83.5 %
2,4,5,6-Tetrachloro-m-xylene (SS)	0.2 µg/L	87.8 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-6
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Blank Spike
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 8150
PREPARED BY : TLR
PREPARED ON : 23-MAR-1993
ANALYSIS METHOD : EPA 8150
ANALYZED BY : SRW
ANALYZED ON : 25-MAR-1993
DILUTION FACTOR : 1

CHLORINATED HERBICIDES					
TEST REQUESTED	DETECTION LIMIT		RESULTS		
2,4-D	10	µg/L		54	µg/L
2,4-DB	10	µg/L	<	10	µg/L
2,4,5-T	2	µg/L		41	µg/L
2,4,5-TP(Silvex)	2	µg/L		42	µg/L
Dalapon	58	µg/L	<	58	µg/L
Dicamba	3	µg/L	<	3	µg/L
Dichloroprop	7	µg/L	<	7	µg/L
Dinoseb	1	µg/L	<	1	µg/L
MCPA	2500	µg/L	<	2500	µg/L
MCPP	2000	µg/L	<	2000	µg/L

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BEAUMONT DALLAS HOUSTON

REPORT NUMBER : D93-3493-6
ANALYSIS METHOD : EPA 8150

QUALITY CONTROL DATA		
SURROGATE COMPOUND	SPIKE LEVEL	SPIKE RECOVERED
2,4-Dichlorophenyl acetic acid (SS)	100 µg/L	110 %

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED : 25-MAR-1993

REPORT NUMBER : D93-3493-6
REPORT DATE : 9-APR-1993

SAMPLE SUBMITTED BY : Ebasco
ADDRESS : 400 N. Olive LB 259
: Dallas, Tx. 75201
ATTENTION : Ms. Kay Hawthorne

SAMPLE MATRIX : Liquid
ID MARKS : Blank Spike
PROJECT : Longhorn USACE, Tulsa District
DATE SAMPLED : 25-MAR-1993
PREPARATION METHOD : EPA 8330
PREPARED BY : TLR
PREPARED ON : 26-MAR-1993
ANALYSIS METHOD : EPA 8330
ANALYZED BY : PJR
ANALYZED ON : 30-MAR-1993
DILUTION FACTOR : 1

EXPLOSIVES		
TEST REQUESTED	DETECTION LIMIT	RESULTS
1,3-DNB	0.10 µg/L	3.84 µg/L
2,4-DNT	0.10 µg/L	< 0.10 µg/L
2,6-DNT	0.10 µg/L	< 0.10 µg/L
HMX	0.10 µg/L	< 0.10 µg/L
NB	0.10 µg/L	< 0.10 µg/L
2-NT	0.10 µg/L	< 0.10 µg/L
3-NT	0.10 µg/L	< 0.10 µg/L
4-NT	0.10 µg/L	< 0.10 µg/L
RDX	0.10 µg/L	4.60 µg/L
Tetryl	0.10 µg/L	< 0.10 µg/L
1,3,5-TNB	0.10 µg/L	4.40 µg/L
2,4,6-TNT	0.10 µg/L	4.29 µg/L

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 25-MAR-1993

REPORT NUMBER: D93-3493

REPORT DATE: 9-APR-1993

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ICP METALS SCAN

BATCH No.	856	MATRIX	Liquid
PREP METHOD	EPA 3015	ANALYSIS METHOD	EPA 6010
PREP DATE	3/26/93	ANALYSIS DATE	3/26/93
PREP TECHNICIAN	CCM	ANALYST	KJS
SPIKED SAMPLE ID No.	D93-3468-1	DUPLICATE SAMPLE ID No.	D93-3468-1

ANALYTE	Silver	Barium	Cadmium	Chromium	Nickel	Antimony
METHOD BLANK	< 0.01 mg/L	< 0.01 mg/L	< 0.005 mg/L	< 0.05 mg/L	< 0.05 mg/L	< 0.005 mg/L
MS % RECOVERY	88	99	83	86	85	66 *
LCS % RECOVERY	92	99	94	100	96	81
DUPLICATE RPD	----	3.7	----	----	96	----
MS/MSD RPD	12.2	2.1	1.4	0.3	3.2	4.1
SPIKE LEVEL	0.1 mg/L	1 mg/L	1 mg/L	1 mg/L	1 mg/L	1 mg/L

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS: *Duplicate matrix spikes indicate the presence of a matrix interference in the QC sample.

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 25-MAR-1993

REPORT NUMBER: D93-3493

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Arsenic	Mercury	Lead	Selenium	Thallium
BATCH No.	944	956	944	944	944
MATRIX	Liquid	Liquid	Liquid	Liquid	Liquid
PREP METHOD	EPA 3015	EPA 7470	EPA 3015	EPA 3015	EPA 3015
PREP DATE	3/26/93	3/26/93	3/26/93	3/26/93	3/26/93
PREP TECHNICIAN	CCM	CCM	CCM	CCM	CCM
ANALYSIS METHOD	EPA 7060	EPA 7470	EPA 7421	EPA 7740	EPA 7841
ANALYSIS DATE	4/2/93	3/29/93	3/31/93	4/1/93	4/1/93
ANALYST	RKD	AH	MES	RKD	RKD
METHOD BLANK	< 0.01 mg/L	< 0.001 mg/L	< 0.005 mg/L	< 0.01 mg/L	< 0.002 mg/L
MS % RECOVERY	84	101	69 *	74 *	---- **
LCS % RECOVERY	99	94	95	98	102
DUPLICATE RPD	----	----	----	----	----
MS/MSD RPD	0.0	13	0.0	3	----
SPIKE LEVEL	0.03 mg/L	0.025 mg/L	0.03 mg/L	0.03 mg/L	0.03 mg/L
SPIKED SAMPLE ID No.	D93-3494-3	D93-3493-1	D93-3494-3	D93-3494-3	D93-3494-3
DUPLICATE SAMPLE ID No.	D93-3494-3	D93-3493-1	D93-3494-3	D93-3494-3	D93-3494-3

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS: *Duplicate matrix spikes indicate the presence of a matrix interference in the QC sample.

**Strong matrix interference. MS and MSD spikes were not recovered.

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 25-MAR-1993

REPORT NUMBER: D93-3493

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	Chloride	Nitrate	Sulfate
BATCH No.	----	----	----
MATRIX	Liquid	Liquid	Liquid
PREP METHOD	----	----	----
PREP DATE	----	----	----
PREP TECHNICIAN	----	----	----
ANALYSIS METHOD	EPA 9252	EPA 353.3	EPA 9038
ANALYSIS DATE	3/30/93	3/30/93	3/29/93
ANALYST	MKS	BAF	MKS
METHOD BLANK	< 1.0 mg/L	< 0.01 mg/L	< 1.0 mg/L
MS % RECOVERY	101	104	89.9
LCS % RECOVERY	100	105	95.9
DUPLICATE RPD	0.0	0.0	2.0
MS/MSD RPD	0.0	0.7	0.0
SPIKE LEVEL	864.1 mg/L	0.5 mg/L	60 mg/L
SPIKED SAMPLE ID No.	D93-3488-1	D93-3494-1	D93-3493-2
DUPLICATE SAMPLE ID No.	D93-3493-2	D93-3494-1	D93-3494-1

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

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BEAUMONT DALLAS HOUSTON

DATE RECEIVED: 25-MAR-1993

REPORT NUMBER: D93-3493

SUBMITTED BY: Ebasco

LABORATORY QUALITY CONTROL REPORT

ANALYTE	RDX	TNB	DNB	TNT
BATCH No.	001	001	001	001
MATRIX	Liquid	Liquid	Liquid	Liquid
PREP METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330
PREP DATE	3/16/93	3/16/93	3/16/93	3/16/93
PREP TECHNICIAN	TLR	TLR	TLR	TLR
ANALYSIS METHOD	EPA 8330	EPA 8330	EPA 8330	EPA 8330
ANALYSIS DATE	3/17/93	3/17/93	3/17/93	3/17/93
ANALYST	PJR	PJR	PJR	PJR
METHOD BLANK	< 0.1 µg/L	< 0.1 µg/L	< 0.1 µg/L	< 0.1 µg/L
MS % RECOVERY	82.6	73.8	63.2	76.6
LCS % RECOVERY	92.0	87.9	76.8	85.9
DUPLICATE RPD	----	----	----	----
MS/MSD RPD	0.49	0.0	1.57	4.09
SPIKE LEVEL	5 µg/L	5 µg/L	5 µg/L	5 µg/L
SPIKED SAMPLE ID No.	Reagent Water	Reagent Water	Reagent Water	Reagent Water
DUPLICATE SAMPLE ID No.	----	----	----	----

MS: Matrix Spike
MSD: Matrix Spike Duplicate
LCS: Laboratory Control Sample
RPD: Relative Percent Difference

COMMENTS:

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: New CLP Forms Contract: 8270

Lab Code: HP002 Case No.: AD-76 SAS No.: 3/14/93 SDG No.: 3/18/93

Matrix Spike - EPA Sample No.: Reag. H20 MS & MSD

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
Phenol	100.00	0.00	95.00	95	12-110
2-Chlorophenol	100.00	0.00	97.00	97	27-123
1,4-Dichlorobenzene	50.00	0.00	45.00	90	36- 97
N-Nitroso-di-n-prop.(1)	50.00	0.00	41.00	82	41-116
1,2,4-Trichlorobenzene	50.00	0.00	47.00	94	39- 98
4-Chloro-3-methylphenol	100.00	0.00	100.00	100 *	23- 97
Acenaphthene	50.00	0.00	51.00	100	46-118
4-Nitrophenol	100.00	0.00	79.00	79	10- 80
2,4-Dinitrotoluene	50.00	0.00	25.00	50	24- 96
Pentachlorophenol	100.00	0.00	99.00	99	9-103
Pyrene	50.00	0.00	52.00	100	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	100.00	89.00	89	6	42	12-110
2-Chlorophenol	100.00	88.00	88	9	40	27-123
1,4-Dichlorobenzene	50.00	42.00	85	5	28	36- 97
N-Nitroso-di-n-prop.(1)	50.00	40.00	80	2	38	41-116
1,2,4-Trichlorobenzene	50.00	45.00	90	4	28	39- 98
4-Chloro-3-methylphenol	100.00	100.00	100 *	0	42	23- 97
Acenaphthene	50.00	51.00	100	0	31	46-118
4-Nitrophenol	100.00	86.00	86 *	8	50	10- 80
2,4-Dinitrotoluene	50.00	26.00	53	5	38	24- 96
Pentachlorophenol	100.00	95.00	95	4	50	9-103
Pyrene	50.00	52.00	100	0	31	26-127

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

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

RPD: 0 out of 11 outside limits
Spike Recovery: 3 out of 22 outside limits

COMMENTS: SW-846 EPA METHOD 8270

3C

LABORATORY CONTROL SAMPLE

015298

Lab Name: New CLP Forms Contract: 8270

Lab Code: HP002 Case No.: AD-76 SAS No.: 3/14/93 SDG No.: 3/17/93

Matrix Spike - EPA Sample No.: BNA LCS (B003)

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	#	QC LIMITS REC.
Phenol	100.00	100.00	100		12-110
2-Chlorophenol	100.00	93.00	93		27-123
1,4-Dichlorobenzene	50.00	43.00	86		36- 97
N-Nitroso-di-n-prop.(1)	50.00	40.00	80		41-116
1,2,4-Trichlorobenzene	50.00	46.00	92		39- 98
4-Chloro-3-methylphenol	100.00	95.00	95		23- 97
Acenaphthene	50.00	49.00	99		46-118
4-Nitrophenol	100.00	79.00	79		10- 80
2,4-Dinitrotoluene	50.00	22.00	44		24- 96
Pentachlorophenol	100.00	88.00	88		9-103
Pyrene	50.00	51.00	100		26-127

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

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

Surrogate Recovery: 0 out of 11 outside limits

COMMENTS: SW-846 EPA METHOD 8270

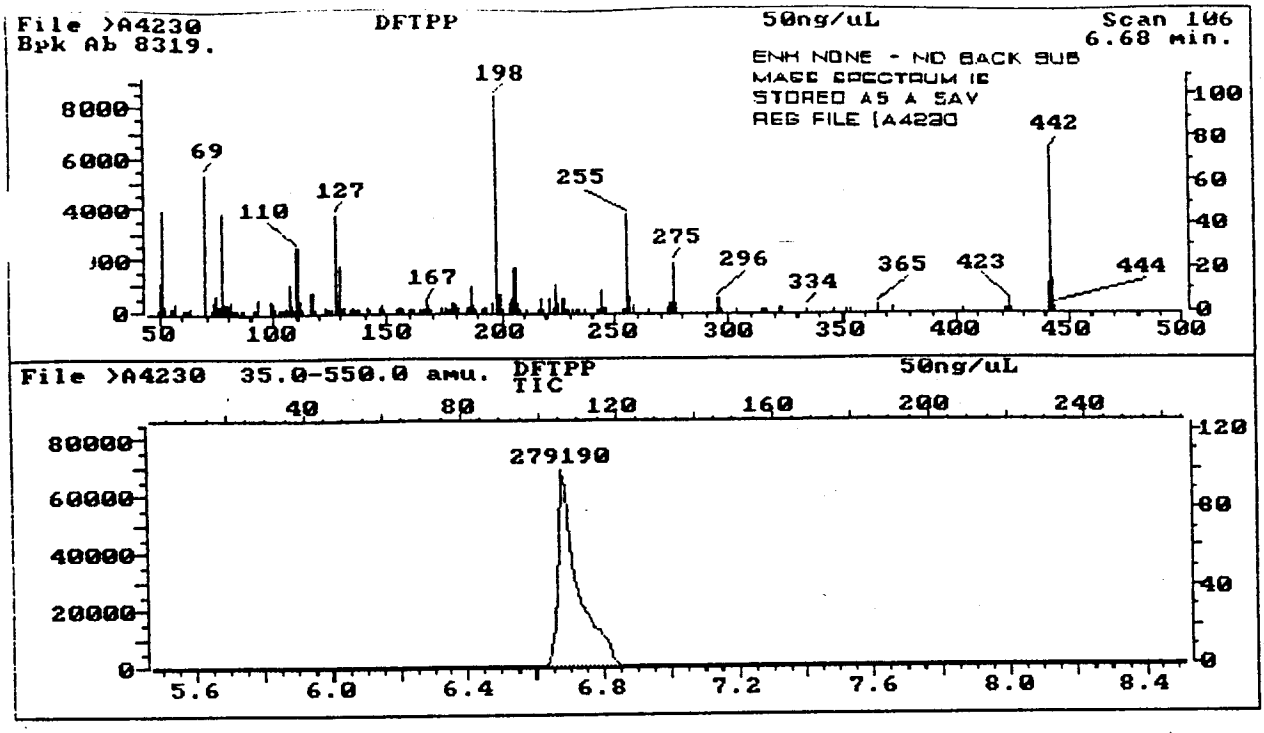
015295

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

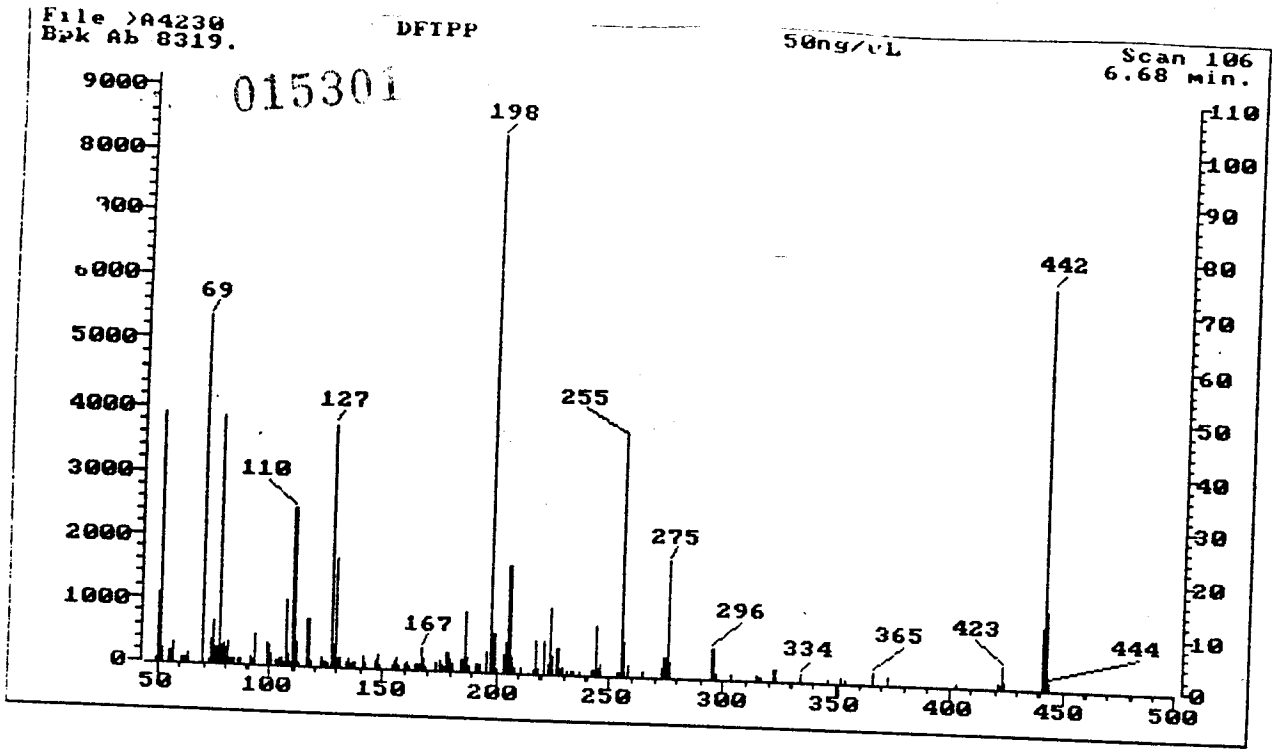
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	46.82	46.82	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	64.73	64.73	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	45.47	45.47	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	7.06	7.06	Ok
275	10-30% of mass 198	21.87	21.87	Ok
365	Greater than 1% of mass 198	2.10	2.10	Ok
441	0-100% of mass 443	11.29	78.78	Ok
442	Greater than 40% of mass 198	74.43	74.43	Ok
443	17-23% of mass 442	14.33	19.25	Ok

Injection Date: 04/02/93
Injection Time: 19:47
Data File: >A4230
Scan: 106



Instrument ID: ABN1 Analyzed on: 4/02/93 19:47

015300



Instrument ID: ABN1 Analyzed on: 4/02/93 19:47

>A4230 DFTPP 50ng/uL
106 NRM

015302

File: >A4230 Scan #: 106 Retn. time: 6.68

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
38.00	.601	98.00	3.895	148.05	2.476	198.00	100.000	256.00	6.143
39.10	3.919	99.00	3.318	149.05	.541	199.00	7.056	258.00	2.188
40.00	.697	101.00	1.647	154.05	.565	200.00	.541	265.00	.890
44.00	.373	103.00	.661	155.05	1.118	203.00	.553	273.10	1.527
49.10	.553	104.00	.950	156.05	1.623	204.00	3.065	274.00	3.450
50.10	12.874	105.00	1.166	157.05	.397	205.10	5.373	275.00	21.866
51.10	46.821	106.00	.493	160.05	.625	206.10	20.111	276.10	2.777
52.10	2.332	107.00	12.033	161.05	1.034	207.10	2.837	277.00	1.719
56.00	1.695	108.00	2.068	161.95	.313	208.10	.601	296.05	5.433
57.00	3.438	109.00	.565	165.05	.685	211.10	.865	297.05	.745
60.95	.613	110.00	29.571	166.15	.878	215.95	.481	303.05	.673
62.05	.793	111.00	4.039	167.05	3.847	216.95	5.938	315.05	.625
63.05	1.587	112.10	.589	168.05	2.272	218.05	.841	315.95	.385
68.95	64.731	116.10	.769	169.05	.361	221.05	5.758	323.05	1.887
73.05	.445	117.00	8.559	173.05	.385	223.05	1.551	334.10	1.010
74.05	4.207	118.00	.841	174.00	1.058	224.05	11.985	346.00	.385
75.05	7.705	123.00	1.310	175.10	1.587	225.05	3.005	352.10	.601
76.05	2.681	124.00	.829	176.00	.301	227.05	4.436	354.00	.553
77.05	46.244	125.00	.505	177.00	.649	228.05	.625	365.10	2.104
78.05	3.173	127.00	45.474	178.00	.313	229.05	.962	366.00	.385
79.05	3.414	128.10	3.750	179.00	3.137	231.05	.421	372.05	1.154
80.05	2.717	129.00	20.519	180.00	2.019	234.05	.349	403.15	.589
81.05	3.690	130.10	1.563	181.00	1.166	236.95	.385	421.00	.673
05	.793	134.10	.709	185.10	1.815	242.05	.673	422.00	.433
.95	.890	135.10	1.491	186.10	10.903	243.05	.601	423.10	3.847
85.05	.625	135.95	.529	187.00	2.596	244.05	9.040	424.10	.938
86.05	.829	137.05	.805	189.00	.649	245.15	1.070	441.10	11.287
91.05	.962	141.05	1.851	192.00	.950	246.05	1.623	442.10	74.432
92.05	.793	141.95	.890	193.00	1.154	254.00	.409	443.10	14.329
93.05	5.493	147.05	1.082	196.00	3.510	255.00	45.017	444.05	1.262

Instrument ID: ABN1 Analyzed on: 4/02/93 19:47

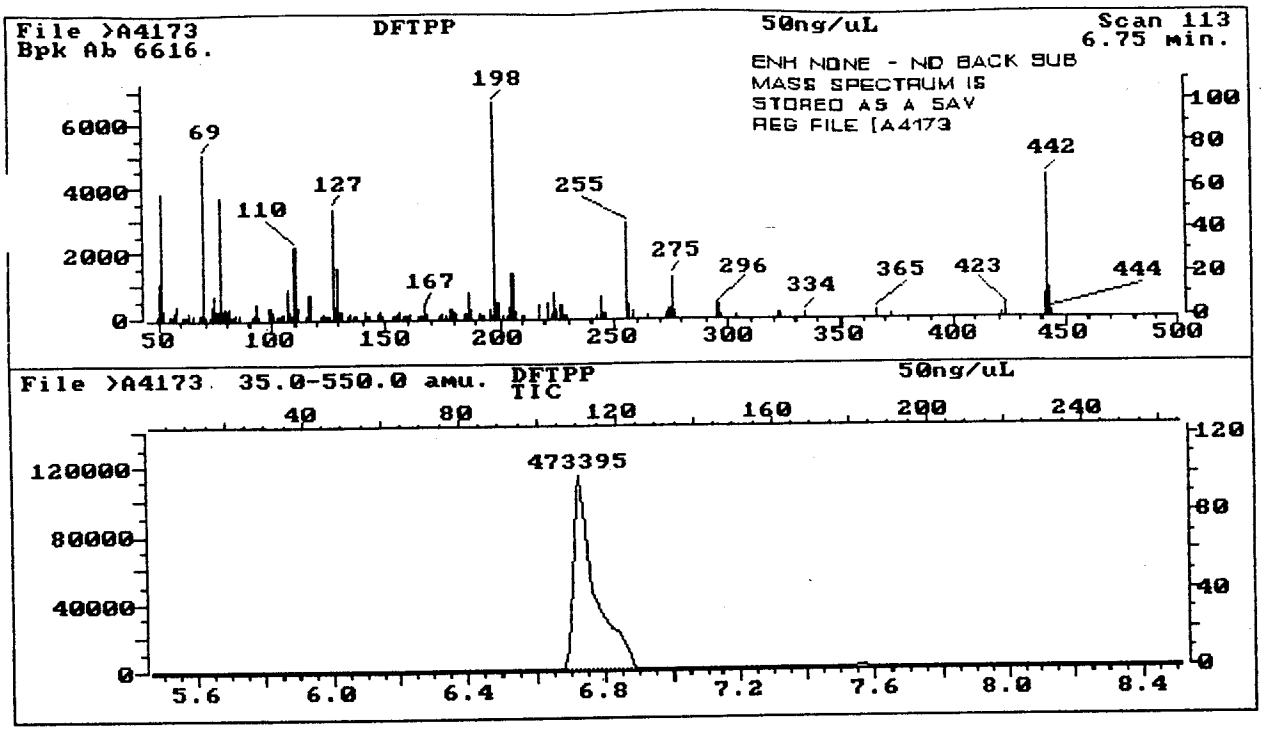
015303

GC/MS PERFORMANCE STANDARD

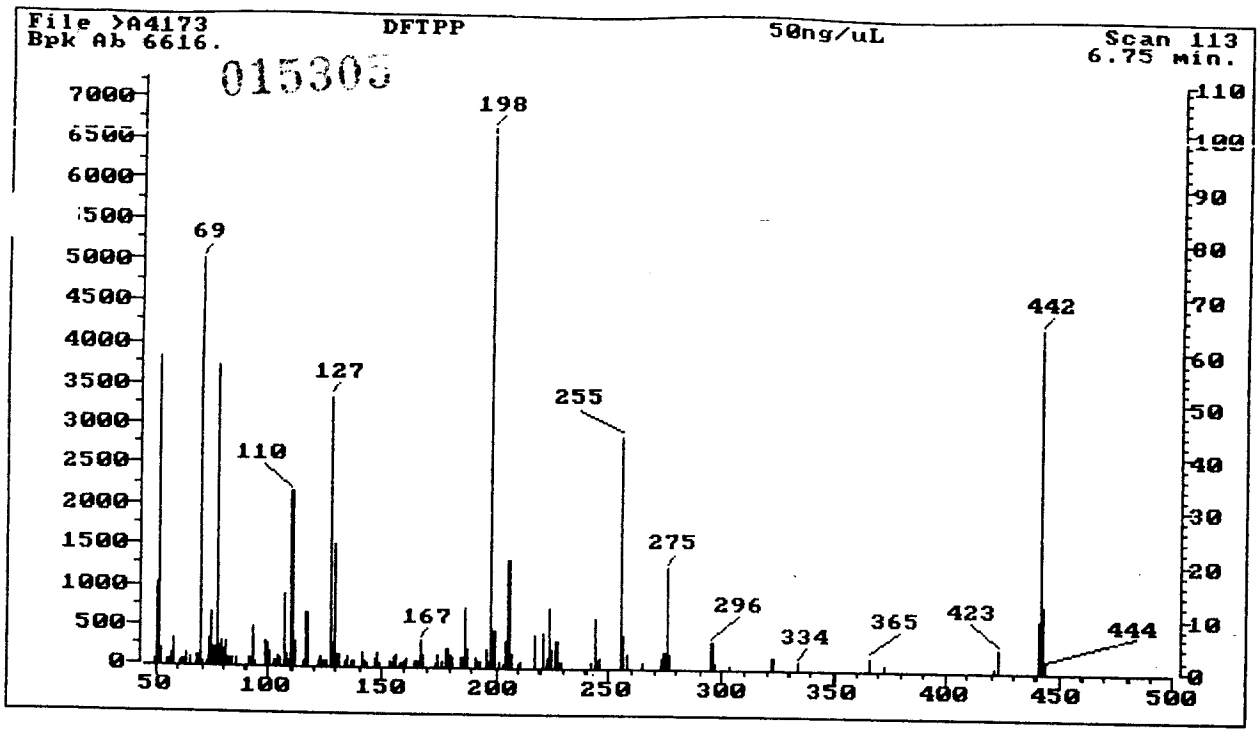
Decafluorotriphenylphospine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.74	57.74	Ok
68	Less than 2% of mass 69	1.39	1.84	Ok
69	(reference only)	75.77	75.77	Ok
70	Less than 2% of mass 69	.39	.52	Ok
127	40-60% of mass 198	50.53	50.53	Ok
197	Less than 1% of mass 198	.83	.83	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.42	6.42	Ok
275	10-30% of mass 198	18.67	18.67	Ok
365	Greater than 1% of mass 198	2.13	2.13	Ok
441	0-100% of mass 443	9.34	78.33	Ok
442	Greater than 40% of mass 198	64.12	64.12	Ok
443	17-23% of mass 442	11.93	18.60	Ok

Injection Date: 03/30/93
Injection Time: 12:48
Data File: >A4173
Scan: 113



Instrument ID: ABN1 Analyzed on: 3/30/93 12:48



Instrument ID: ABN1 Analyzed on: 3/30/93 12:48

>A4173 DFTPP 50ng/uL 015306
113 NRM

File: >A4173 Scan #: 113 Retn. time: 6.75

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
38.10	.816	83.05	1.134	129.00	22.687	181.00	1.270	242.05	.741
39.10	5.396	85.05	.620	130.10	2.041	185.00	1.391	244.05	8.752
43.00	.484	85.95	1.088	134.00	.650	186.00	11.004	245.05	1.255
49.10	.801	91.05	1.043	135.10	1.330	187.10	3.295	246.05	1.587
50.10	15.417	92.05	1.164	137.05	.726	192.10	1.315	255.00	43.395
51.10	57.739	93.05	6.756	140.95	2.343	193.00	.786	256.00	5.970
52.10	2.947	93.95	.544	141.95	.862	196.00	3.189	258.00	2.449
55.10	.756	98.00	4.081	142.95	.514	197.00	.831	265.00	.892
56.10	2.010	99.00	3.643	147.05	1.134	198.00	100.000	273.00	1.542
57.10	4.610	99.90	.589	147.95	2.433	199.00	6.424	274.00	2.857
60.95	.559	101.00	2.343	149.05	.559	201.60	.665	275.00	18.667
61.95	.862	103.00	.680	153.05	.771	203.00	.574	276.00	2.600
63.05	2.237	104.00	1.285	153.95	.574	204.10	2.539	277.00	1.451
65.05	1.088	105.00	1.179	155.05	1.391	205.00	4.398	295.95	4.701
68.05	1.391	107.00	13.331	156.05	1.904	206.10	19.695	296.95	.816
68.95	75.771	108.00	2.207	157.95	.378	207.10	2.615	303.05	.438
70.05	.393	109.10	.605	160.05	.620	210.00	.393	323.05	1.663
72.95	.393	110.00	32.316	160.95	1.103	210.50	.499	334.00	1.149
74.05	4.746	111.00	4.126	165.05	.892	211.10	.650	365.00	2.131
75.05	9.658	116.00	.922	166.05	.695	216.95	5.774	372.05	.831
76.05	3.189	117.00	9.492	167.05	4.550	220.95	6.303	421.10	.499
77.05	56.288	122.00	.816	168.05	1.889	222.95	1.285	423.10	3.748
8.05	3.537	123.10	1.300	173.05	.499	224.05	10.928	424.00	.650
9.05	4.021	124.00	.665	175.00	1.708	225.05	3.008	441.10	9.341
79.95	2.887	125.00	.665	177.00	.801	227.05	4.444	442.10	64.117
81.05	4.217	127.10	50.529	179.00	3.235	228.05	.680	443.10	11.926
82.05	1.028	128.00	3.885	180.00	2.252	229.05	.907	444.05	1.330

Instrument ID: ABN1 Analyzed on: 3/30/93 12:48

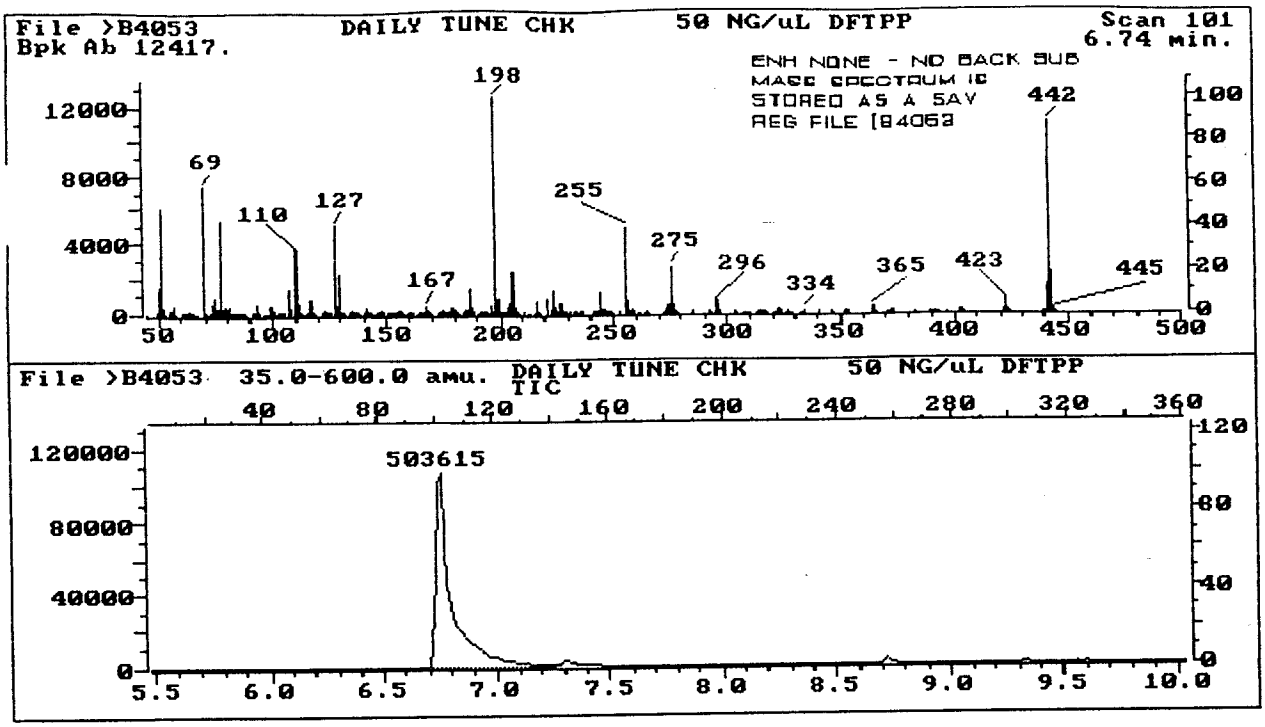
015307

GC/MS PERFORMANCE STANDARD

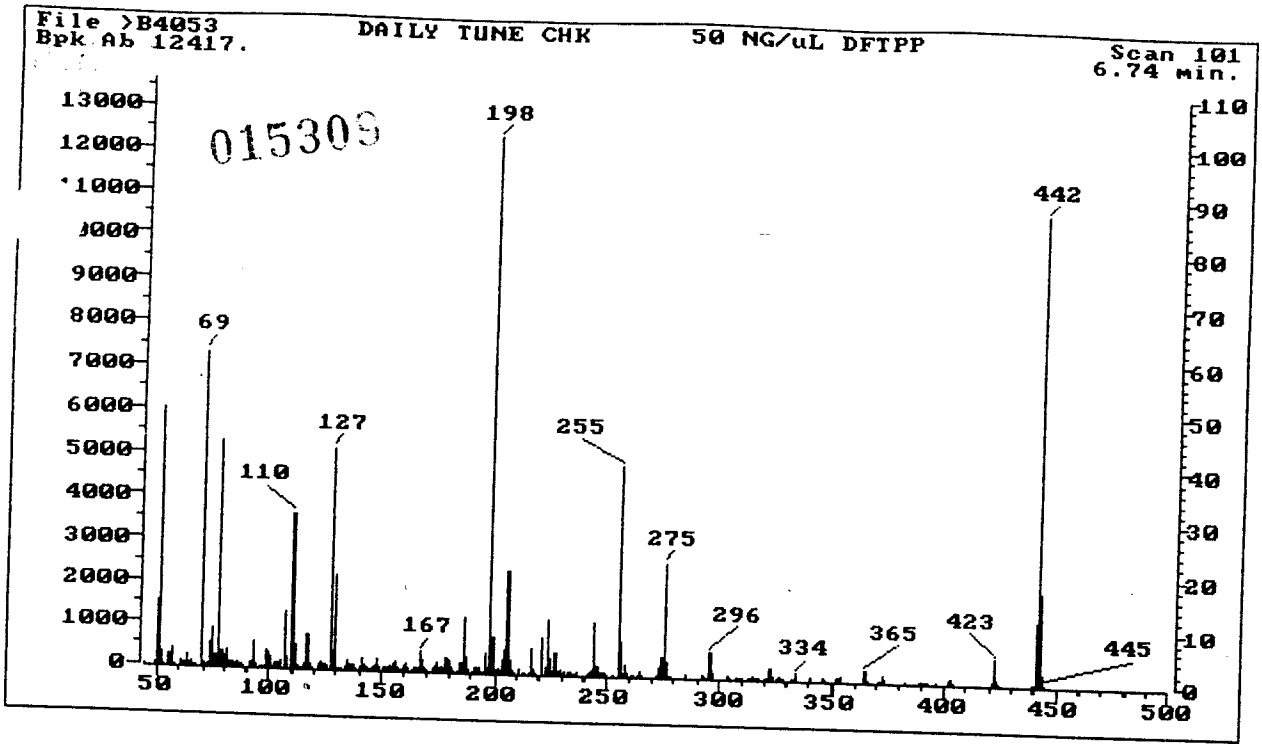
Decafluorotriphenylphospine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	48.28	48.28	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	59.04	59.04	Ok
70	Less than 2% of mass 69	.26	.44	Ok
127	40-60% of mass 198	41.34	41.34	Ok
197	Less than 1% of mass 198	.80	.80	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.39	6.39	Ok
275	10-30% of mass 198	21.08	21.08	Ok
365	Greater than 1% of mass 198	2.05	2.05	Ok
441	0-100% of mass 443	11.50	67.20	Ok
442	Greater than 40% of mass 198	87.10	87.10	Ok
443	17-23% of mass 442	17.11	19.65	Ok

Injection Date: 03/17/93
Injection Time: 19:51
Data File: >B4053
Scan: 101



Instrument ID: ABN2 Analyzed on: 3/17/93 19:51



Instrument ID: ABN2 Analyzed on: 3/17/93 19:51

015310

>B4053 DAILY TUNE CHK 50 NG/uL DFTPP
101 NRM

File: >B4053 Scan #: 101 Retn. time: 6.74

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
38.10	.878	101.05	1.675	161.80	.282	218.95	.081	308.65	.089
39.10	4.913	101.95	.097	163.80	.113	220.95	6.443	309.85	.072
40.00	.370	103.05	.596	164.10	.105	222.95	1.144	312.95	.064
44.10	.894	103.95	.926	165.00	.564	224.00	10.244	313.85	.242
45.00	.201	104.95	.974	165.90	.467	224.90	2.642	314.95	.475
49.00	.507	107.05	10.558	167.00	3.318	226.00	.306	315.95	.242
50.10	12.096	108.05	2.054	168.00	1.691	226.90	3.825	316.75	.089
51.10	48.281	110.05	28.968	169.00	.354	227.90	.572	320.85	.145
52.10	2.497	111.05	4.027	170.30	.137	228.90	.757	321.05	.145
52.80	.081	112.05	.467	170.80	.145	229.90	.113	323.00	1.691
53.80	.064	113.05	.129	172.00	.387	230.90	.338	323.90	.354
55.00	.306	114.05	.072	173.10	.370	231.90	.064	325.90	.040
56.00	1.756	115.95	.636	174.00	.693	233.80	.322	326.90	.282
57.00	3.294	116.95	6.274	175.05	1.425	235.00	.201	327.90	.129
58.00	.161	117.95	.612	175.85	.499	235.90	.234	329.50	.040
61.00	.652	118.85	.121	176.95	.781	237.00	.362	331.90	.193
62.10	.515	122.05	.725	178.05	.298	241.00	.225	333.10	.185
63.10	1.619	122.95	1.240	178.95	2.617	241.90	.540	334.00	1.015
63.90	.266	124.05	.652	179.95	1.828	243.00	.668	334.90	.314
65.10	.725	124.90	.556	180.95	.862	244.00	9.415	340.90	.274
66.00	.097	127.00	41.338	182.05	.185	245.00	1.305	345.90	.419
67.20	.072	128.00	3.125	183.85	.225	246.00	1.289	346.80	.089
9.00	59.040	129.00	17.822	184.95	1.289	247.00	.330	351.90	.499
0.00	.258	129.90	1.474	185.95	10.300	248.90	.346	352.90	.346
70.80	.056	130.90	.234	187.05	2.650	250.00	.121	354.00	.685
71.10	.040	132.00	.105	188.05	.379	252.80	.250	364.90	2.054
73.10	.282	134.00	.451	188.95	.443	255.00	39.261	365.90	.209
74.00	3.995	135.00	1.272	190.95	.217	256.00	6.056	371.10	.113
75.05	7.143	136.00	.620	191.95	.918	256.90	.435	371.90	1.031
76.05	2.110	137.00	.765	192.95	.652	258.00	1.876	372.95	.258
77.05	42.635	137.80	.129	194.15	.225	259.00	.395	382.95	.169
78.05	2.714	139.80	.258	195.15	.153	261.00	.072	389.45	.105
78.95	2.811	141.00	2.013	195.95	3.463	263.80	.081	389.95	.169
80.05	2.070	142.00	.628	196.75	.797	265.00	.789	390.85	.113
81.05	2.964	143.00	.443	197.95	100.000	266.00	.137	391.85	.081
81.95	.789	143.90	.129	198.95	6.394	272.10	.153	396.35	.040
83.05	.741	145.00	.161	199.95	.483	272.90	1.281	401.95	.346
84.05	.338	146.00	.274	201.55	.628	273.95	3.503	402.95	.596
84.95	.491	147.00	.821	202.15	.097	274.95	21.076	403.95	.153
85.95	.886	148.00	1.715	202.85	.564	275.95	2.778	421.05	.467
86.95	.451	149.00	.370	204.05	2.448	276.95	1.466	421.95	.532
87.95	.298	151.10	.290	204.95	4.059	277.95	.250	422.90	4.607
88.95	.113	151.70	.274	205.95	18.990	278.85	.064	423.90	.693
91.05	.668	153.00	.676	207.05	2.577	284.95	.266	424.80	.137
92.05	.918	153.80	.387	207.95	.556	292.95	.370	439.30	.097
93.05	4.333	155.00	1.071	208.95	.129	293.85	.097	439.60	.089
93.95	.298	156.00	1.385	211.05	.813	295.95	4.687	440.90	11.500
96.05	.217	157.10	.322	212.75	.040	296.95	.709	441.90	87.098
97.05	.113	157.90	.427	214.95	.169	302.95	.540	442.90	17.114
98.05	3.028	158.80	.177	215.95	.330	303.95	.153	443.90	1.611
99.05	2.787	160.00	.636	216.85	4.534	308.05	.081	444.90	.153
100.05	.387	161.00	1.031	217.95	.636				

Instrument ID: ABN2 Analyzed on: 3/17/93 19:51

015311 WATER VOLATILE MATRIX SPIKE/MATRIX SPIKD DUPLICATE RECOVERY

Lab Name:New CLP Forms Contract:NDRC-DALLAS

Code: HP001 Case No.: AD-76 SAS No.: SHEILA SDG No.: 04/01/93

Matrix Spike - EPA Sample No.: RW 50ug/L

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.00	0.00	51.2	102	61-145
Trichloroethene	50.00	0.00	51.6	103	71-120
Benzene	50.00	0.00	53.5	107	76-127
Toluene	50.00	0.00	51.8	104	76-125
Chlorobenzene	50.00	0.00	51.0	102	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.00	49.5	99.0	3	14	61-145
Trichloroethene	50.00	48.7	97.4	6	14	71-120
Benzene	50.00	50.0	100	7	11	76-127
Toluene	50.00	49.3	98.6	5	13	76-125
Chlorobenzene	50.00	49.5	99.0	3	13	75-130

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

* Values outside of qc limits

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

COMMENTS: SW-846 METHOD 8240

LABORATORY CONTROL SAMPLE

Lab Name:New CLP Forms Contract:NDRC DALLAS

Lab Code: HP001 Case No.: AD-76 SAS No.: SHEILA SDG No.: 03/31/93

Matrix Spike - EPA Sample No.: LCS

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	49.4	98.8	61-145
Trichloroethene	50	47.8	95.6	71-120
Benzene	50	51.4	103	76-127
Toluene	50	49.6	99.2	76-125
Chlorobenzene	50	48.5	97.0	75-130

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS: SW-846 METHOD 8240

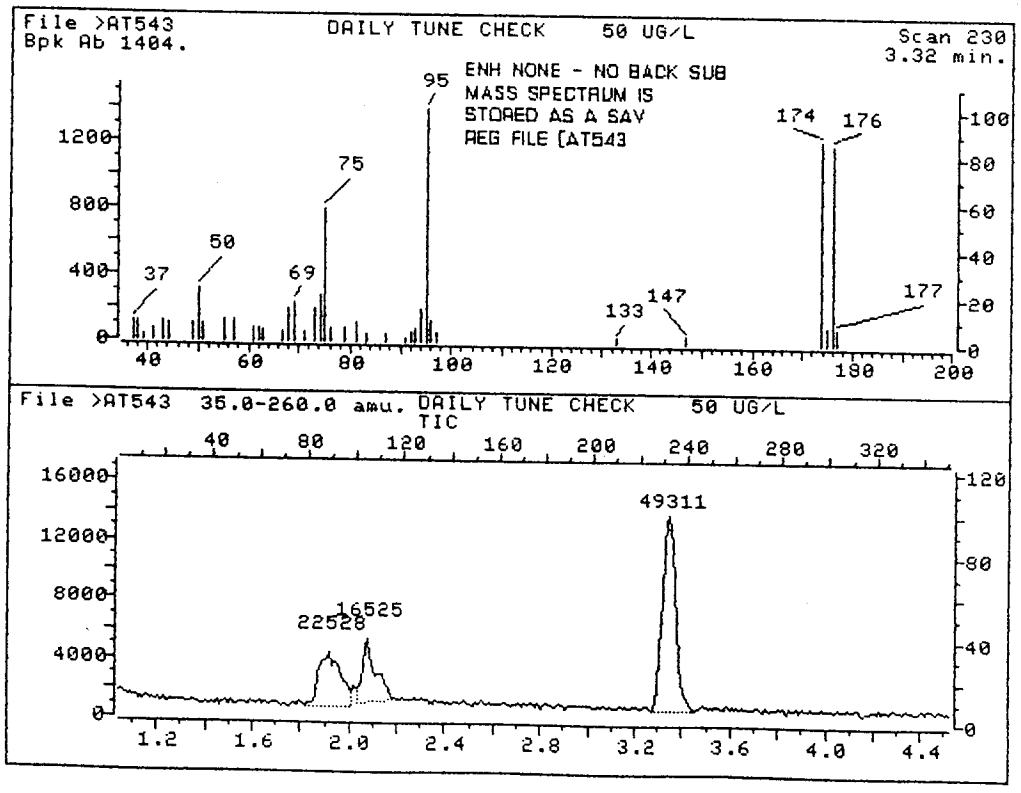
015313

GC/MS PERFORMANCE STANDARD

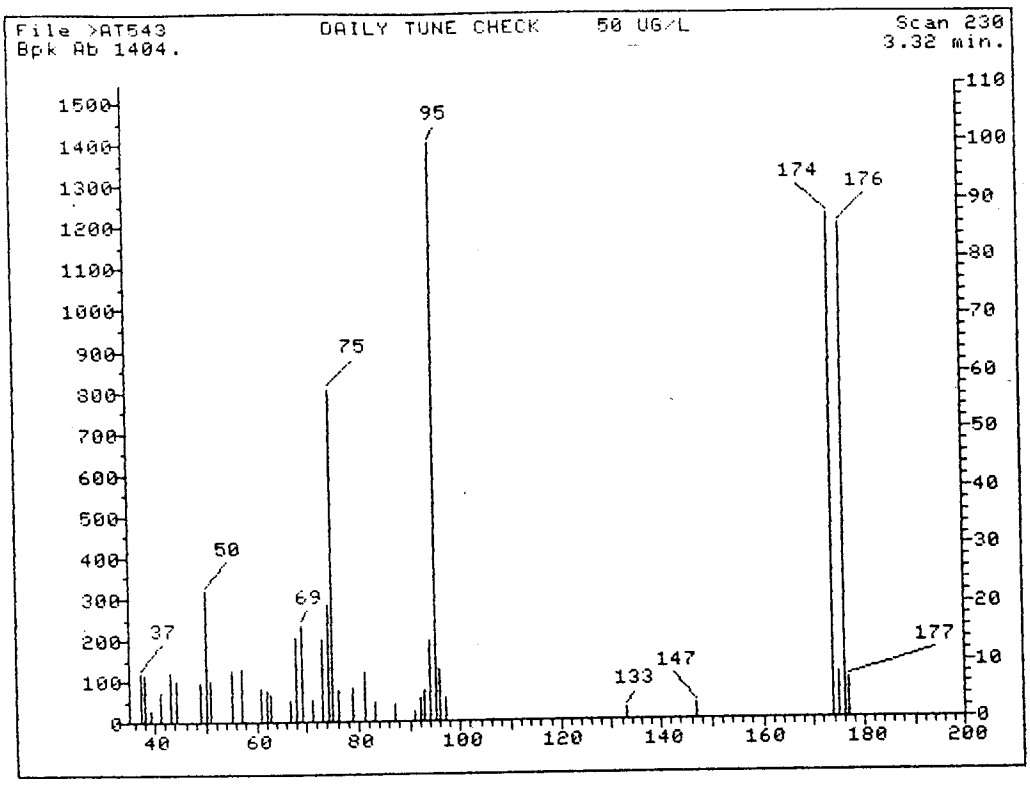
Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.65	22.65	Ok
75	30-60% of mass 95	57.26	57.26	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.76	8.76	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	87.25	87.25	Ok
175	5-9% of mass 174	7.69	8.82	Ok
176	95-101% of mass 174	85.54	98.04	Ok
177	5-9% of mass 176	6.77	7.91	Ok

Injection Date: 03/31/93
Injection Time: 06:20
Data File: >AT543
Scan: 230



Instrument ID: VOA1 Analyzed on: 3/31/93 6:20



Instrument ID: VOA1 Analyzed on: 3/31/93 6:20

015315

>AT543 DAILY TUNE CHECK 50 UG/L
230 NRM

File: >AT543 Scan #: 230 Retn. time: 3.32

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.15	8.405	51.05	7.194	69.05	16.738	83.05	3.419	97.05	4.202
38.05	8.120	55.05	8.832	71.05	3.775	87.05	3.276	133.05	1.994
39.05	2.279	57.05	9.259	73.05	14.316	90.95	1.638	147.05	2.778
41.05	5.057	61.05	5.983	74.05	20.299	91.95	3.989	173.95	87.251
43.15	8.405	62.05	5.556	75.05	57.265	93.05	5.342	174.95	7.692
44.05	7.265	63.05	4.772	76.05	5.556	94.05	13.889	175.95	85.541
48.95	6.980	66.95	3.632	78.95	5.912	95.05	100.000	176.95	6.766
50.05	22.650	68.05	14.459	81.05	8.547	96.05	8.761	206.95	6.980

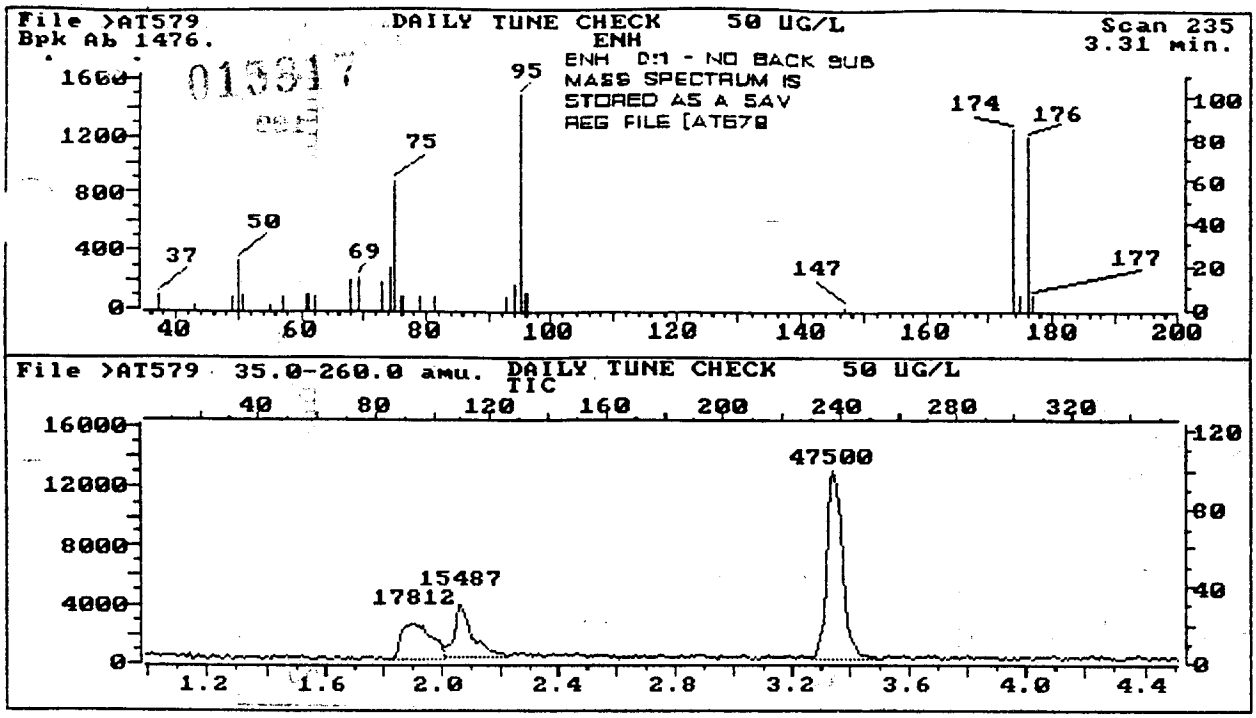
Instrument ID: VOA1 Analyzed on: 3/31/93 6:20

GC/MS PERFORMANCE STANDARD

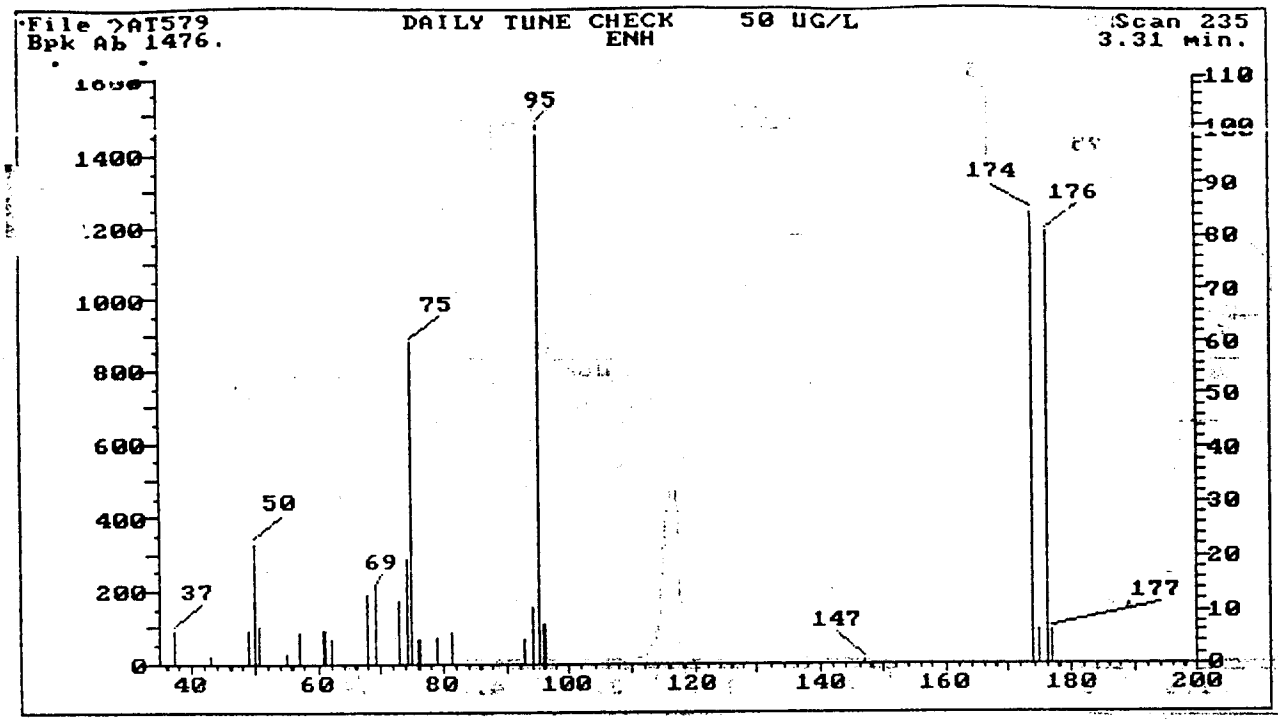
Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.53	22.53	Ok
75	30-60% of mass 95	59.55	59.55	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.59	7.59	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	84.38	84.38	Ok
175	5-9% of mass 174	6.30	7.47	Ok
176	95-101% of mass 174	80.72	95.66	Ok
177	5-9% of mass 176	6.20	7.68	Ok

Injection Date: 04/01/93
Injection Time: 07:17
Data File: >AT579
Scan: 235



Instrument ID: VOA1 Analyzed on: 4/01/93 7:17



015318

Instrument ID: VOA1 Analyzed on: 4/01/93 7:17

>AT579 DAILY TUNE CHECK 50 UG/L

NRM EM

File: >AT579 Scan #: 235 Retn. time: 3.31

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.05	6.165	57.15	5.793	74.05	19.309	93.05	4.539	173.95	84.383
43.15	1.423	61.05	6.267	75.05	59.553	94.05	10.467	174.95	6.301
49.05	6.064	62.05	4.776	76.05	4.946	95.05	100.000	175.95	80.725
50.05	22.527	68.05	13.076	78.95	5.047	96.05	7.588	176.95	6.199
51.05	6.843	69.15	14.126	81.05	5.860	147.05	.711	207.05	7.249
55.15	1.863	73.05	11.687						

Instrument ID: VOA1 Analyzed on: 4/01/93 7:17

NDRC LABORATORIES, INC. Nº 23648

Dallas - 1089 East Collins Blvd. • Richardson, Texas 75081 • (214) 238-5591 • Fax (214) 238-5592 015320

SAMPLE PRESERVATION INFORMATION SHEET

Field Sampling ☐ Incoming Samples ☐

GENERAL

Company: Ebasco Job No: 3493

No. of Cooler(s): Temperature of Cooler(s): 4° C

PRESERVATION INFORMATION

Sample No.	Temperature of Sample	Sample Container	Volume	Preservation used *	Initial pH	Final pH	Bottles generated	Comments
3493-1		GCAG	1L	8	6.8	6.8	1	NP
1		1AG	1	3	<2	<2	1	metals
1		1	1	2	1	1	1	NO3-NO2
2		GCAG	1	8	6.8	6.8	1	NP
2		1AG	1	3	<2	<2	1	metals
2		1	1	2	1	1	1	NO3-NO2
								already received