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Tronox LLC, Columbus

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ID	Branch	SIC	County	Basin	Start	End
1696	Timber and Wood Products	2491	Lowndes	Tombigbee River	10/27/1992	

Physical Address (Primary)	Mailing Address
2300 14th Avenue North Columbus, MS 39701	PO Box 268859 Oklahoma City, OK 731268859

Telecom Type	Address or Phone
Work Phone Number	(405) 775-5168 (Oklahoma City Office)
Work fax number	(405) 775-6562

Alt ID	Alt Name	Alt Type	Start	End
2808700020	Tronox LLC, Columbus	Air-AIRS AFS (MDEQ USE ONLY)	10/12/2000	
168000020	Kerr McGee Chemical Corporation, Columbus	Air-Construction	06/12/1998	
168000020	Kerr McGee Chemical Corporation, Columbus	Air-Synthetic Minor Operating	06/06/1997	06/01/2002
168000020	Kerr McGee Chemical Corporation, Columbus	Air-Synthetic Minor Operating	06/12/1998	06/01/2002
1696 001	Kerr Mcgee, Columbus	GARD	08/01/1980	
MSR220010	Kerr McGee Chemical Corporation, Columbus	GP-Wood Treating	10/27/1992	07/13/1997
MSD990866329	Kerr McGee Chemical Corporation, Columbus	Hazardous Waste-EPA ID	10/12/2000	
MSD990866329	Kerr McGee Chemical Corporation, Columbus	Hazardous Waste-TSD	06/11/2001	04/12/2006
MSD990866329	Tronox LLC, Columbus	Hazardous Waste-TSD	04/13/2006	05/31/2011
1696	Kerr McGee Chemical Corporation	Historic Site Name	10/27/1992	04/10/2006
1696	Tronox, LLC	Official Site Name	04/10/2006	
MSP090021	Kerr McGee Chemical Corporation, Columbus	Water - Pretreatment	10/11/1994	10/10/1999
MSP090021	Kerr McGee Chemical Corporation, Columbus	Water - Pretreatment	08/23/2000	07/31/2005

MSP090021	Kerr McGee Chemical Corporation, Columbus	Water - Pretreatment	10/31/2005	04/12/2006
MSP090021	Tronox LLC, Columbus	Water - Pretreatment	04/13/2006	09/30/2010

Program	SubProgram	Start Date	End Date
Air	NSPS Subpart Dc	09/12/1990	06/01/2002
Air	SM	06/06/1997	06/01/2002
Hazardous Waste	Large Quantity Generator	04/01/1997	
Hazardous Waste	TSD - Not Classified	06/11/2001	
Water	PT CIU	10/11/1994	09/01/2003
Water	PT CIU - Timber Products Processing (Subpart 429)	10/11/1994	09/01/2003
Water	PT NCS	09/01/2003	
Water	PT SIU	10/11/1994	

Latitude	Longitude	Metadata	S / T / R	Map Links
33 ° 30 ' 38 .51 (033.510697)	88 ° 24 ' 34 .02 (088.409450)	Point Desc: PG - Plant entrance (General) Data collected by Louis Crawford on 7/11/00. PG - Plant Entrance (General) Data collected by Clift Jeter on 6/13/02. LAT 33deg 30min 36.6sec LON 88deg 24min 35.1sec Method: GPS Code (Psuedo Range) Differential Datum: NAD83 Type: MDEQ	Section: Township: Range:	MGIS Google Maps MapQuest

10/5/2010 8:07:01 AM

TRONOX

Ditch Investigation & Remediation Report
Propst Park & 7th Avenue
2006 – 2007

Volume I

Tronox LLC
EPA ID No. MSD 990 866 329
June 24, 2010



Ditch Investigation & Remediation Report
Propst Park & 7th Avenue
2006 – 2007

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1.0 INTRODUCTION

Tronox LLC (Tronox) owns a former wood treating facility in Columbus, MS. The facility used creosote and pentachlorophenol to treat wood products for railroad use including cross-ties, switch ties and pilings. The wood treating operations began in 1928 and were discontinued in 2003.

The north and east side of the facility are bordered by an urban ditch that is part of an extensive storm water drainage system which originates north of the facility. From the facility the ditch generally flows in a south east direction and ultimately discharges to Luxapallila Creek. Storm water from the facility has historically drained to the ditch.

In 2004 Tronox, then known as Kerr-McGee Chemical LLC, conducted interim measures to address impact related to the wood treating operations in a portion of the ditch along the east side of the facility. The work was conducted in accordance with an *Interim Measures Work Plan* as approved by the Environmental Protection Agency (EPA) and Mississippi Department of Environmental Quality (MDEQ) in August 2004.

In September 2006, the City of Columbus (City) began a drainage improvement project downstream of the facility. The project began at an entry to a City recreational park, Propst Park; the entry is approximately 2,200 feet south and east of the facility at the east end of 7th Avenue North (7th Avenue). The proposed improvements included replacing two existing corrugated pipe culverts under 7th Avenue with a cast-in-place reinforced concrete box culvert. During excavation activities related to the drainage improvements a contractor for the City encountered soil containing dark hydrocarbon-like materials suspected to be creosote due to their proximity to the former wood treating facility. The City requested that Tronox assess the nature and extent of the affected soils and, if necessary, implement remedial activities prior to resuming the drainage improvements.

This report has been prepared by Tronox to document the investigation and remedial activities conducted along 7th Avenue and in Propst Park. The ditch remediation activities discussed herein were conducted in accordance with the August 2004, *Interim Measures Work Plan*.

2.0 SUMMARY OF INVESTIGATION ACTIVITIES

At various times from September 2006 through November 2007 Tronox conducted investigation activities in the ditch along 7th Avenue and in Propst Park between 7th Avenue and 5th Avenue where the City's drainage project was to end. The section of ditch downstream of 5th Avenue had been addressed in an earlier drainage project and the banks are lined with gabions and rip-rap.

The investigation activities included using excavation equipment to dig holes, using direct push technology to install soil borings and using a small diameter steel rod to

probe the ditch bottom. The investigation revealed areas where soil contained dark hydrocarbon-like materials.

Numerous samples were collected and shipped under standard chain-of-custody protocols to Newfields – Environmental Forensics Practice Laboratory in Rockland, MA (Newfields). In addition, samples of hydrocarbon materials from the wood treating facility, identified as WIER BOX NAPL and ROLL OFF BOX, were collected for comparative analysis; and, a sample identified as PROPST CHAR was collected as a composite sample from samples PROPST A, B, C, and D for disposal characterization.

Newfields performed analysis of total petroleum hydrocarbons (TPH) by SW-846 Method 8015 Modified (also referred to as hydrocarbon fingerprinting) and for PAHs by SW-846 Method 8270C. Through this type of analysis Newfields concluded that virtually all samples contained creosote or coal tar.

In February of 2007 a Geoprobe rig was mobilized and soil borings were completed to determine if impacted soils were present beyond the banks of the ditch in two areas. One area was located in Propst Park approximately between Station 6 + 00 DS and Station 9+ 00 DS. A total of 17 soil borings were completed in the area. The second area was located along the 7th avenue south bank approximately between Station 1 + 40 US and Station 2 + 70.5 US. Three soil borings were completed in this area. None of the soil borings encountered soil containing hydrocarbon-like materials so no assessment samples were collected from any of the 20 borings. The notes from the filed log book and the soil boring logs are included in **Appendix C**.

Figure 1 shows the locations that were sampled and the soil boring locations. **Table 1** summarizes the data interpretation and **Appendix A** contains summaries of the sample characteristics and the Newfield's data reports.

3.0 SUMMARY OF REMEDIATION ACTIVITIES

Based on the analytical results, and in response to the City's request, Tronox conducted remedial activities in Propst Park between 7th Avenue and 5th Avenue as well as in about 130 feet of the ditch at the eastern end of 7th Avenue. The areas are shown on **Figure 2** as Remediation Area 1 (RA 1) through Remediation Area 8 (RA 8). It is important to note that although most the remediation areas span significant distances much of the impact occurred in pockets of varies sizes and shapes rather than as continuous deposits over the length of the remediation area.

Generally the remediation areas were addressed in separate remedial efforts. RA 1, RA 2 and RA 3 were part of the initial remedial effort conducted in September 2006. RA 4, RA 5 and RA 6 were addressed in remedial efforts conducted in December 2006 and January 2007. Remedial efforts in RA 7 were conducted in April of 2007 and remedial efforts in RA 8 were conducted in November 2007.

In addition, Tronox in July 2007 removed soil imported to construct a temporary dam in RA 7.

3.1 Water Management

Prior to initiating excavation work in the individual remediation areas a temporary stream diversion system was constructed to by-pass the flow of water around the excavation area. The general configuration of the diversion system is shown in **Figure 3**. Earthen dams were constructed with imported clay upstream and downstream of discrete segments in each remediation area. The upstream dam served to block the flow of water into the segment during excavation while the downstream dam served to prevent backwater from entering the segment during excavation. A transfer pump was used to divert surface water around the area of excavation. A series of three silt fences were installed downstream of the discharge point to prevent the potential transport of sediments downstream. A smaller pump was used to remove water that remained in the excavation area following construction of the downstream dam. An absorbent boom was placed on the upstream side of each of the first two silt fences to capture oil sheen, if any, that might be released past the dams as a result of pumping water.

3.2 Excavation of Impacted Soils

A track-mounted excavator was used to remove impacted soil from the remediation areas and to load it directly into roll-off boxes. Each of the roll-off boxes was lined with plastic sheeting prior to loading them. Plastic sheeting was also placed on the ground between the ditch and the roll-off boxes to contain loose or wet soil which could spill out of the excavator bucket. Once a roll-off box was loaded, it was covered and moved to a staging area located in Propst Park for subsequent transportation to the disposal facility.

After completing excavation confirmation samples were collected and the remediation areas in the ditch were backfilled with clean gravel to within a few inches of the ditch's normal flow line as requested by the City. Upon completion of the backfill activities, the remediation areas and adjacent properties were restored to pre-remedial conditions. Restoration activities included removing the temporary stream diversion systems, grading the ditch banks along equipment and transport truck routes and general housekeeping.

Although remedial activities were conducted in essentially the same manner in each area there were differences at times such as using dump trucks rather than roll off boxes in RA 7 and RA 8. In addition, the soil from RA 7 was hauled to main plant on 14th Avenue and placed in a prepared area to dry before it was transported to the disposal facility. The drying area was prepared by placing plastic sheeting over a concrete slab. Sand bags were placed under the plastic sheeting along the perimeter of the drying area forming berms that prevented storm water run on and runoff. The soil pile was also covered with plastic sheeting to prevent rainfall from adding moisture as the soil dried. The cover was held in place with sandbags. The soil remained in the drying area for approximately 6 weeks before it was transported to the disposal facility.

3.3 Equipment Decontamination

The construction equipment (i.e., excavator) and pumps utilized during the project were decontaminated prior to leaving work areas. Decontamination activities included removing bulk solids and any other signs of visible contamination using such tools as scrapers and brushes.

3.4 Disposal of Impacted Soils

Based on sample PRPBST CHAR the impacted ditch soils were originally profiled for disposal at Chemical Waste Management's (CWM) Subtitle C facility in Emelle, Alabama as a non-hazardous waste. A copy of the approved waste profile is included in **Appendix D**.

During excavation activities conducted during September 2006, December and January 2007, and February 2007 the impacted ditch soils were loaded roll-off boxes provided by CWM. The roll-off boxes were delivered a plastic liner installed and tarp covers. The loaded roll-off boxes were staged in Propst Park near the ditch bank in each area of remediation for ease of loading and to reduce spilling. After they were loaded the roll-off boxes were transported for the disposal. Copies of the waste manifests are included in **Appendix E**.

In later remedial activities (April through November 2007) Tronox implemented prior determination that the impacted soils were not a RCRA hazardous waste because they were neither a listed hazardous waste nor a characteristic hazardous waste. In correspondence dated September 15, 2004, the Mississippi Department of Environmental Quality (MDEQ) concurred with the determination. A copy of the letter is included in **Appendix D**. As a result, impacted ditch soils removed from the ditch along 7th Avenue (RA-7) in April 2007 were profiled for disposal at Chemical Waste Management's (CWM) Prairie Bluff Subtitle D facility in Houston, Mississippi. A copy of the approved waste profile is included in **Appendix E**.

After the April 2007 removal action in RA-7, CWM was notified by Golden Triangle Solid Waste Management Authority (GTSWA) that Golden Triangle Regional Landfill (GTRL) had flow control in Lowndes County. A special waste profile for the impacted ditch soils was approved by GTSWA and the soil removed from RA-8 was transported to GTRL by dump truck. Copies of the approved waste profiles are included in **Appendix D** and copies of the waste manifests are included in **Appendix E**.

Solids removed from the equipment during decontamination as well as the absorbent booms, absorbent pads and silt fence that were used during the remediation were transported for disposal with the affected soils.

4.0 SUMMARY OF CONFIRMATION SAMPLING ACTIVITIES

Following excavation of the impacted soil from the ditch and prior to backfilling the ditch confirmation samples were collected from the ditch bottom soil to verify that clean-up goals had been achieved. The confirmation samples were shipped under standard chain-of-custody protocols to E-Lab Analytical, Inc. in Houston, Texas or to Lancaster Laboratories in Lancaster, Pennsylvania to be analyzed for PAHs by SW-846 Method 8270C.

A total of 24 confirmation samples were collected. The confirmation sample locations are shown on **Figure 2** and copies of the analytical reports are included in **Appendix B**.

The confirmation samples were compared to EPA Region 9 Preliminary Remediation Goals (PRG) of October 2004, with a residential target risk of 1×10^{-4} . A summary of the comparison is presented in **Table 2**. As shown on **Table 2**, only one compound from one sample exceeded a PRG. Sample 7+10 (which was taken in Propst Park from Station 7+10 downstream) had a benzo(a)pyrene concentration of 9.3 mg/kg versus a PRG of 6.2 mg/kg.

In addition to confirmation samples during the April 2007 remediation in RA-7 Tronox collected three composite samples of the affected ditch soil as it was being loaded into dump trucks. TCLP analysis was performed on the samples to submit with the waste profile for Chemical Waste Management's (CWM) Prairie Bluff Subtitle D facility in Houston, Mississippi. The samples are identified as *Box Culvert 1 Composite Sample*, *Box Culvert 2 Composite Sample* and *Box Culvert 3 Composite Sample* in the report for Sample Group 1035461 (submitted to the lab on April 26, 2007). A copy of the report is included in **Appendix B**.

Appendix A

**Summary of Sample Characteristics
& Assessment Laboratory Reports**

Summary of Sample Characteristics--Tronox Columbus
Samples Collected Between 9-13-2006 and 2-15-2007

Client ID	Date Collected	Lab ID	Matrix	¹ TPH (mg/kg or mg/L)	Total Priority Pollutant PAH (mg/kg or mg/L)	Type or Types of Hydrocarbon Material Found
WIER BOX NAPL	9/13/2006	0609052-09	NAPL	760,000	339,750	Slightly weathered creosote (coal tar derived) NAPL
PROPST A STA-100' 12"	9/13/2006	0609052-01	Soil	700	89	Mixture of heavy petroleum and heavy carbonized water gas tar. Likely road tar/roofing tar.
PROPST B STA-50' 12"	9/13/2006	0609052-02	Soil	5,400	177	Heavy petroleum (waste oil) and combustion-derived PAH
PROPST C STA-05' 12"	9/13/2006	0609052-03	Soil	8,600	2,581	Moderately weathered creosote (coal tar derived)
PROPST D STA-05' 12"	9/13/2006	0609052-04	Soil	10,000	3,735	Moderately weathered creosote (coal tar derived)
PROPST E STA +175'N.EDG	9/13/2006	0609052-05	Soil	8	0.12	No hydrocarbon product evident. Traces of anthropogenic PAH.
PROPST F BPRC E.EDG	9/13/2006	0609052-06	Soil	990	31	Heavy petroleum (waste oil) and combustion-derived PAH
PROPST G STA + 50'	9/13/2006	0609052-07	Soil	31	0.87	No hydrocarbon product evident. Traces of anthropogenic PAH.
PROPST CHAR	9/13/2006	0609052-08	Soil	3,900	805	Moderately weathered creosote (coal tar derived); some heavy petroleum.
ROLL OFF BOX	9/13/2006	0609052-10	Soil	6,000	1,910	Moderately weathered creosote (coal tar derived)

¹ Soil and oil/NAPL samples reported in mg/kg. Water samples reported in mg/L.

Client ID	Date Collected	Lab ID	Matrix	1-TPH (mg/kg or mg/L)	Total Priority Pollutant PAH (mg/kg or mg/L)	Type or Types of Hydrocarbon Material Found
PROPSI H	9/25/2006	0609108-01	Soil	1,100	229	Moderately weathered coal tar
PROPSI I	9/25/2006	0609108-02	Soil	1,000	306	Moderately weathered creosote (coal tar derived)
PROPSI J	9/27/2006	0609121-01	Soil	6,800	2,812	Moderately weathered creosote (coal tar derived)
FPS 1	12/14/2006	0612081-01	Soil	5,900	1,592	Moderately weathered creosote (coal tar derived)
FPS 2	12/14/2006	0612081-02	Soil	4,600	995	Moderately weathered creosote (coal tar derived)
FPS 3	1/20/2007	0701073-01	Soil	1,900	203	Heavily weathered coal tar
STA 2+00 US	2/5/2007	0702022-01	Water	21	4.6	Moderately weathered creosote (coal tar derived)
STA 2+25 US	2/5/2007	0702022-02	Water	21	3.9	Moderately weathered creosote (coal tar derived)
FPS 4	2/5/2007	0702022-03	Soil	6,100	991	Moderately weathered creosote (coal tar derived)/traces heavy petroleum
FPS 4	2/5/2007	0702022-03D	Soil	6,700	833	Moderately weathered creosote (coal tar derived)
STA 1+75 US	2/5/2007	0702022-04	Oil	900,000	260,490	Moderately weathered creosote (coal tar derived)
STA 1+75 US	2/5/2007	0702022-04D	Oil	880,000	231,820	Moderately weathered creosote (coal tar derived)/traces heavy petroleum
STA 1+50 US	2/5/2007	0702022-05	Water	13	1.0	Moderately weathered creosote (coal tar derived)/traces heavy petroleum

Client ID	Date Collected	Lab ID	Matrix	¹ TPH (mg/kg or mg/L)	Total Priority Pollutant PAH (mg/kg or mg/L)	Type or Types of Hydrocarbon Material Found
FPS-5	2/6/2007	0702028-01	Soil	4,800	1,534	Moderately weathered creosote (coal tar derived)
FPS-5	2/6/2007	0702028-01D	Soil	3,900	1,438	Moderately weathered creosote (coal tar derived)
FPS-7	2/6/2007	0702028-03	Soil	4,800	884	Moderately weathered coal tar
FPS-9	2/6/2007	0702028-05	Soil	1,600	247	Moderately weathered coal tar
FPS-10	2/7/2007	0702033-01	Soil	8,300	3,115	Moderately weathered creosote (coal tar derived)
FPS-11	2/7/2007	0702033-02	Soil	8,700	2,986	Moderately weathered creosote (coal tar derived)
FPS-12	2/7/2007	0702033-03	Soil	4,300	1,515	Moderately weathered creosote (coal tar derived)
FPS-13	2/7/2007	0702033-04	Soil	12,000	4,841	Moderately weathered creosote (coal tar derived)
FPS-14	2/7/2007	0702033-05	Oil	250,000	117,470	Moderately weathered creosote (coal tar derived)
FPS-15	2/7/2007	0702033-06	Soil	1,300	339	Moderately weathered creosote (coal tar derived)
FPS-16	2/7/2007	0702033-07	Soil	4,800	1,320	Moderately weathered creosote (coal tar derived)
FPS-17	2/7/2007	0702033-08	Soil	12,000	4,515	Moderately weathered creosote (coal tar derived)
FPS-18	2/7/2007	0702033-09	Soil	2,200	427	Moderately weathered creosote (coal tar derived)
FPS-19	2/15/2007	0702071-01	Soil	7,400	3,489	Moderately weathered creosote (coal tar derived)

Client ID	Date Collected	Lab ID	Matrix	¹ TPH (mg/kg or mg/L)	Total Priority Pollutant PAH (mg/kg or mg/L)	Type or Types of Hydrocarbon Material Found
FPS-20	2/15/2007	0702071-02	Soil	14,000	2,898	Moderately weathered creosote (coal tar derived) and heavy petroleum
FPS-21	2/15/2007	0702071-03	Soil	12,000	1,256	Moderately weathered creosote (coal tar derived) and heavy petroleum
FPS-22	2/15/2007	0702071-04	Soil	15,000	2,703	Moderately weathered creosote (coal tar derived) and heavy petroleum
FPS-23	2/15/2007	0702071-05	Soil	4,200	2,052	Moderately weathered creosote (coal tar derived)
FPS-6	2/6/2007	0703095-01	Soil	2,800	524	Moderately weathered creosote (coal tar derived)
FPS-8	2/6/2007	0703095-02	Soil	3,400	718	Moderately weathered creosote (coal tar derived)



NEWFIELDS

new INSIGHT | new DIRECTION | new DECISION

Tronox-Columbus
September 2006 Investigation
Data Deliverable #1

Chain of Custody

NEWFIELDS

Chain of Custody

LLC

Environmental Forensics Practice LLC

Proj. Name **Kerr McGee CTXony** Proj. No. **100 Ledgewood Place, Suite 302, Rockland, MA 02370**
 Samplers Signature **JLF**

Client Info: (Name/Address/Phone/Email)

page **1** of **1**
 ph: 781-681-5040 fax: 781-681-5048

LAB ID	CLIENT ID	COLLECTION	MATRIX (OSS/Soil/Water/ sediment/Tissue)	SAMPLE DESCRIPTION			ANALYSIS REQUESTED (# of containers)
				DATE	TIME	Sample ID	
-1	PROPS STA - 100' 12"	9/13/06	11:15	Soil			
-2	PROPS STA - 50' 12"	9/13/06	11:20	Soil			
-3	PROPS STA - 05' 12"	9/13/06	11:30	Soil			
-4	PROPS STA - 05' 12"	9/13/06	11:35	Soil			
-5	PROPS STA + 175' N. Edge 9/3	9/13/06	12:10	Soil			
-6	PROPS E BPRC E. Edge	9/13/06	12:40	Soil			
-7	PROPS G STA + 50'	9/13/06	12:55	Soil			
-8	PROPS CHAR	9/13/06	11:45	Soil			
-9	WATER BOX PARL	9/13/06	13:40	0.1			
-10	ROLL OFF BOX	9/13/06	12:50	Soil			
Relinquished by: <i>John J. Kerr</i>				Date 9/13/06	Time 2:30 PM	Received by: <i>Norm Lawrence</i> (AUHL)	Date 9/14/06
Relinquished by:				Date	Time	Received by:	Date
Relinquished by:				Date	Time	Received by:	Date
Ship samples to:				Date	Time	Comments:	Time
Alpha Woods Hole Laboratory				ANALYSIS → OTHER → FINGERPRINT FOR PAHS (SVOCs)			
375 Paramount Drive, Suite B				24 HR TURN AROUND, CALL FOR ADDITIONAL ANALYSIS.			
Raynham, MA 02767				CALL MICKEY ALSTON (225) 292-3001			
Tel: (508) 822-9300							
Attn: <i>Bill Pease</i>							
Norm Lawrence							

Sample Receipt Checklist

Page 1 of 1

Client: New Fields	Receipt Date: 9/14/06
Project: Tronox-Columbus	Log-in Date: 9/14/06
ETR #: 06090SZ	Inspection by: mf / Login by: nr

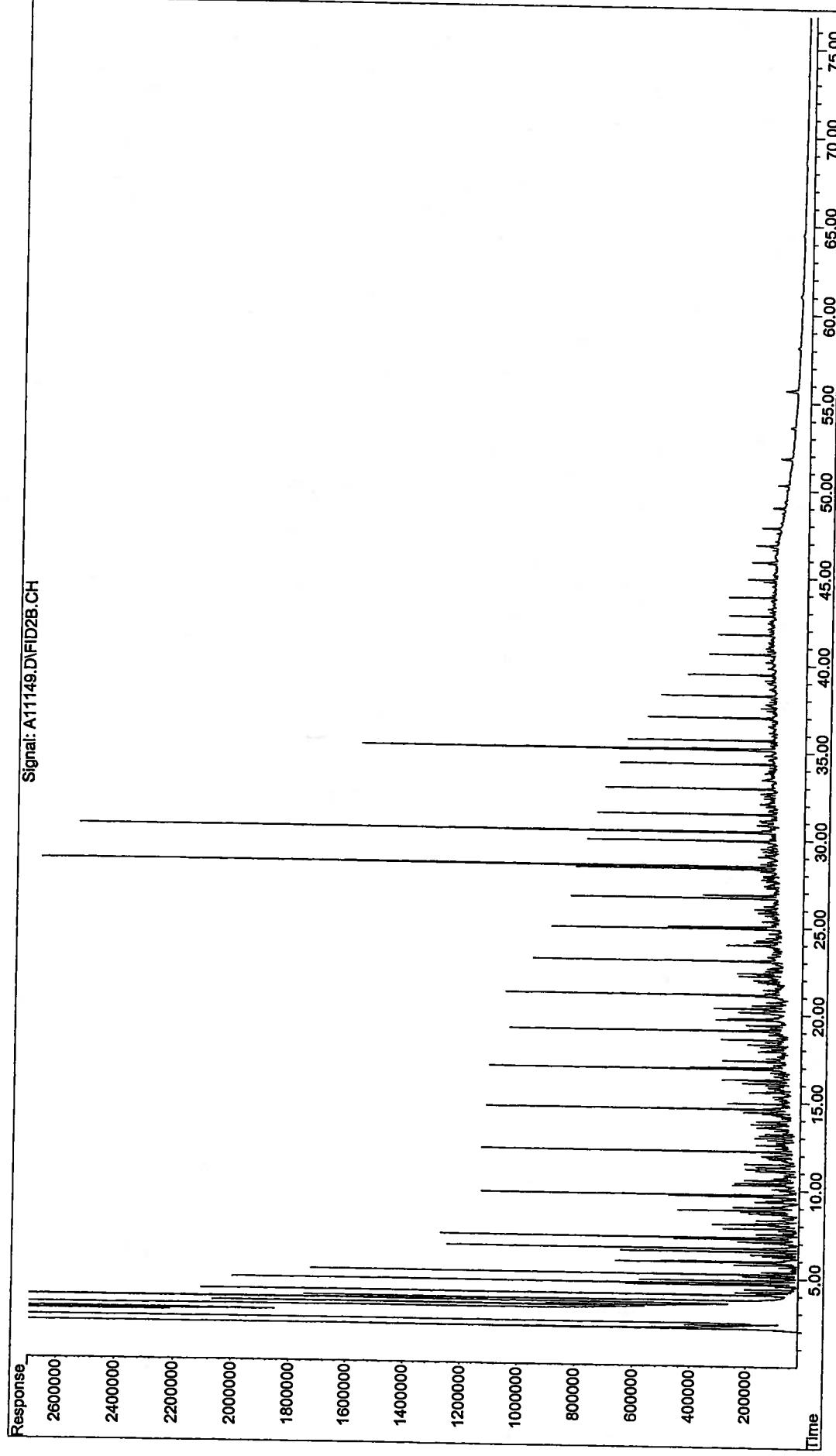
ALL SECTIONS BELOW MUST BE COMPLETED

Were samples shipped?	Comments / Notes
<input checked="" type="radio"/> Yes, FedEx / UPS / Other: _____ <input type="radio"/> No, WHG Courier pick-up / Hand delivered	Sample storage refrigerator #: F1
Is bill of lading retained? Yes, Tracking #: 8587 4358 5918 <input type="radio"/> No, Unavailable / NA	Sample storage freezer #: _____
Number of coolers received for this project delivery: _____	Cooler 2: _____ Cooler 3: _____
Indicate cooler temperature upon opening (if multiple coolers, record <u>all</u> temps): <u>Note:</u> If <u>all</u> coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note <u>all</u> samples received <u>above</u> 6°C.	Cooler 4: _____ Cooler 5: _____
Cooler 1: Temperature(s) taken from: 30C IR Gun, 30C Temp. Blank, / NA	Cooler 6: _____ Cooler 7: _____
Were samples received on ice? <input checked="" type="radio"/> Yes / <input type="radio"/> No	More: _____
Chain-of-Custody present? <input checked="" type="radio"/> Yes / <input type="radio"/> No Complete? <input checked="" type="radio"/> Yes / <input type="radio"/> No	
Custody seals present on Cooler? <input checked="" type="radio"/> Yes / <input type="radio"/> No on Bottles? <input checked="" type="radio"/> Yes / <input type="radio"/> No Intact? <input checked="" type="radio"/> Yes / <input type="radio"/> No / NA <i>Note: Affix custody seals to back of this page.</i>	
Were sample containers intact? <input checked="" type="radio"/> Yes / <input type="radio"/> No If No, list samples: →	
Did VOA/VPH waters contain headspace (>5mm)? Yes / No <input checked="" type="radio"/> NA If Yes, list samples: →	
Were 5035 VOA soils, or VPH soils, covered with MeOH? Yes / No / <input checked="" type="radio"/> NA If No, list samples: →	
Was a sufficient amount of sample received for each test indicated on the COC? <input checked="" type="radio"/> Yes / <input type="radio"/> No If No, list samples: →	
<i>If chemical preservation is appropriate -</i> Were samples field preserved? Yes / No / <input checked="" type="radio"/> NA <input type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=H ₂ SO ₄ <input type="checkbox"/> H=NaOH <input type="checkbox"/> N=NHO ₃ <input type="checkbox"/> Other: _____ <input type="checkbox"/> U=Unknown	Chemical preservation OK for ALL samples? <input type="radio"/> Yes / <input type="radio"/> No / <input type="radio"/> N/A If No, list samples below: _____
Preservation (pH) verified at lab for EVERY bottle? (Not: VOA / VPH / Sulfide) YES: <2 or >12 (CN) or NO <input checked="" type="radio"/> NA If No, why?: _____	
Were samples received within hold time? <input checked="" type="radio"/> Yes / <input type="radio"/> No If No, list samples: →	
Discrepancy between samples rec'd & COC? Yes / <input checked="" type="radio"/> No If Yes, list samples: →	
Was the Project Manager notified of any other problems? Yes / <input type="radio"/> No / <input checked="" type="radio"/> NA	
Project Manager Acknowledgement: Unlabeled Date: 9/14/06	Please use back for any additional notes!

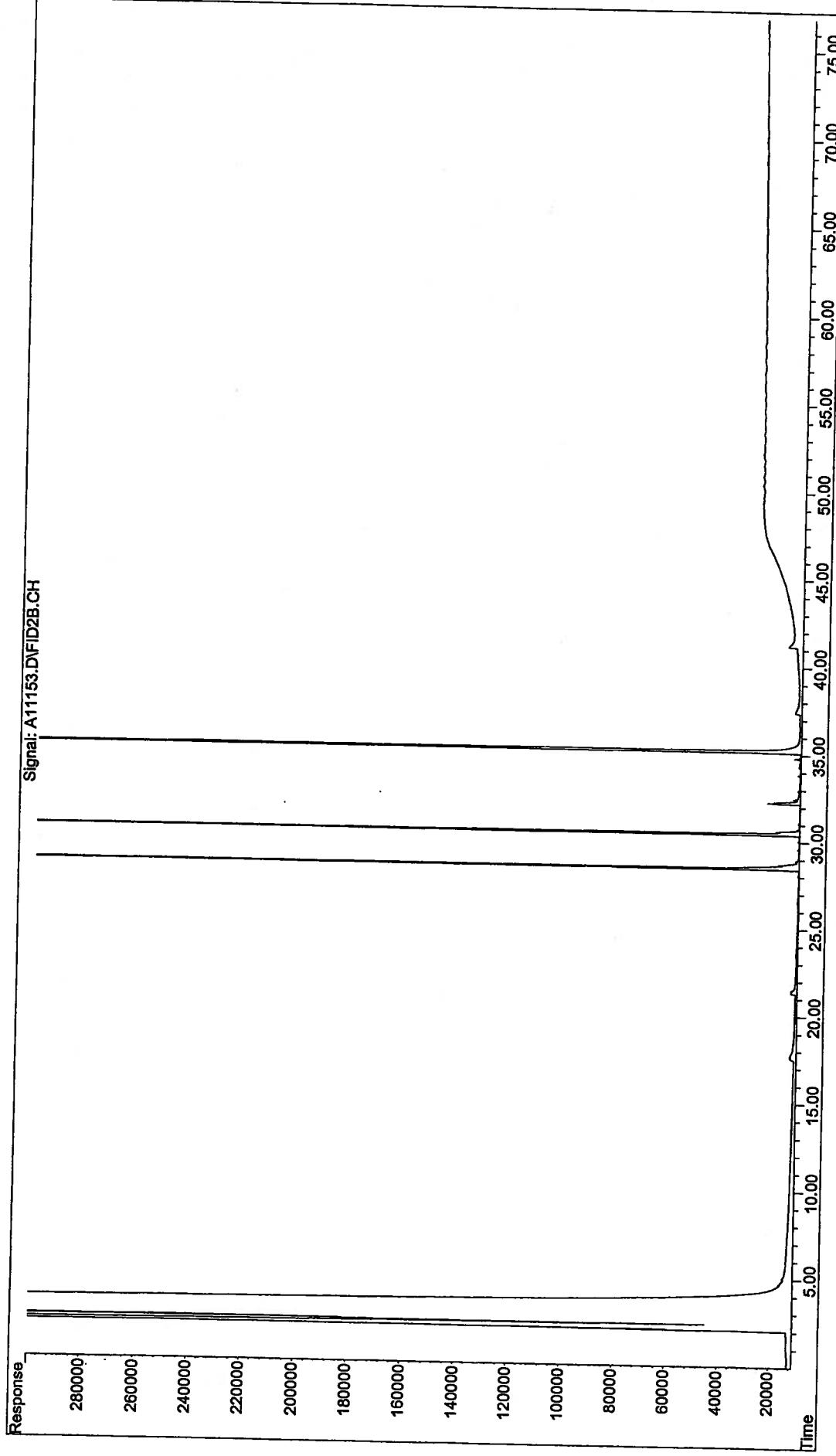
FID Chromatograms

File : \\Boston1\ftp_users\Boston\nfeff_whg\2006 AWHL DATA\Tronox-Co1
umbus\FID Data\A11149.D
Operator : AC
Instrument : PAH-1
Acquired : 14 Sep 2006 1:51 pm using AcqMethod FRNC1D.M
Sample Name: T0091506AWS01
Misc Info : 1X

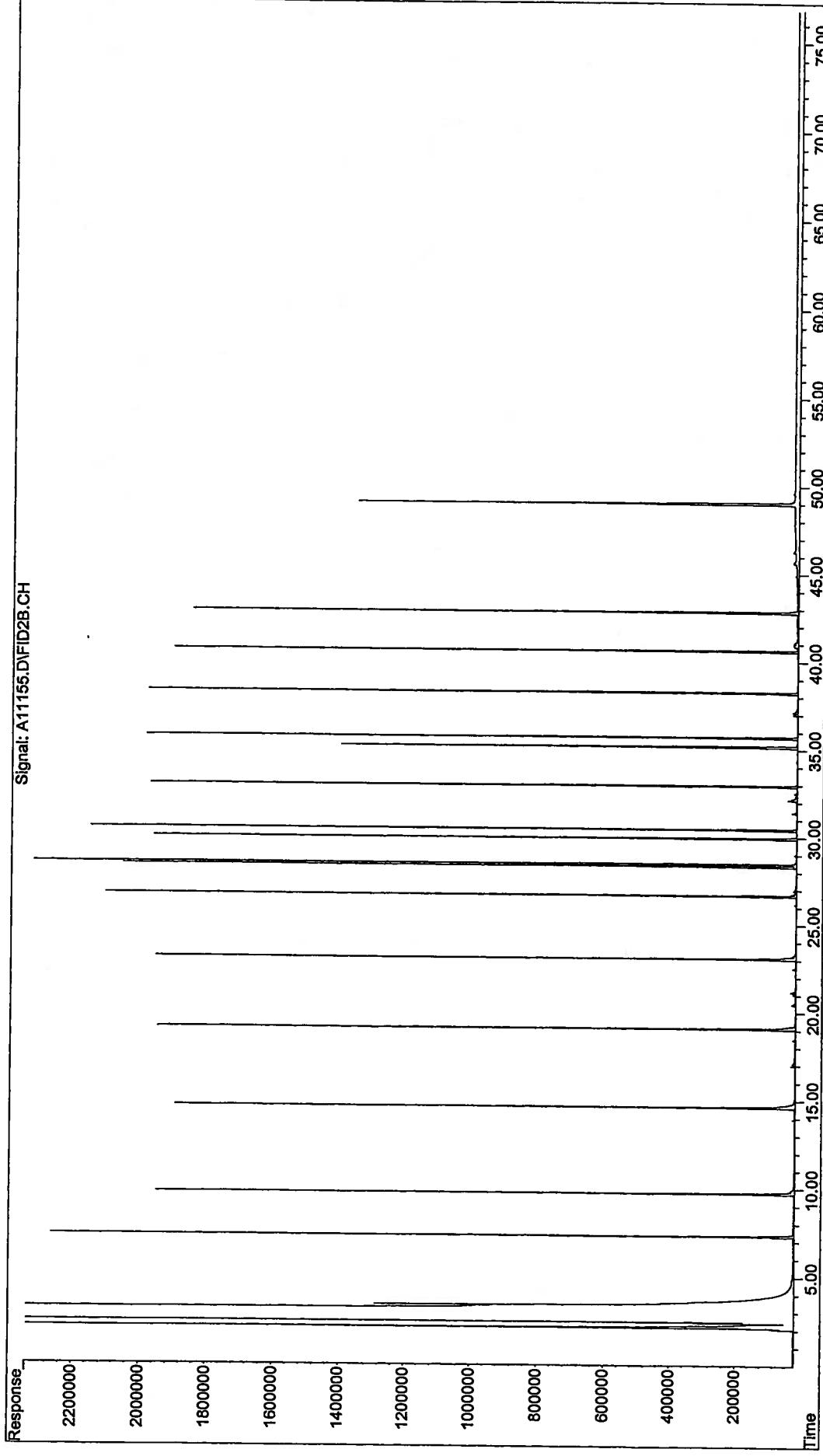
**North Slope Crude
Reference Standard**



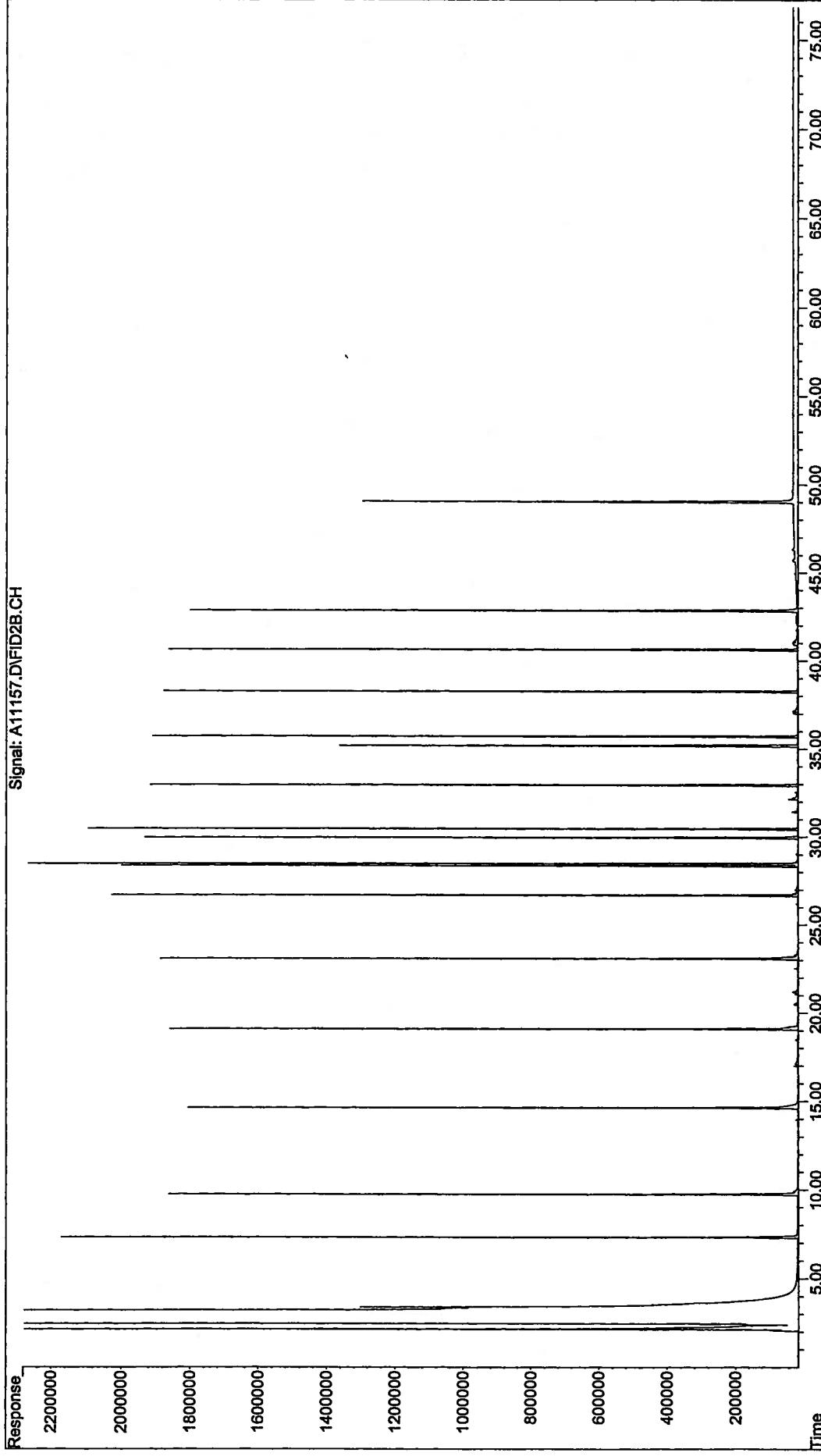
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umbus\FID Data\A11153.D
Operator : AC
Instrument : PAH-1
Acquired : 14 Sep 2006 5:11 pm using AcqMethod FRNC1D.M
Sample Name: SO091406B13-aFid
Misc Info : 1x etro0609052



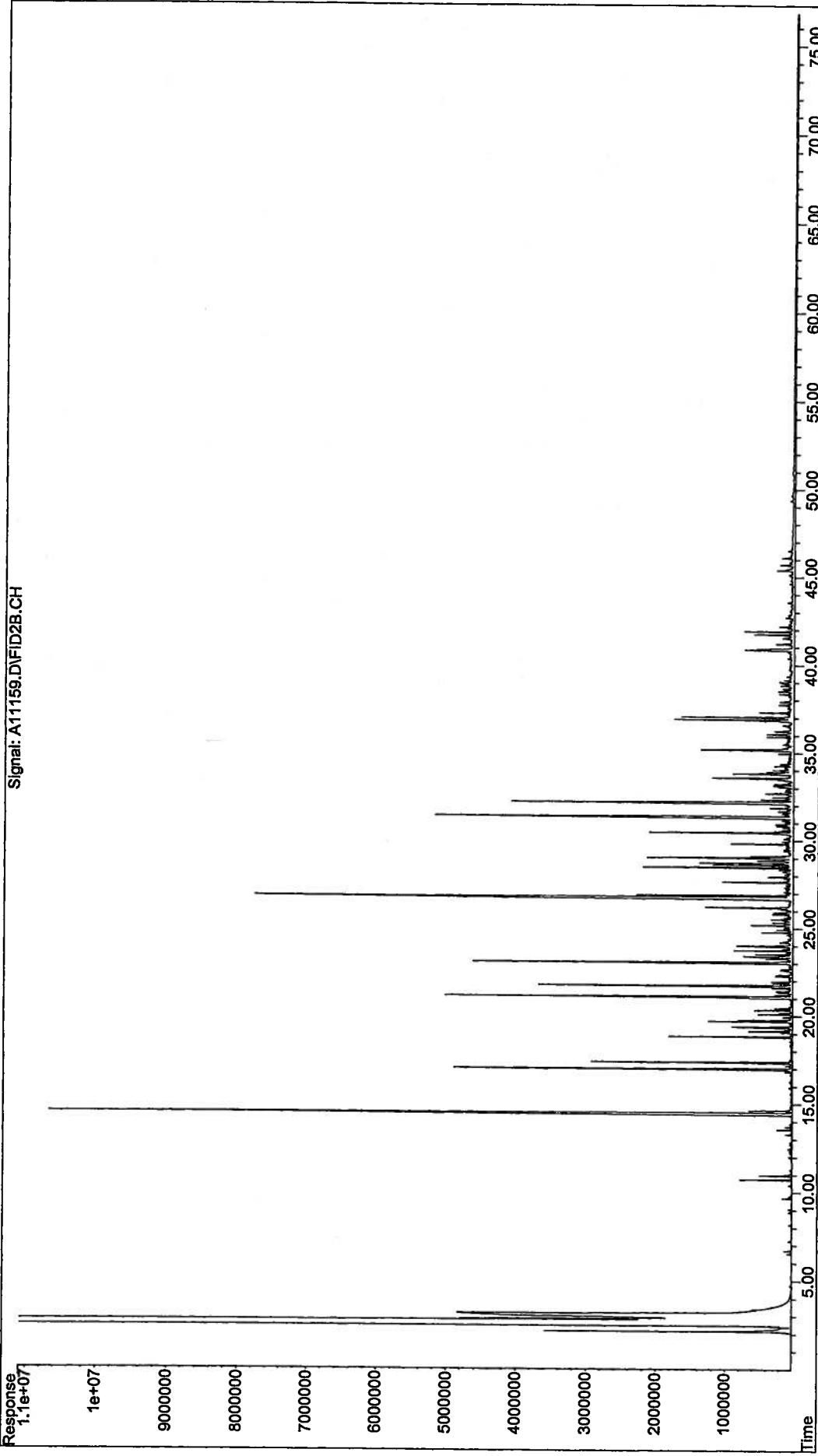
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.: umbus\FID Data\A11155.D
Operator : AC
Instrument : PAH-1
Acquired : 14 SEP 2006 6:42 pm using AcqMethod FRNC1D.M
Sample Name: SO091406LCS07-afid
Misc Info : 1x str0609052



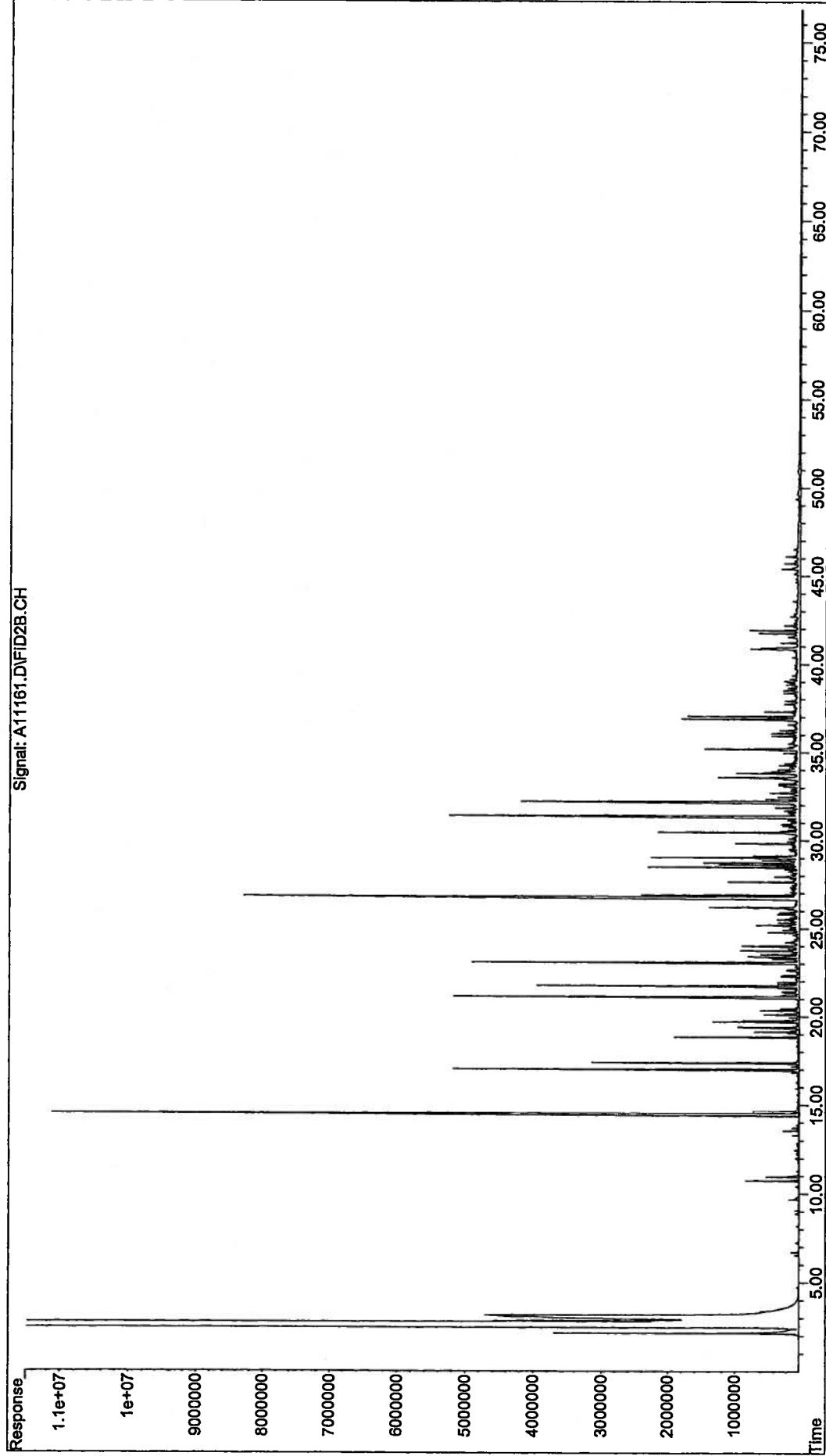
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umbus\FID Data\A11157.D
Operator : AC
Instrument : PAH-1
Acquired : 14 Sep 2006 8:12 pm using AcqMethod FRNC1D.M
Sample Name: SO091406LCSD07-AFID
Misc Info : 1x etr0609052



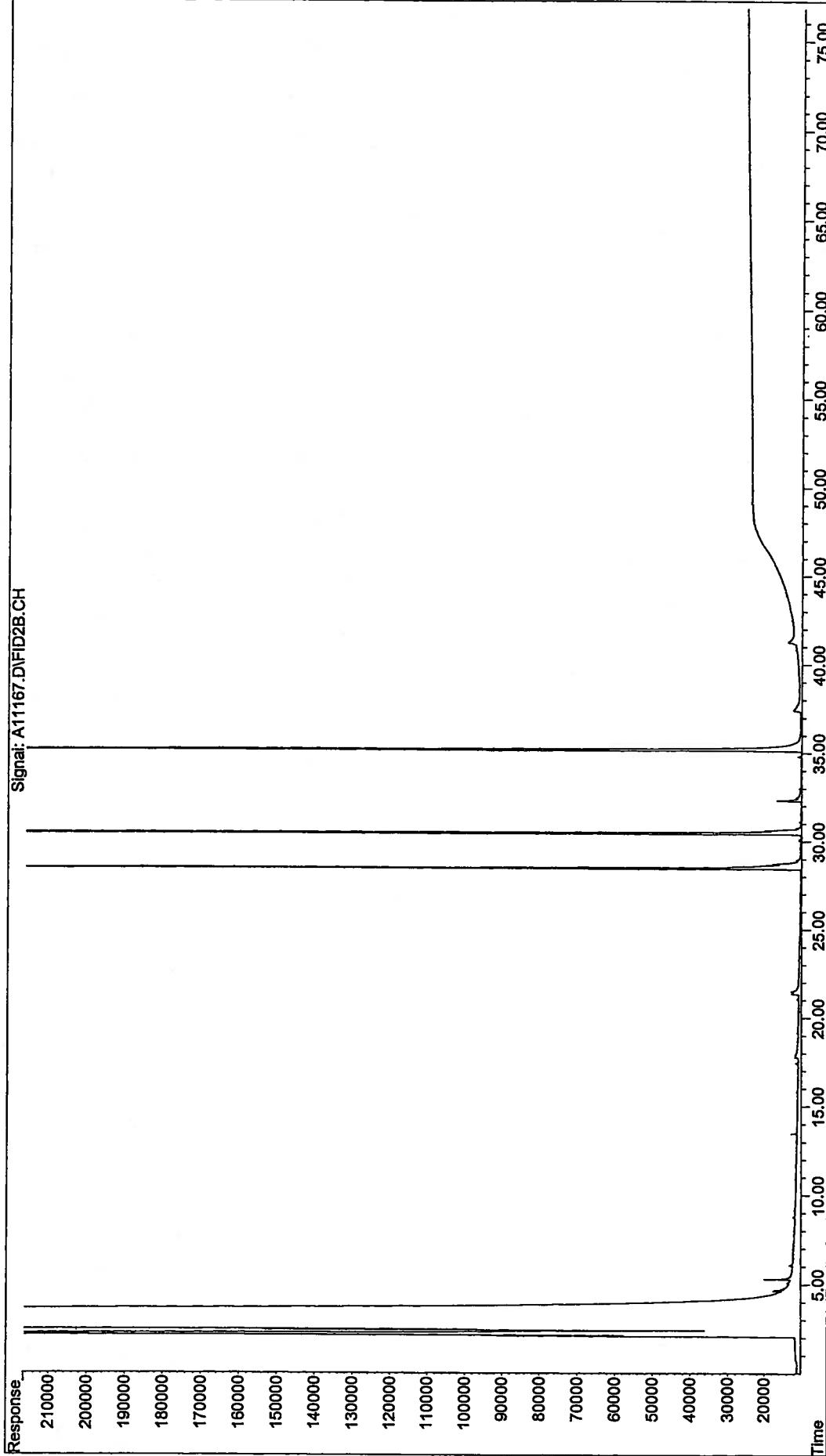
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Sample Name: 0609052-09-afid
Misc Info : 1x



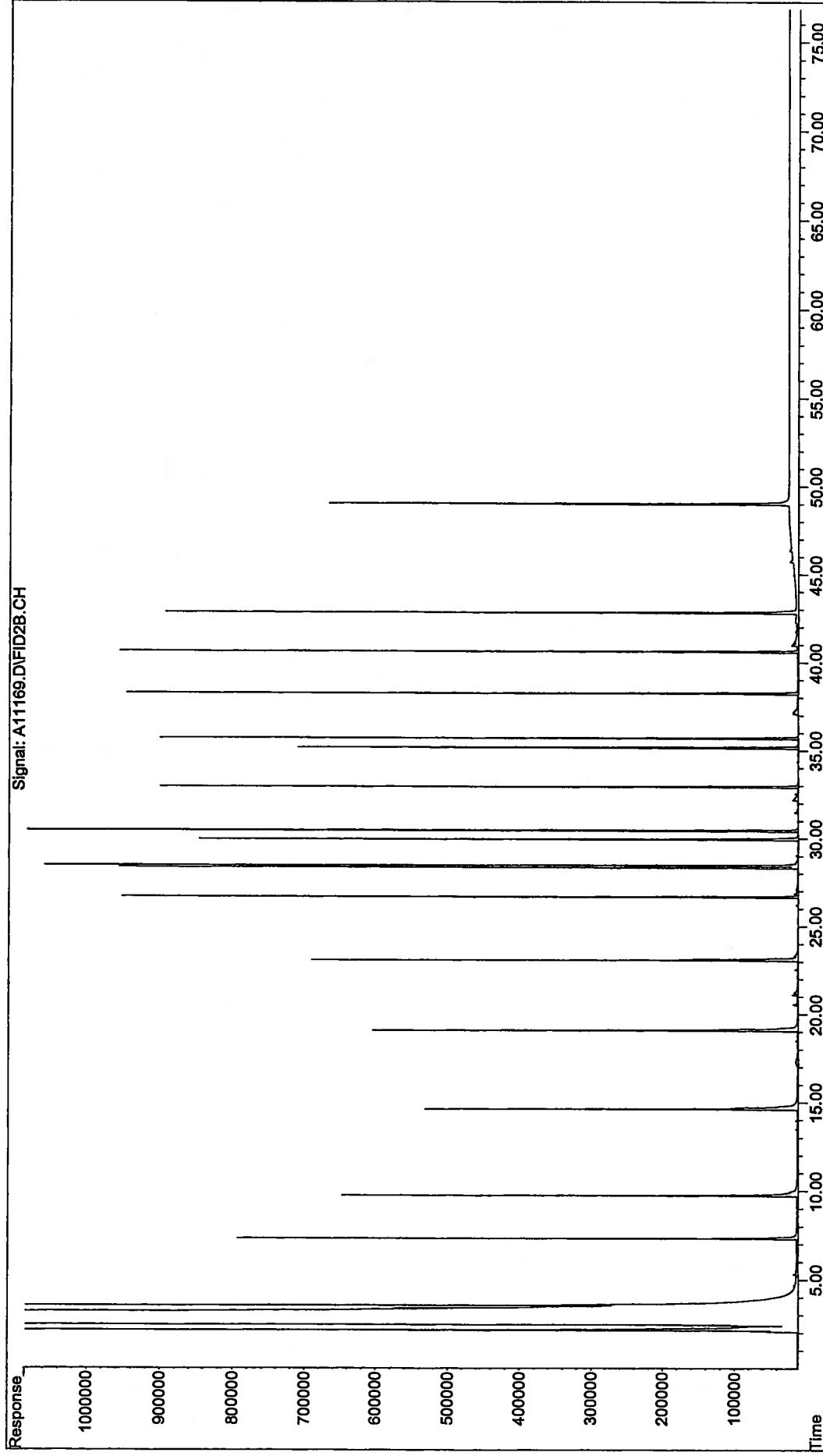
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Operator : AC
Instrument : PAH-1
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Sample Name: 0609052-09d-afid
Misc Info : 1x



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Operator : AC
Instrument : PAH-1
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Sample Name: SS091406B08-AFID
Misc Info : 1x etr0609052

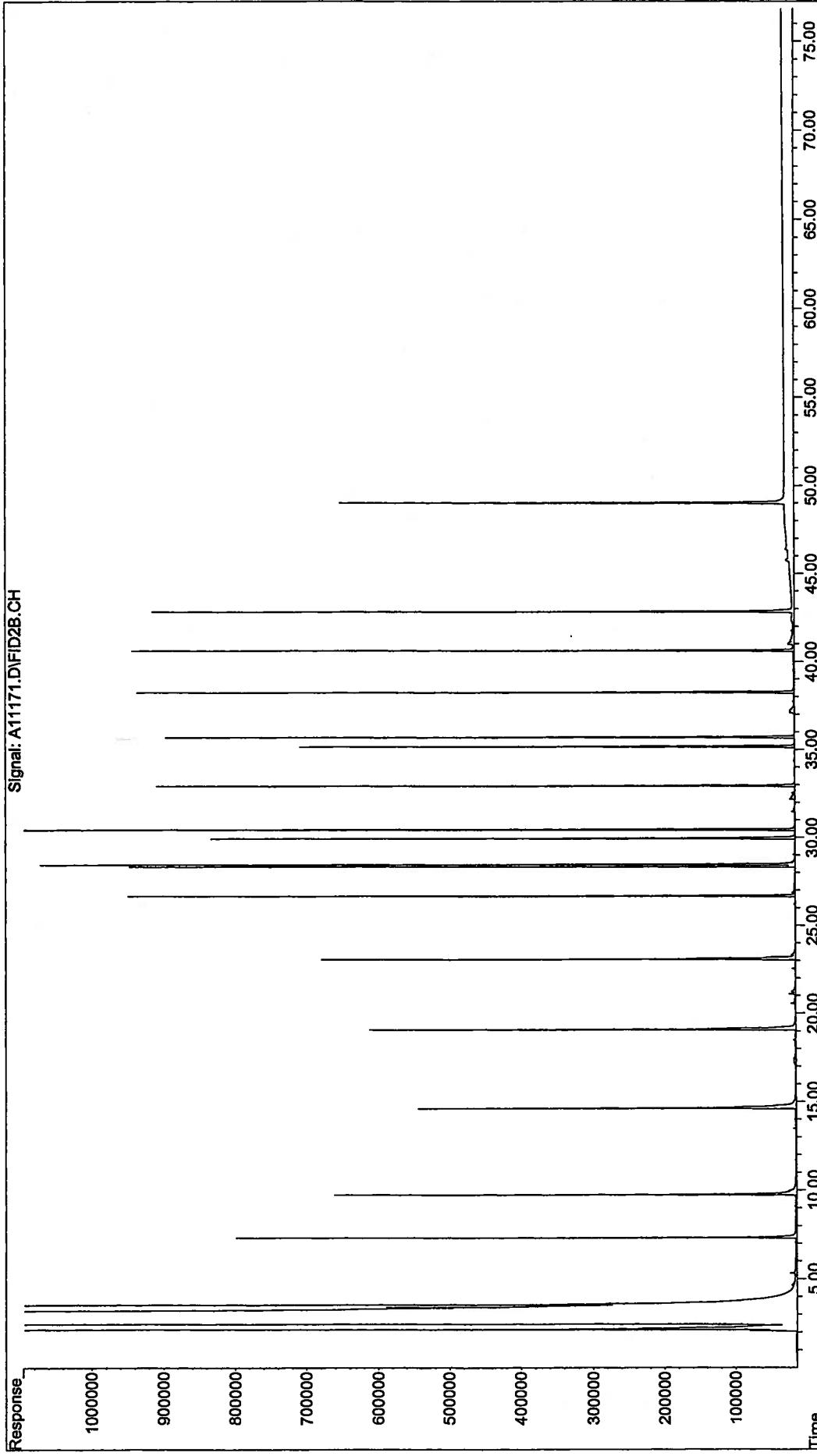


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Operator : AC
Instrument : PAH-1
Acquired : 15 Sep 2006 5:08 am using AcqMethod FRNC1D.M
Sample Name: SS091406LCS05-AFID
Misc Info : 1x etr0609052



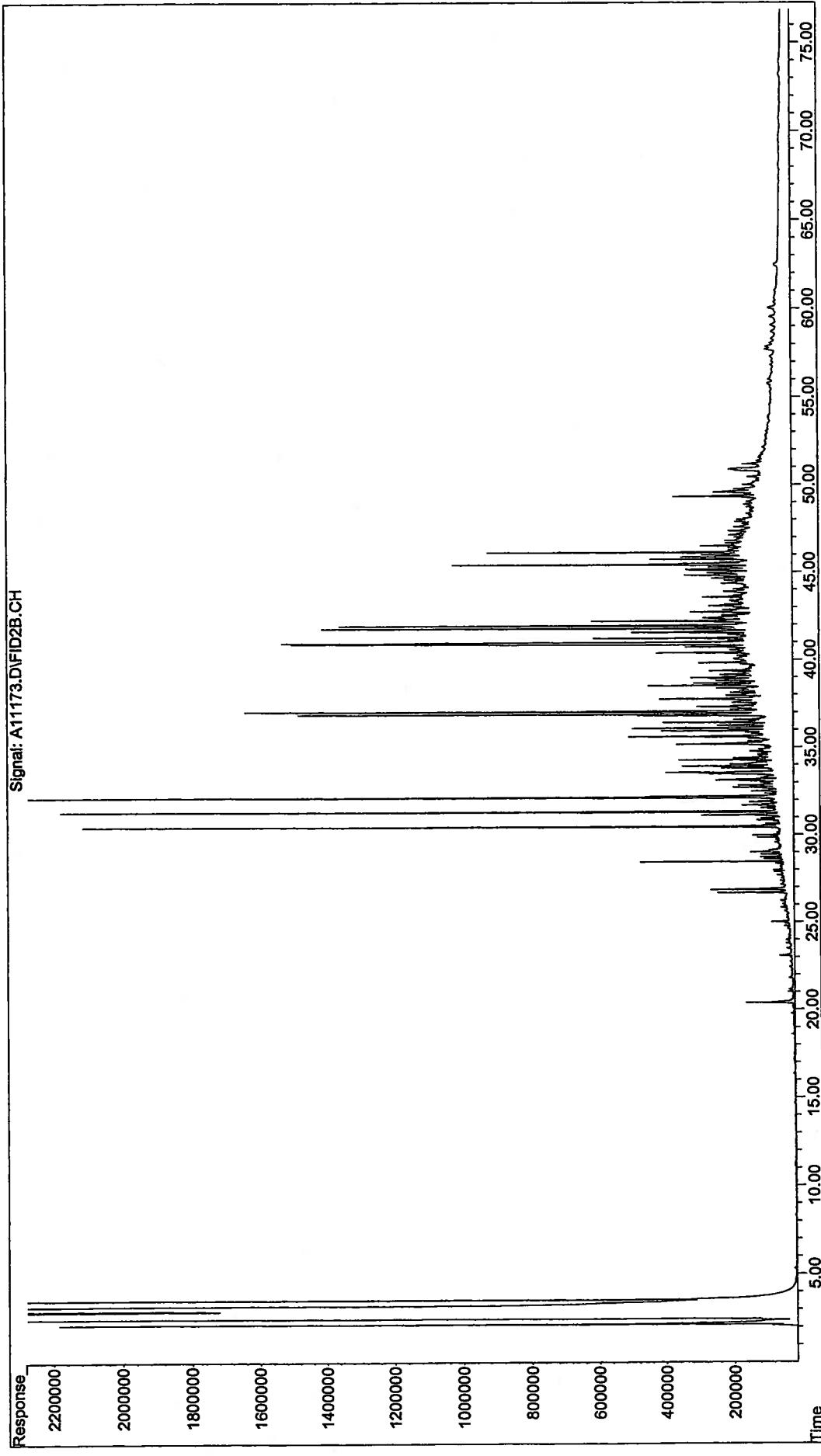
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Instrument : PAH-1
Acquired : 15 Sep 2006 6:36 am using AcqMethod FRNCID.M
Sample Name: SS091406LCSD05-AFID
Misc Info : 1x etr0609052

Lab Control Sample Duplicate
SO091406LCSD05



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Operator : AC
Instrument : PAH-1
Acquired : 15 SEP 2006 8:06 am using AcqMethod FRNC1D.M
Sample Name: 0609052-01-AFID
Misc Info : 1X

PROPST A STA-100' 12"
0609052-01



FIGURES

TRONOX

0 50 100
SCALE IN FEET



TRONOX
COLUMBUS, MS

DATE:
06/22/10

PROPST PARK AND 7TH AVENUE INVESTIGATION

SAMPLE LOCATIONS

JOB NO.
093194

FIGURE NUMBER:
1

REV.
0

LEGEND

● SAMPLE LOCATION

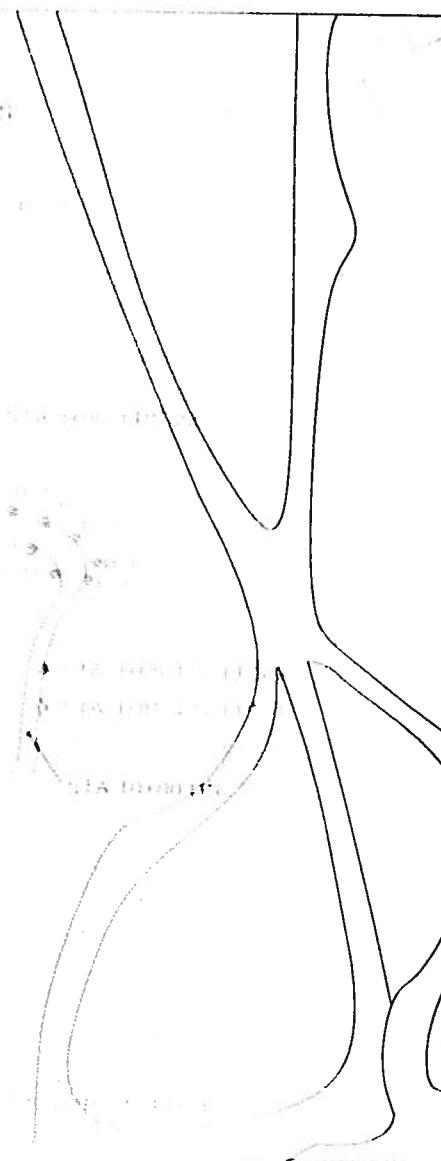
◆ SOIL BORING LOCATION

• STATION I.D.

PARKING AREA
PROPST G
STA 2+00 DS
PROPST E STA 3+00
STA 4+00 DS
PROPST PARK
PROPST PARK
TY

STA 6+00 DS
STA 6+80, EPP, STA 7+00
PROPST E STA 7+00

STA 8+00 DS



PARK FA
BUILD

ROI

DRAINAGE DITCH

BOX CULVERT
E-19 E-18 E-17
PROPS1 A, STA -1+00

28th Street North
STA 2+00 US

E-20 STA 2+70.5 US, FPS-21 & FPS-20

STA 2+00 US

* STA 1+75 US, FPS-4

* STA 1+50 US, FPS-10

* STA 1+40 US

* STA 2+25 US

* STA 4+10 US, FPS-6

* STA 3+75 US, FPS-7

* STA 3+50 US, FPS-8

* STA 3+25 US, FPS-10

* STA 3+12 US, FPS-19

* STA 6+25 US, FPS-16

* STA 6+50 US, FPS-14 & FPS-15

* STA 6+75 US, FPS-13

* STA 7+00 US, FPS-12

* STA 7+50 US, FPS-10

* STA 7+25 US, FPS-11

* STA 6+00 US, FPS-18

27th Street North

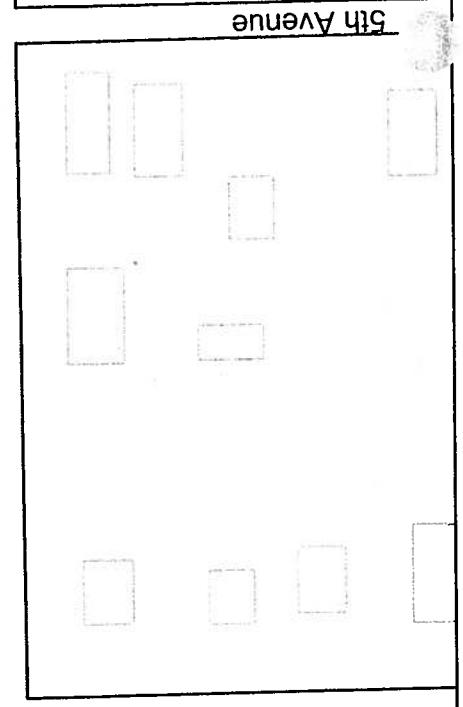
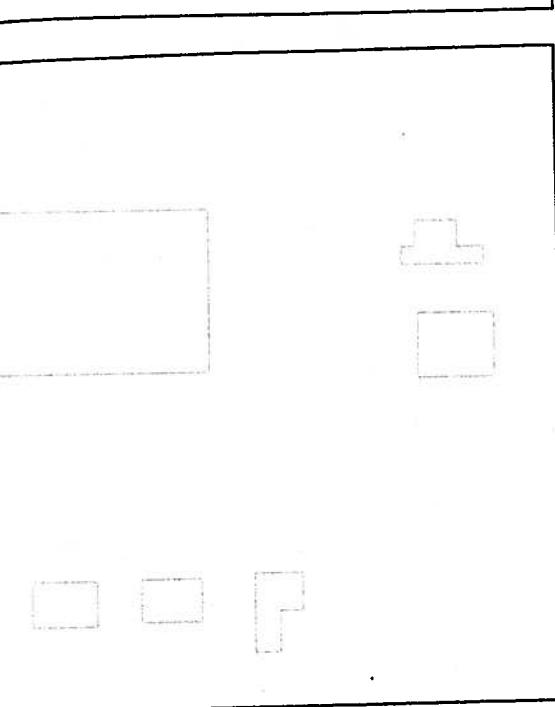
BRIDGE STA 6+00 US

7th Avenue North

BRIDGE

6th Avenue

5th Avenue



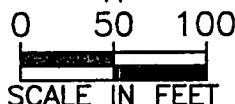
TRONOX

REMEDIATION AREA 1

STA 0+92 US TO 0+33 DS

PROPST CONF, 7TH AVE CULVERT

PROPST CONF, STA 0+00, DS, 24"



TRONOX
COLUMBUS, MS

DATE:
06/22/10



PROPST PARK AND 7TH AVENUE
REMEDIATION AREAS
& CONFIRMATION SAMPLE LOCATIONS

JOB NO.
093194

FIGURE NUMBER:
2

REV.
0

PROPST CONF, STA 0+30, DS, 36"

PARKING AREA

CS-3
CS-4

REMEDIATION AREA 2

PROPH CONFWALL
PROPH CONFBOTTOM

PROPST PARK

DIATION
EA 5
S TO 3+94 DS

PROPST PARK

REMEDIATION AREA 8

STA 5+60 DS TO 8+00 DS

P. PARK STA. 7+45

STA 8+00 DS

REMEDIATION AREA 6

STA 8+30 DS TO 9+33 DS

P. PARK STA. 8+00

CS-13
CS-21
CS-14

STA 10+00 DS

REMEDIATION AREA 4

STA 9+33 DS TO 12+25 DS

CS-9E
CS-8
CS-10
CS-11

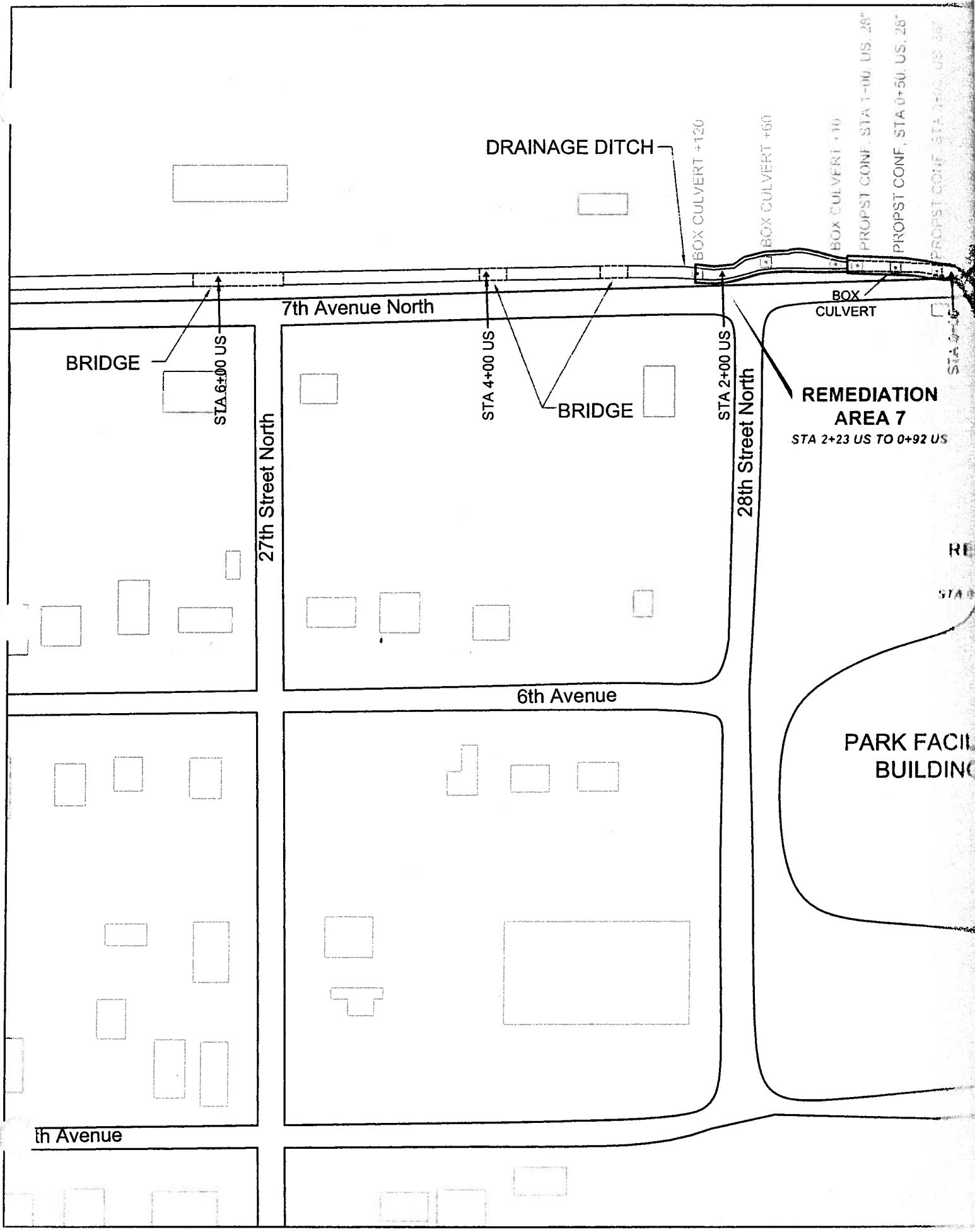
LEGEND

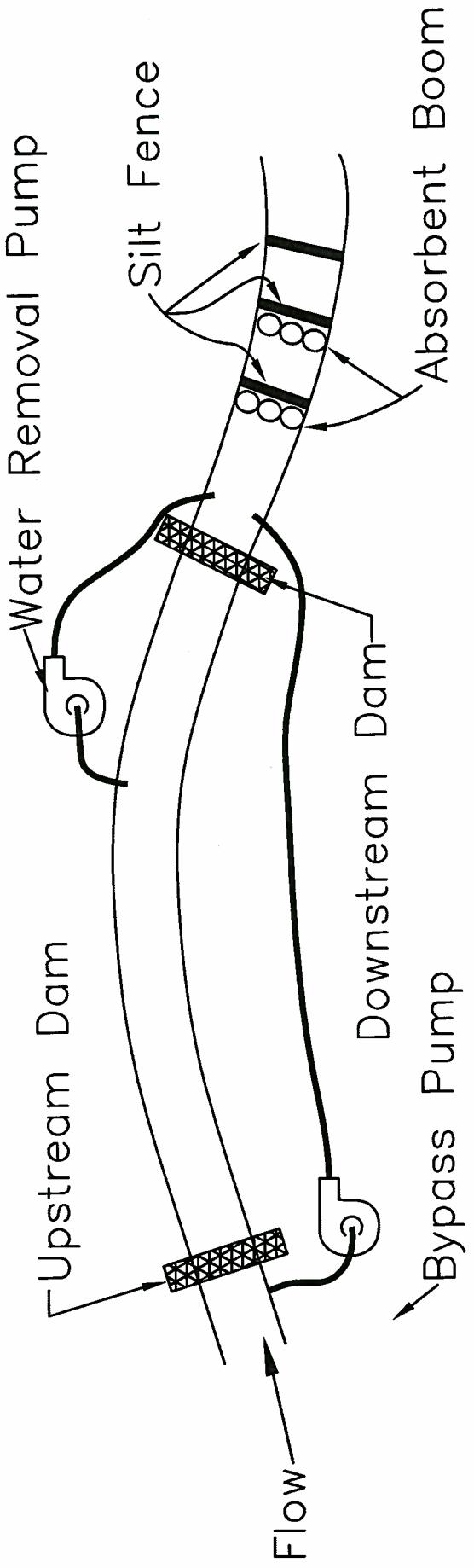
CONFORMATION SAMPLE

STATION I.D.

REMEDIATION AREA BOUNDARY

NOTE: START AND END STATION I.D.'S FOR
REMEDIATION AREAS ARE APPROXIMATE.





TABLES

Table 1
Assessment Samples and Hydrocarbon Contamination Summary

Sample ID	Lab ID	Date	Location	Description
September 2006 Assessment/Remediation				
WIER BOX NAPL	REF002-02	8/10/2006	Wier Box	NAPL
PROPST A STA-107 12"	REF002-01	8/10/2006	Propst A STA-107 12"	NAPL
PROPST B STA-55 12"	REF002-03	8/10/2006	Propst B STA-55 12"	NAPL
PROPST C STA-55 12"	REF002-04	8/10/2006	Propst C STA-55 12"	NAPL
PROPST D STA-55 12"	REF002-05	8/10/2006	Propst D STA-55 12"	NAPL
PROPST E STA-107N 12"	REF002-06	8/10/2006	Propst E STA-107N 12"	NAPL
PROPST F STA-55 12"	REF002-07	8/10/2006	Propst F STA-55 12"	NAPL
PROPST G STA-55 12"	REF002-08	8/10/2006	Propst G STA-55 12"	NAPL
PROPST H	0609108-01	9/13/2006	Soil	Moderately weathered creosote (coal tar derived)
PROPST CHAR	0609052-08	9/13/2006	Soil	Moderately weathered creosote (coal tar derived); some heavy petroleum.
ROLL OFF BOX	0609052-10	9/25/2006	Soil	Moderately weathered creosote (coal tar derived)
PROPST I	0609108-01	9/25/2006	Soil	Moderately weathered creosote (coal tar derived)
PROPST J	0609121-01	9/27/2006	Soil	Moderately weathered creosote (coal tar derived)
December 2006 and January 2007 Assessment/Remediation				
FPS 1	0612081-01	12/14/2006	Soil	Moderately weathered creosote (coal tar derived)
FPS 2	0612081-02	12/14/2006	Soil	Moderately weathered creosote (coal tar derived)
FPS 3	0701073-01	1/20/2007	Soil	Heavily weathered coal tar
February 2007 Assessment				
STA 1+50 US	0702022-05	2/5/2007	Water	Moderately weathered creosote (coal tar derived)/traces heavy petroleum
STA 1+75 US	0702022-04	2/5/2007	Oil	Moderately weathered creosote (coal tar derived)
STA 1+75 US	0702022-04D	2/5/2007	Oil	Moderately weathered creosote (coal tar derived)
STA 2+00 US	0702022-01	2/5/2007	Water	Moderately weathered creosote (coal tar derived)
STA 2+25 US	0702022-02	2/5/2007	Water	Moderately weathered creosote (coal tar derived)
FPS-4	0702022-03	2/5/2007	Soil	Moderately weathered creosote (coal tar derived)
FPS-4 (D)	0702022-03D	2/5/2007	Soil	Moderately weathered creosote (coal tar derived)

FPS-6	0703095-01	2/6/2007	2,800	524	Soil	Moderately weathered creosote (coal tar derived)
FPS-7	0702028-03	2/6/2007	4,800	884	Soil	Moderately weathered coal tar
FPS-8	0703095-02	2/6/2007	3,400	718	Soil	Moderately weathered creosote (coal tar derived)
FPS-9	0702028-05	2/6/2007	1,600	247	Soil	Moderately weathered coal tar
FPS-10	0702033-01	2/7/2007	8,300	3,115	Soil	Moderately weathered creosote (coal tar derived)
FPS-11	0702033-02	2/7/2007	8,700	2,986	Soil	Moderately weathered creosote (coal tar derived)
FPS-12	0702033-03	2/7/2007	4,300	1,515	Soil	Moderately weathered creosote (coal tar derived)
FPS-13	0702033-04	2/7/2007	12,000	4,841	Soil	Moderately weathered creosote (coal tar derived)
FPS-14	0702033-05	2/7/2007	250,000	117,470	Oil	Moderately weathered creosote (coal tar derived)
FPS-15	0702033-06	2/7/2007	1,300	0,339	Soil	Moderately weathered creosote (coal tar derived)
FPS-16	0702033-07	2/7/2007	4,800	1,320	Soil	Moderately weathered creosote (coal tar derived)
FPS-17	0702033-08	2/7/2007	12,000	4,515	Soil	Moderately weathered creosote (coal tar derived)
FPS-18	0702033-09	2/7/2007	2,200	0,427	Soil	Moderately weathered creosote (coal tar derived)
FPS-19	0702071-01	2/15/2007	7,400	3,489	Soil	Moderately weathered creosote (coal tar derived)
FPS-20	0702071-02	2/15/2007	14,000	2,898	Soil	Moderately weathered creosote (coal tar derived) and heavy petroleum
FPS-21	0702071-03	2/15/2007	12,000	1,256	Soil	Moderately weathered creosote (coal tar derived), some heavy petroleum
FPS-22	0702071-04	2/15/2007	15,000	2,703	Soil	Moderately weathered creosote (coal tar derived), trace heavy petroleum
FPS-23	0702071-05	2/15/2007	4,200	2,052	Soil	Moderately weathered creosote (coal tar derived)

Notes:

Values for soil and oil samples are expressed in milligrams per kilogram (mg/kg), values for water samples are expressed in milligrams per liter (mg/L)

BPRC = Ball Park Road Crossing

CHAR = Characteristic

D = Duplicate

EDG = Edge

E.EDG = East Edge

FPS = Fingerprint Sample

ID = Identification

NAPL = Non-Aqueous Phase Liquid

N.EDG = North Edge

PAH = Polycyclic Aromatic Hydrocarbon

STA = Stage

TPH = Total Petroleum Hydrocarbons

US = Up Stream

TABLE 2
Comparison of Ditch Confirmation :
 21-Jun-10

Compound	PRG (RES 10 ⁻⁴)	0+00us	0+50us	1+00us	0+00ds	0+30ds	7th. Ave x C
Acenaphthene	370,000	ND	ND	ND	ND	0.86	ND
Acenaphthylene	None	ND	ND	ND	ND	ND	ND
Anthracene	2,200,000	ND	ND	ND	ND	1.2	ND
Benzo(a)anthracene	62	ND	ND	ND	ND	1.6	ND
Benzo(b)fluoranthene	62	ND	ND	ND	ND	1.3	ND
Benzo(k)fluoranthene	620	ND	ND	ND	ND	0.44	ND
Benzo(a)pyrene	6.2	ND	ND	ND	ND	0.95	ND
Benzo (g,h,i) perylene	None	ND	ND	ND	ND	0.33	ND
Chrysene	6,200	ND	ND	ND	ND	1.1	ND
Dibenz(a,h)anthracene	6.2	ND	ND	ND	ND	ND	ND
Fluoranthene	230,000	ND	ND	ND	1.1	5.4	ND
Fluorene	270,000	ND	ND	ND	ND	1.5	ND
Indeno (1,2,3-cd) pyrene	62	ND	ND	ND	ND	0.37	ND
Naphthalene	5,600	ND	ND	ND	ND	ND	ND
Pentachlorophenol	300	ND	ND	ND	ND	ND	ND
Phenanthrene	None	ND	0.37	ND	1.2	7.2	ND
Pyrene	230,000	ND	ND	ND	0.73	3.6	ND

Compound	PRG (RES 10 ⁻⁴)	CS-7	CS-8	CS-9	CS-10	CS-11	CS-12
Acenaphthene	370,000	0.3	7.4	1.4	2.4	0.56	ND
Acenaphthylene	None	ND	0.048 J	ND	0.18 J	ND	ND
Anthracene	2,200,000	0.047 J	0.78	0.19 J	0.21 J	ND	0.19 J
Benzo(a)anthracene	62	0.046 J	0.49	ND	0.58	ND	0.19 J
Benzo(b)fluoranthene	62	ND	0.28	ND	1.8	ND	0.08 J
Benzo(k)fluoranthene	620	ND	0.1 J	ND	0.69	ND	0.046 J
Benzo(a)pyrene	6.2	ND	0.19 J	ND	0.99	ND	0.067 J
Benzo (g,h,i) perylene	None	ND	0.064 J	ND	0.61	ND	ND
Chrysene	6,200	0.05 J	0.29	ND	0.67	ND	0.1 J
Dibenz(a,h)anthracene	6.2	ND	ND	ND	0.22	ND	ND
Fluoranthene	230,000	0.21	3.7	0.32	0.38	ND	1.2
Fluorene	270,000	0.077 J	6.3	1.6	0.77	0.27	0.13 J
Indeno (1,2,3-cd) pyrene	62	ND	0.082 J	ND	0.8	ND	ND
Naphthalene	5,600	ND	ND	0.13 J	ND	13	ND
Pentachlorophenol	300	NA	ND	ND	ND	ND	ND
Phenanthrene	None	0.32	13	3.8	1.1	0.13 J	0.099 J
Pyrene	230,000	0.16 J	2.2	0.19 J	0.39	ND	1

J - Estimated Value

NA - Not Analyzed

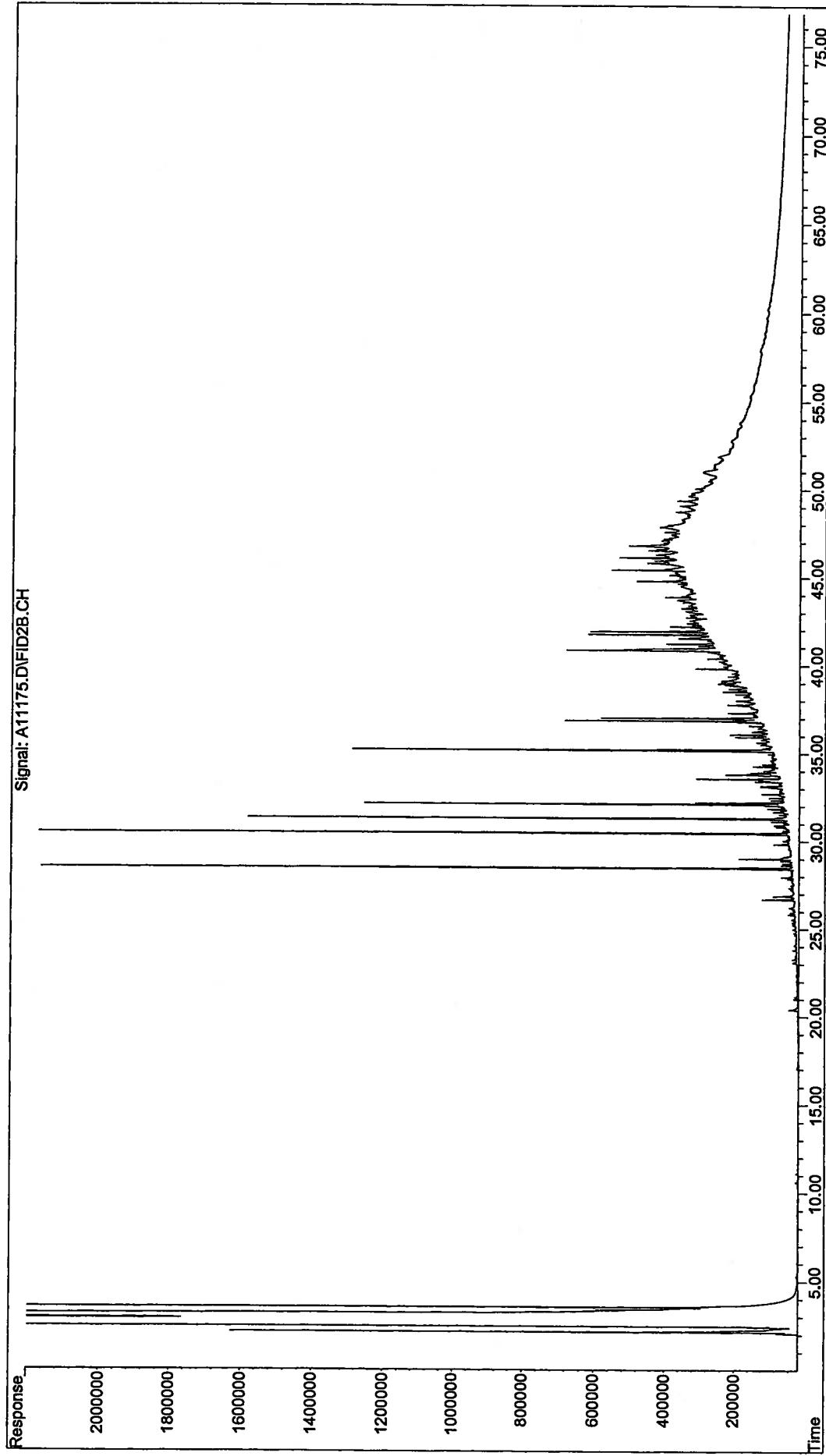
Values with green shading exceed the PRG

amples to PRGs

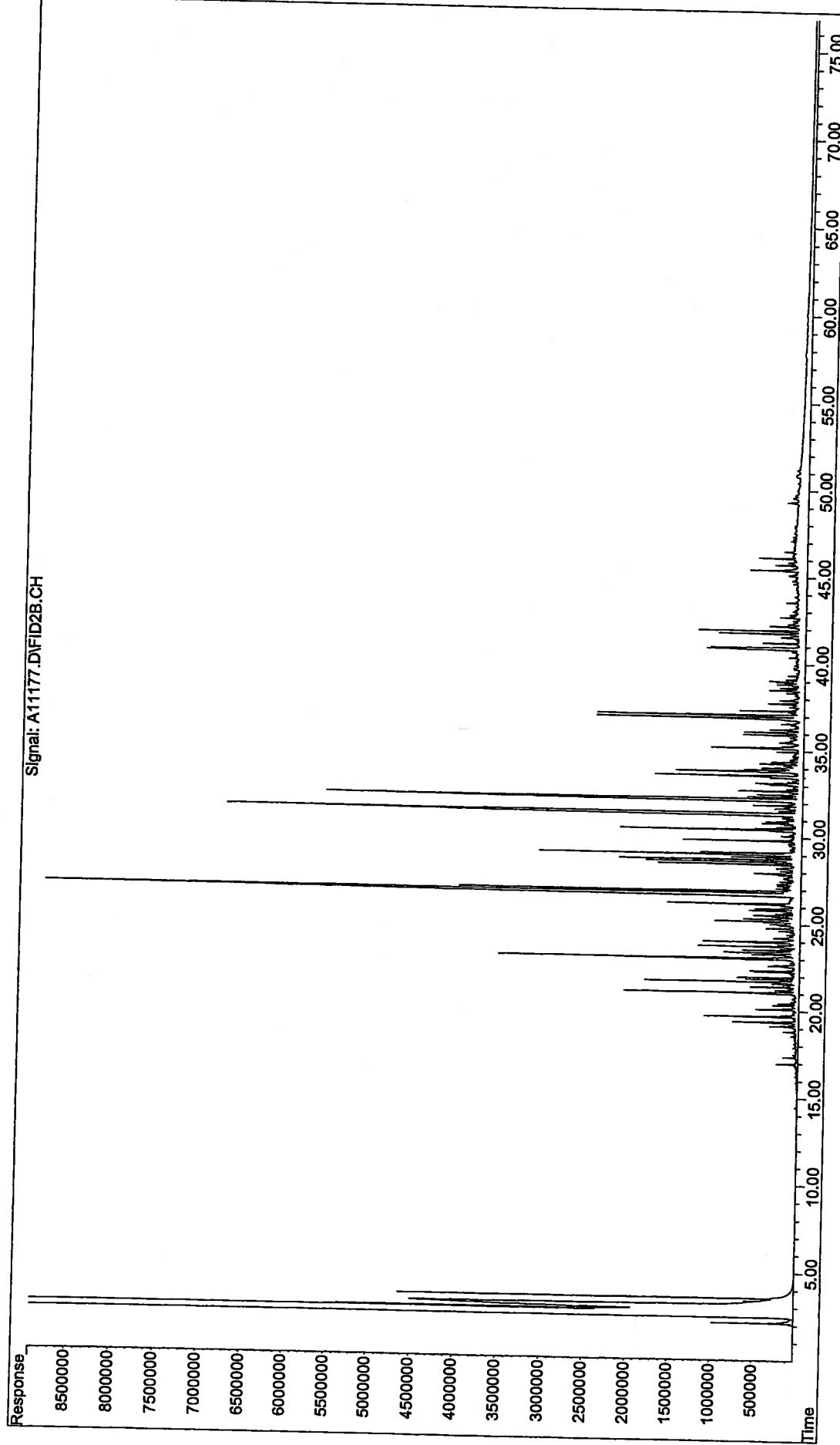
H bot	H wall	I bot	CS-1	CS-2	CS-3	CS-4	CS-5	CS-6
ND	ND	ND	0.38	ND	0.37	26	0.53	3.4
0.42	ND	ND	0.21 J	0.3	0.3	0.85	0.2 J	0.14 J
0.34	ND	ND	0.28	0.28	2.5	13	1.8	2
1.3	ND	ND	0.61	0.45	5.2	9.8	1.5	2.4
3.5	ND	0.36	1.2	1.3	3.2	4.9	1.6	1.3
1.4	ND	ND	0.45	0.45	1.4	2.4	0.54	0.62
1.9	ND	ND	0.65	0.72	2.1	4	0.76	0.89
1.7	ND	ND	0.58	0.97	0.73	1.5	0.5	0.35
1.8	ND	ND	0.76	0.47	4	8.2	1.6	2.2
0.46	ND	ND	0.17 J	0.25	0.25	0.46	0.12 J	0.11 J
2.3	ND	ND	1.7	0.49	22	50	6.6	13
ND	ND	ND	0.18 J	ND	1.8	38	1.3	4.5
2.1	ND	ND	0.7	1	0.92	1.8	0.59	0.45
ND	ND	ND	ND	ND	0.039 J	4.5	ND	0.047 J
0.87	ND	ND	NA	NA	NA	NA	NA	NA
0.46	ND	ND	0.19 J	0.1 J	12	140	6.8	19
2	ND	ND	1.5	0.67	15	31	5	8.1

CS-13	BC+10	BC+60	BC+120	5+75	7+10	7+45	8+00
2.6	ND	ND	0.052 J	21	4.2	4.8	2.1
ND	ND	ND	ND	1.1	2	0.34	0.16 J
ND	0.046 J	ND	0.064 J	11	6.1	2.8	1.1
ND	0.15 J	0.051 J	0.11 J	11	8.4	3.3	1.2
ND	0.17 J	0.046 J	0.16 J	6.3	13	2.8	0.88
ND	0.077 J	ND	0.06 J	2.5	3.7	1.2	0.33
ND	0.087 J	ND	0.077 J	4.9	9.3	1.8	0.56
ND	0.049 J	ND	0.055 J	2	5.1	0.81	0.25
ND	0.15 J	0.06 J	0.13 J	8.4	11	3.5	1.1
ND	ND	ND	ND	0.62	1.7	0.29	0.084 J
ND	0.43	0.2	0.33	45	21	12	5.2
1.2	ND	ND	0.049 J	29	5.5	6.6	2.5
ND	ND	ND	0.047 J	2	5.2	0.86	0.26
2.8	ND	ND	ND	9.4	0.68	0.37	0.58
ND	ND	ND	ND	ND	0.53 J	ND	ND
0.2 J	0.057 J	0.11 J	0.14 J	86	17	12	8.3
ND	0.31	0.15 J	0.26	34	16	8.6	3.8

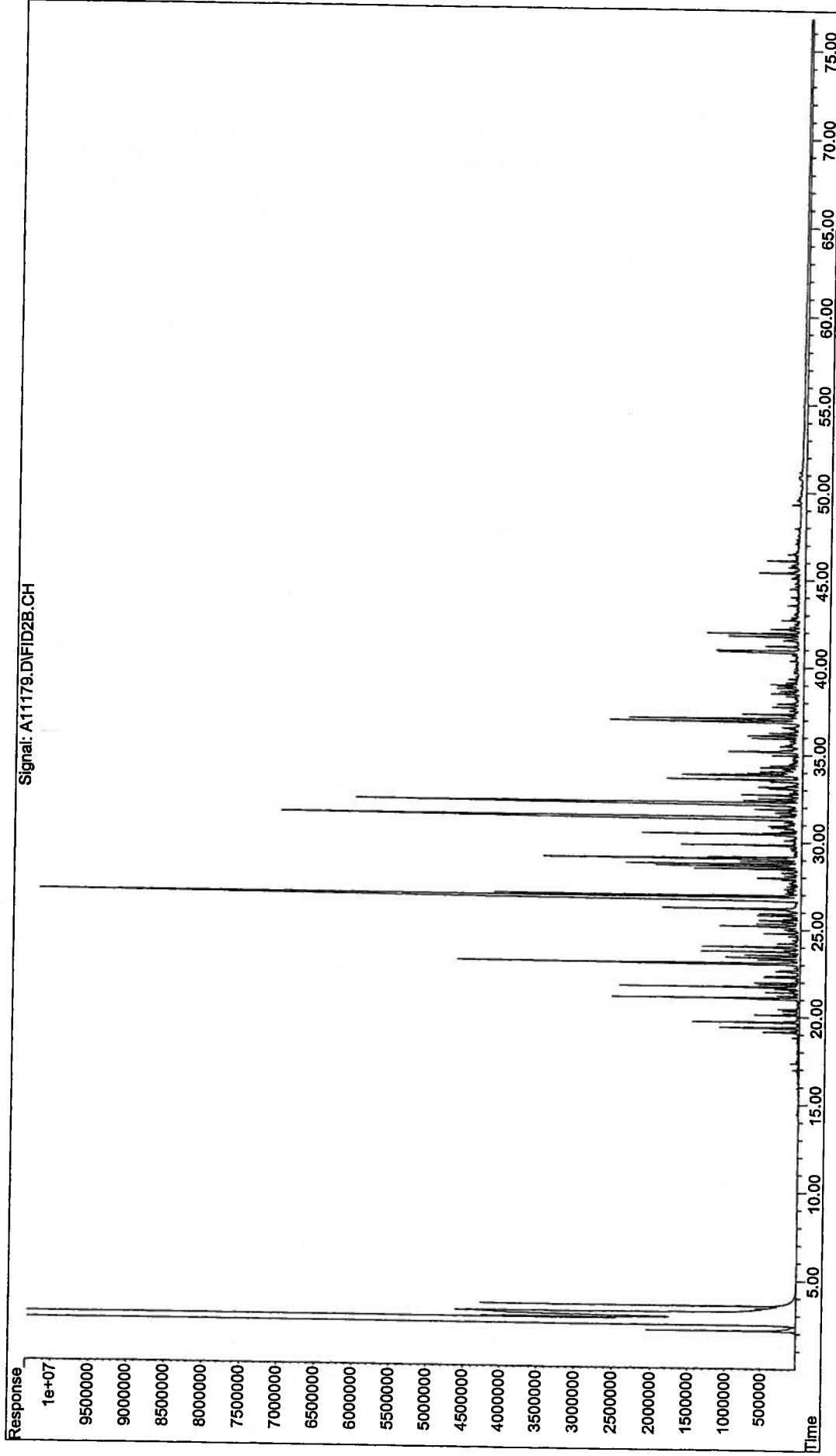
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Sample Name: 0609052-02-AFID
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Sample Name: 0609052-03-AFID
Misc Info : 1X

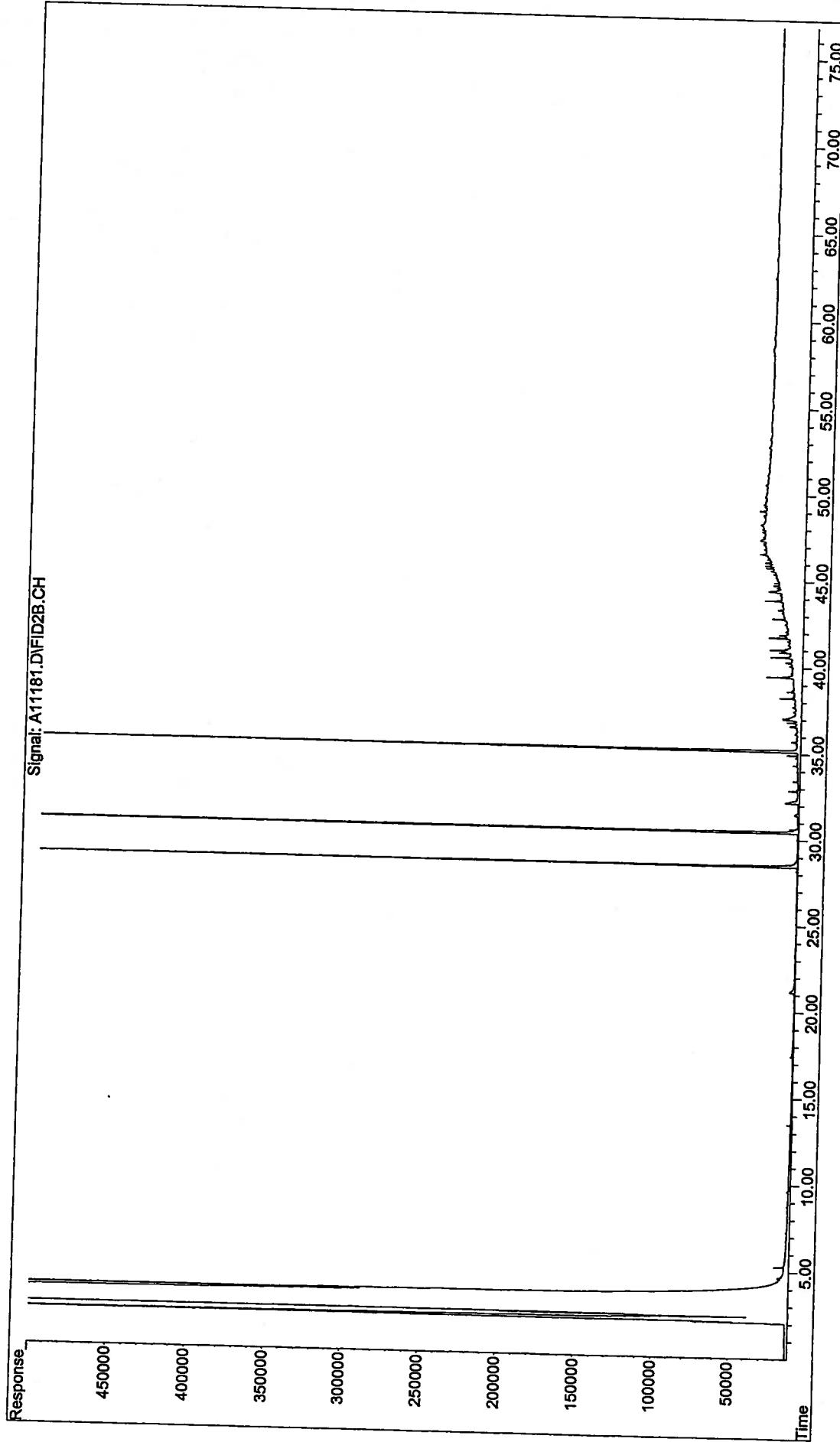


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Instrument : PAH-1
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Sample Name: 0609052-04-AFID
Misc Info : 1X

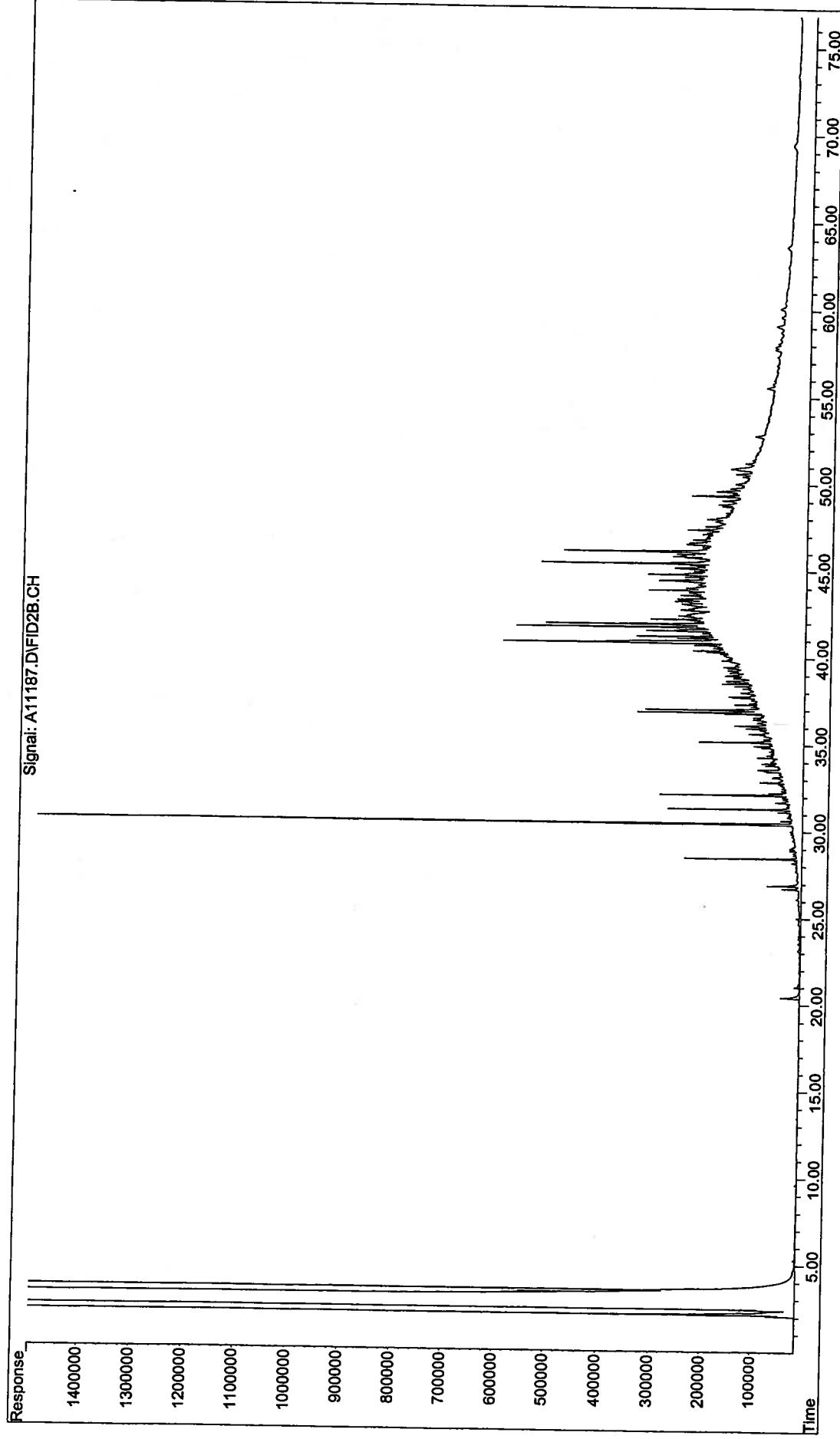


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Operator : AC
Instrument : PAH-1
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Sample Name: 0609052-05-AFID
Misc Info : 1X

PROPST E STA +175N.EDG
0609052-05

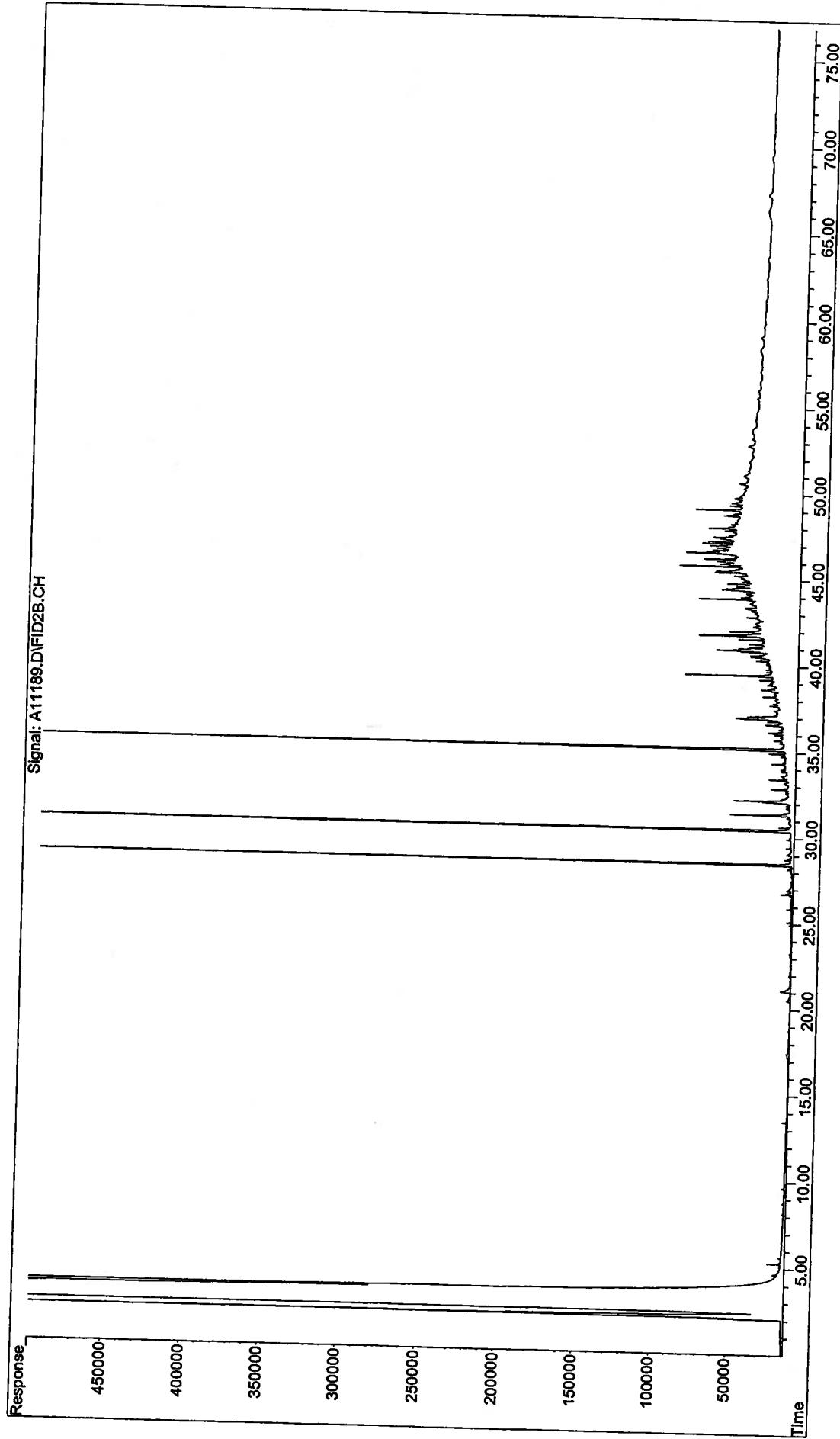


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Instrument : PAH-1
Acquired : 15 Sep 2006 6:55 pm using AcqMethod FRNC1D.M
Sample Name: 0609052-06-AFID
Misc Info : 1X

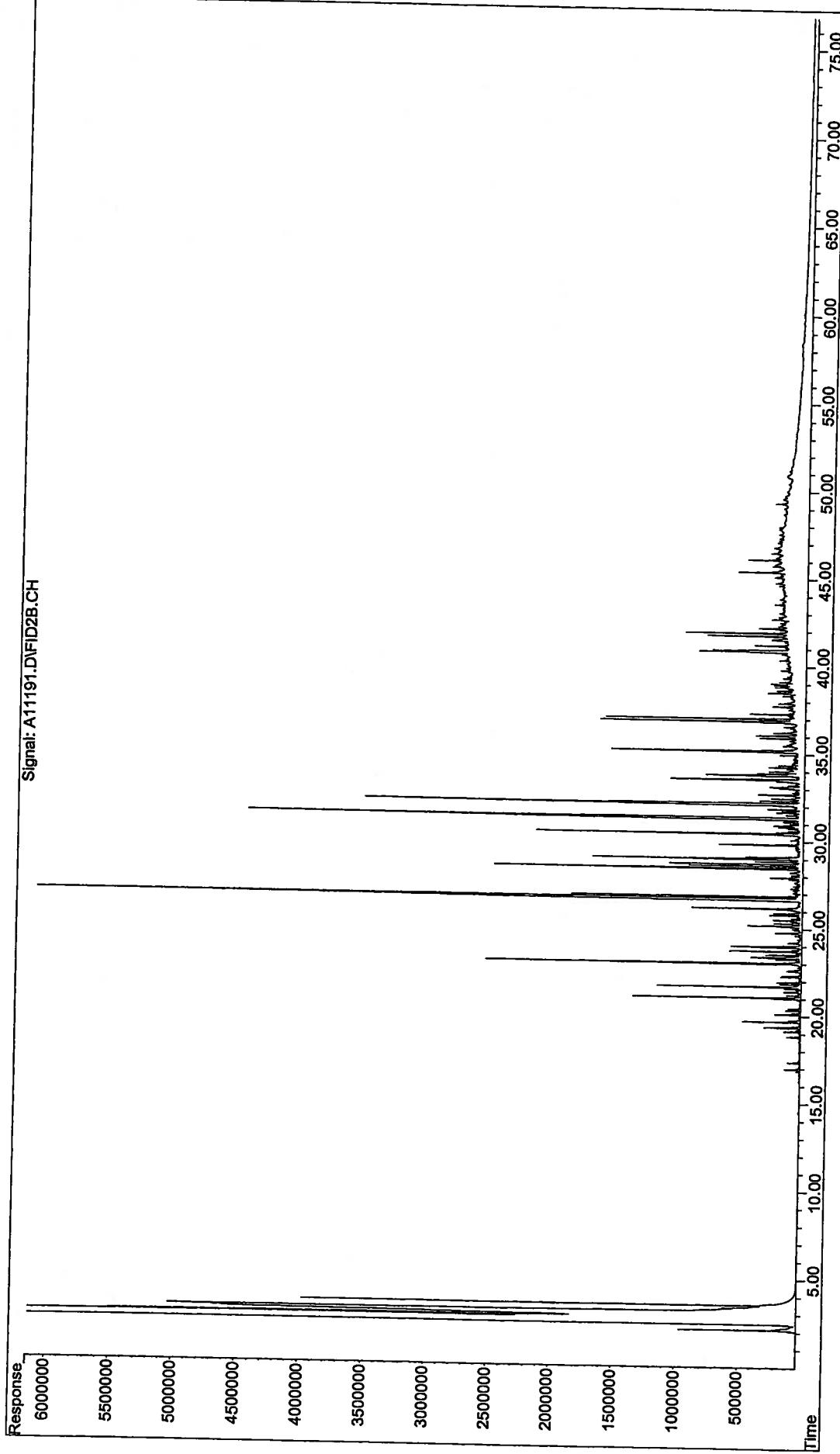


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Instrument : PAH-1
Acquired : 15 Sep 2006 8:25 pm using AcqMethod FRNC1D.M
Sample Name: 0609052-07-AFID
Misc Info : 1X

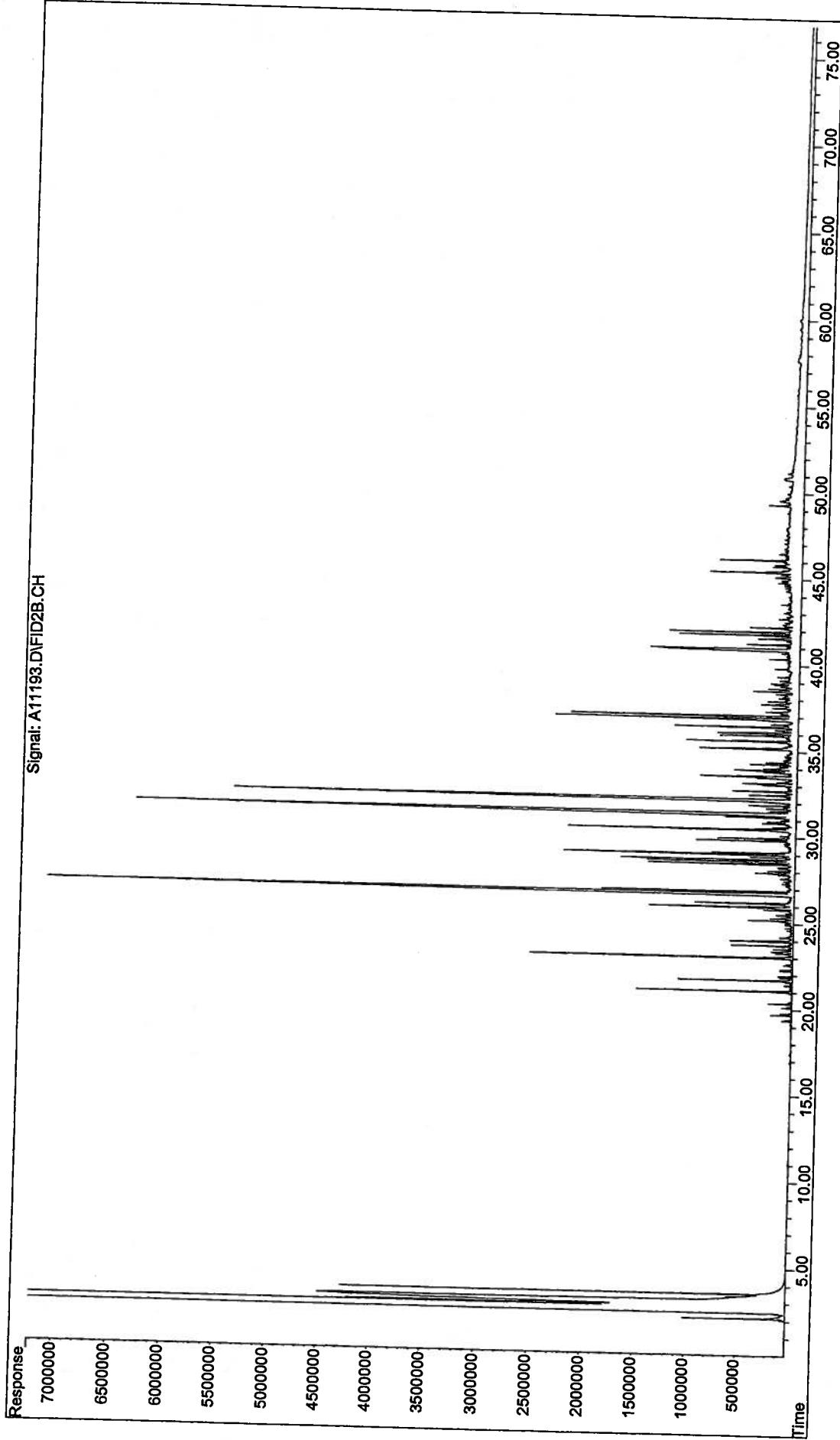
PROPSST G STA + 50'
0609052-07



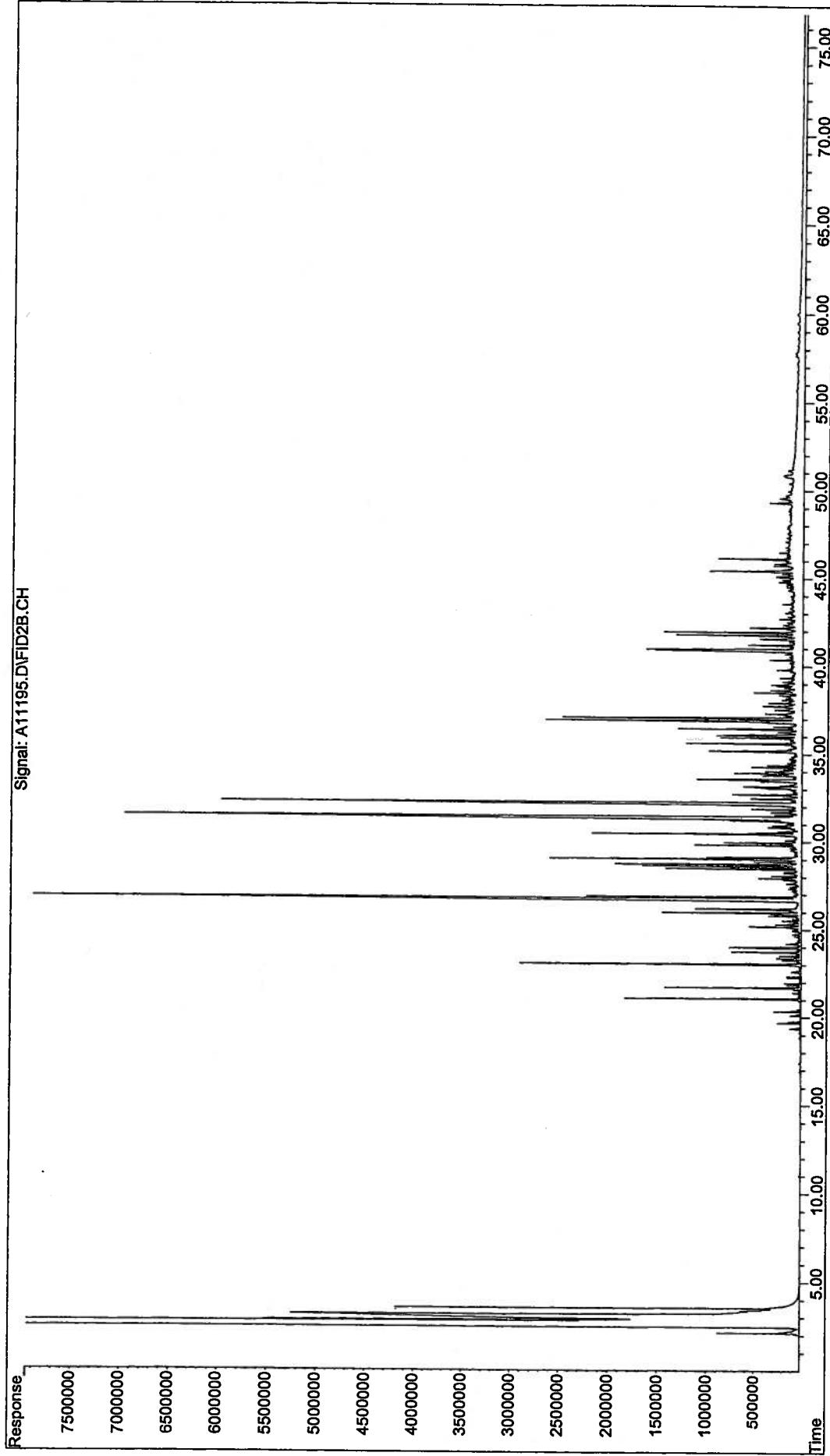
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.. umbus\FID Data\A11191.D
Operator : AC
Instrument : PAH-1
Acquired : 15 Sep 2006 9:54 pm using AcqMethod FRNC1D.M
Sample Name: 0609052-08-AFID
Misc Info : 1X



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Operator : AC
Instrument : PAH-1
Acquired : 15 Sep 2006 11:22 pm using AcqMethod FRNCID.M
Sample Name : 0609052-10-AFID
Misc Info : 1X



File : \\Boston1\ftp_users\Boston\nfef_fwhg\2006 AWHL DATA\Tronox-Co1
umbus\FID Data\A11195.D
Operator : AC
Instrument : PAH-1
Acquired : 16 Sep 2006 12:51 am using AcqMethod FRNC1D.M
Sample Name: 0609052-10D-AFID
Misc Info : 1X



Data Tables

Saturated Hydrocarbon Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPST A STA-100' 12"	PROPST B STA-50' 12"
Lab ID	0609052-01	0609052-02
Matrix	Soil	Soil
Reference Method	SHC	SHC
Batch ID	SS091406B08	SS091406B08
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/14/2006
Sample Size (wet)	30.27	9/15/2006
% Solid	80.94	20.47
File ID	A11173.D	76.7
Units	mg/Kg	A11175.D
Final Volume	5.88	mg/Kg
Dilution	1	20
Reporting Limit	7.9	1
		42

Class	Abbrev	Analyses	Result	SSRL	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	700	7.9	5400	42

Surrogates (% Recovery)

ortho-Terphenyl	97	91
d50-Tetracosane	132	96

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPST C STA-05' 12"	PROPST D STA-05' 12"				
Lab ID	0609052-03	0609052-04				
Matrix	Soil	Soil				
Reference Method	SHC	SHC				
Batch ID	SS091406B08	SS091406B08				
Date Collected	9/13/2006	9/13/2006				
Date Received	9/14/2006	9/14/2006				
Date Prepped	9/14/2006	9/14/2006				
Date Analyzed	9/15/2006	9/15/2006				
Sample Size (wet)	20.42	20.33				
% Soln	82.52	77.73				
File ID	A11177.D	A11179.D				
Units	mg/Kg	mg/Kg				
Final Volume	25	28.57				
Dilution	1	1				
Reporting Limit	49	60				
Class	Abbrev	Analytes				
SHC	TPH	Total Petroleum Hydrocarbons	Result	SSRL	Result	SSRL
			6600	49	10000	60

Surrogates (% Recovery)
 ortho-Terphenyl
 d50-Tetracosane
 78
 88
 70
 77

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPST E STA + 175' N. EDG	PROPST F BPRC E. EDG
Lab ID	0609052-05	0609052-06
Matrix		Soil
Reference Method		SHC
Batch ID	SS091406B08	SS091406B08
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/14/2006
Sample Size (wet)	28.94	9/15/2006
% Solid	79.98	30.74
File ID	A11181.D	66.85
Units	mg/Kg	A11187.D
Final Volume	2	mg/Kg
Dilution	1	9.09
Reporting Limit	2.8	1
		15

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	8.0	2.6	990	15

Surrogates (% Recovery)
 ortho-Terphenyl
 d50-Tetracosane

91	80
97	93

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPST G STA + 50'	PROPST CHAR
Lab ID	0609052-07	0609052-08
Matrix	Soil	Soil
Reference Method	SHC	SHC
Batch ID	SS091406B08	SS091406B08
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/15/2006
Sample Size (wet)	30.37	20.84
% Solid	74.5	78.01
File ID	A11189.D	A11191.D
Units	mg/Kg	mg/Kg
Final Volume	2	15.38
Dilution	1	1
Reporting Limit	2.9	31

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	31	2.9	3900	31

Surrogates (% Recovery)	
ortho-Terphenyl	93
d50-Tetracosane	99
	87
	98

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	WIER BOX NAPL	ROLL OFF BOX			
Lab ID	0609052-09	0609052-10			
Matrix	Oil	Soil			
Reference Method	SHC	SHC			
Batch ID	SO091406B13	SS091406B08			
Date Collected	9/13/2006	9/13/2006			
Date Received	9/14/2006	9/14/2006			
Date Prepped	9/14/2006	9/14/2006			
Date Analyzed	9/14/2006	9/14/2006			
Sample Size (wet)	0.1083	9/15/2006			
% Solid	100	20.42			
File ID	A11159.D	99.43			
Units	mg/Kg	A11193.D			
Final Volume	20	mg/Kg			
Dilution	1	28.57			
Reporting Limit	6100	1			
		46			
Class	Abbrev	Analytes			
SHC	TPH	Total Petroleum Hydrocarbons	Result	SSRL	Result
			760000	6100	6000
					46

Surrogates (% Recovery)	
ortho-Terphenyl	102
d50-Tetracosane	t18

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	WIER BOX NAPL	WIER BOX NAPL
Lab ID	0609052-09	0609052-09D
Matrix	Oil	Oil
Reference Method	SHC	SHC
Batch ID	SO091406B13	SO091406B13
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/14/2006	9/14/2006
Sample Size (wet)	0.1083	0.112
% Solid	100	100
File ID	A11159.D	A11161.D
Units	mg/Kg	mg/Kg
Final Volume	20	20
Dilution	1	1
Reporting Limit	6100	5900

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
SHC	TPH	Total Petroleum Hydrocarbons	760000	6100	760000	5900	0	30

Surrogates (% Recovery)	
ortho-Terphenyl	
d50-Tetracosane	102
	118

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	ROLL OFF BOX	ROLL OFF BOX
Lab ID	0609052-10	0609052-10D
Matrix	Soil	Soil
Reference Method	SHC	SHC
Batch ID	SS091406B08	SS091406B08
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/16/2006
Sample Size (wet)	20.42	20.33
% Solid	99.43	99.43
File ID	A11193.D	A11195.D
Units	mg/Kg	mg/Kg
Final Volume	28.57	28.57
Dilution	1	1
Reporting Limit	46	47

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
SHC	TPH	Total Petroleum Hydrocarbons	6000	48	7000	47	16	30

Surrogates (% Recovery)		
ortho-Terphenyl	87	89
d50-Tetracosane	107	113
		2 30
		5 30

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	Method Blank	Method Blank
Lab ID	SO091406B13	SS091406B08
Matrix	Oil	Soil
Reference Method	SHC	SHC
Batch ID	SO091406B13	SS091406B08
Date Collected	N/A	N/A
Date Received	N/A	N/A
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/14/2006	9/15/2006
Sample Size (wet)	0.1	30
% Dolid	100	100
File ID	A11153.D	A11167.D
Units	mg/Kg	mg/Kg
Final Volume	1	2
Dilution	1	1
Reporting Limit	330	2.2

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	U 330		U 2.2	

Surrogates (% Recovery)

ortho-Terphenyl	103	94
d50-Tetracosane	108	100

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SO091406LCS07
Matrix	Oil
Reference Method	SHC
Batch ID	SO091406B13
Date Collected	N/A
Date Received	N/A
Date Prepped	9/14/2006
Date Analyzed	9/14/2006
Sample Size (wet)	0.1
% Solid	100
File ID	A11155.D
Units	mg/Kg
Final Volume	1
Dilution	1
Reporting Limit	10

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	C9	n-Nonane (C9)	450 S 10	90	500	50	130	
SHC	C10	n-Decane (C10)	460 S 10	91	500	50	130	
SHC	C12	n-Dodecane (C12)	450 S 10	90	500	50	130	
SHC	C14	n-Tetradecane (C14)	460 S 10	92	500	50	130	
SHC	C16	n-Hexadecane (C16)	480 S 10	95	500	50	130	
SHC	C18	n-Octadecane (C18)	480 S 10	97	500	50	130	
SHC	C19	n-Nonadecane (C19)	490 S 10	98	500	50	130	
SHC	C20	n-Eicosane (C20)	490 S 10	98	500	50	130	
SHC	C22	n-Docosane (C22)	500 S 10	100	500	50	130	
SHC	C24	n-Tetracosane (C24)	490 S 10	97	500	50	130	
SHC	C26	n-Hexacosane (C26)	480 S 10	97	500	50	130	
SHC	C28	n-Octacosane (C28)	480 S 10	96	500	50	130	
SHC	C30	n-Triacontane (C30)	480 S 10	96	500	50	130	
SHC	C36	n-Hexatricontane (C36)	460 S 10	93	500	50	130	
SHC	TPH	Total Petroleum Hydrocarbons	5800	330				

Surrogates (% Recovery)	
ortho-Terphenyl	102
d50-Tetracosane	107

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SO091406LCSD07
Matrix	Oil
Reference Method	SHC
Batch ID	SO091406B13
Date Collected	N/A
Date Received	N/A
Date Prepped	9/14/2006
Date Analyzed	9/14/2006
Sample Size (wet)	0.1
% Solid	100
File ID	A11157.D
Units	mg/Kg
Final Volume	1
Dilution	1
Reporting Limit	10

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
SHC	C9	n-Nonane (C9)	450 S 10	91	500	50	130		1	30
SHC	C10	n-Decane (C10)	460 S 10	92	500	50	130		0	30
SHC	C12	n-Dodecane (C12)	480 S 10	96	500	50	130		7	30
SHC	C14	n-Tetradecane (C14)	450 S 10	91	500	50	130		1	30
SHC	C16	n-Hexadecane (C16)	460 S 10	92	500	50	130		4	30
SHC	C18	n-Octadecane (C18)	480 S 10	97	500	50	130		0	30
SHC	C19	n-Nonadecane (C19)	490 S 10	97	500	50	130		0	30
SHC	C20	n-Eicosane (C20)	490 S 10	97	500	50	130		0	30
SHC	C22	n-Docosane (C22)	490 S 10	98	500	50	130		0	30
SHC	C24	n-Tetracosane (C24)	500 S 10	100	500	50	130		0	30
SHC	C26	n-Hexacosane (C26)	490 S 10	97	500	50	130		0	30
SHC	C28	n-Octacosane (C28)	480 S 10	97	500	50	130		0	30
SHC	C30	n-Triacontane (C30)	480 S 10	96	500	50	130		0	30
SHC	C36	n-Hexatriacontane (C36)	480 S 10	95	500	50	130		0	30
SHC	TPH	Total Petroleum Hydrocarbons	460 S 10	92	500	50	130		0	30
			5600	330						

Surrogates (% Recovery)
 ortho-Terphenyl
 d50-Tetracosane

103

108

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS091406LCS05
Matrix	Soil
Reference Method	SHC
Batch ID	SS091406B08
Date Collected	N/A
Date Received	N/A
Date Prepped	9/14/2006
Date Analyzed	9/15/2006
Sample Size (wet)	30
% Solid	100
File ID	A11169.D
Units	mg/kg
Final Volume	2
Dilution	1
Reporting Limit	0.067

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	C9	n-Nonane (C9)	1.1 S	0.067	68	1.6	50	130
SHC	C10	n-Decane (C10)	1.2 S	0.067	70	1.6	50	130
SHC	C12	n-Dodecane (C12)	1.0 S	0.067	61	1.6	50	130
SHC	C14	n-Tetradecane (C14)	1.1 S	0.067	64	1.6	50	130
SHC	C16	n-Hexadecane (C16)	1.4 S	0.067	81	1.6	50	130
SHC	C18	n-Octadecane (C18)	1.5 S	0.067	90	1.6	50	130
SHC	C19	n-Nonadecane (C19)	1.5 S	0.067	90	1.6	50	130
SHC	C20	n-Eicosane (C20)	1.5 S	0.067	90	1.6	50	130
SHC	C22	n-Docosane (C22)	1.5 S	0.067	91	1.6	50	130
SHC	C24	n-Tetracosane (C24)	1.6 S	0.067	94	1.6	50	130
SHC	C26	n-Hexacosane (C26)	1.5 S	0.067	92	1.6	50	130
SHC	C28	n-Octacosane (C28)	1.5 S	0.067	91	1.6	50	130
SHC	C30	n-Triacontane (C30)	1.5 S	0.067	91	1.6	50	130
SHC	C36	n-Hexatriacontane (C36)	1.5 S	0.067	89	1.6	50	130
SHC	TPH	Total Petroleum Hydrocarbons	13	2.2				

Surrogates (% Recovery)
 ortho-Terphenyl
 d50-Tetracosane

95
 101

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS091406LCSD05
Matrix	Soil
Reference Method	SHC
Batch ID	SS091406B08
Date Collected	N/A
Date Received	N/A
Date Prepped	
Date Analyzed	9/14/2006
Sample Size (wet)	9/15/2006
% Solid	30
File ID	100
Units	A11171.D
Final Volume	mg/Kg
Dilution	2
Reporting Limit	1
	0.067

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
SHC	C9	n-Nonane (C9)	1.1 S	0.067	66	1.6	50	130	3	30
SHC	C10	n-Decane (C10)	1.2 S	0.067	69	1.6	50	130	2	30
SHC	C12	n-Dodecane (C12)	1.0 S	0.067	60	1.6	50	130	2	30
SHC	C14	n-Tetradecane (C14)	1.0 S	0.067	63	1.6	50	130	2	30
SHC	C16	n-Hexadecane (C16)	1.3 S	0.067	80	1.6	50	130	2	30
SHC	C18	n-Octadecane (C18)	1.5 S	0.067	88	1.6	50	130	1	30
SHC	C19	n-Nonadecane (C19)	1.5 S	0.067	88	1.6	50	130	2	30
SHC	C20	n-Eicosane (C20)	1.5 S	0.067	88	1.6	50	130	2	30
SHC	C22	n-Docosane (C22)	1.5 S	0.067	89	1.6	50	130	2	30
SHC	C24	n-Tetracosane (C24)	1.5 S	0.067	92	1.6	50	130	2	30
SHC	C26	n-Hexacosane (C26)	1.5 S	0.067	89	1.6	50	130	2	30
SHC	C28	n-Octacosane (C28)	1.5 S	0.067	89	1.6	50	130	3	30
SHC	C30	n-Triacontane (C30)	1.5 S	0.087	89	1.6	50	130	3	30
SHC	C36	n-Hexatriacontane (C36)	1.5 S	0.067	88	1.6	50	130	3	30
SHC	TPH	Total Petroleum Hydrocarbons	1.4 S	0.067	85	1.6	50	130	4	30
			13	2.2					4	30

Surrogates (% Recovery)
 ortho-Terphenyl
 d50-Tetracosane

93

99

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID

Client ID	Alaska North Slope Crude
Lab ID	TO091506AWS01
Matrix	
Reference Method	Oil
Batch ID	SHC
Date Collected	N/A
Date Received	N/A
Date Prepped	N/A
Date Analyzed	N/A
Sample Size (wet)	9/14/2006
% Solid	0.0523
File ID	t00
Units	A11149.D
Final Volume	mg/Kg
Dilution	10
Reporting Limit	1
	t90

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	TPH	Total Petroleum Hydrocarbons	570000	6300	91	623913	65	135

NEWFIELDS

List of Potential Qualifiers

- U: The analyte was analyzed for but not detected at the sample specific level reported.
- B: Found in associated blank as well as sample.
- J: Estimated value, below quantitation limit.
- E: Estimated value, exceeds the upper limit of calibration.
- NA: Not Applicable
- D: Secondary Dilution Performed
- D1: Tertiary Dilution Performed
 - *: Value outside of QC Limits.
- S: Surrogate value outside of acceptable range.
- X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
- G: Matrix Interference.
- P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
- I: Due to Interference, the lower value is reported.
- N: Spike recovery outside control limits.
- E: Estimated due to interference. (Metals)
- A: Duplicate outside control limits.
- P: Spike compound. (Metals)
- J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
- C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

Priority Pollutant PAH Data

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	PROPS1 A STA-100' 12"	PROPS1 B STA-50' 12"
Lab ID	0609052-01	0609052-02
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS091406B08	SS091406B08
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/15/2006
Sample Size (wet)		
% Solid	30.27	20.47
File ID	80.94	76.7
Units	A11184.D	A11190.D
Final Volume	µg/Kg	µg/Kg
Dilution	5.88	20
Reporting Limit	1	1
	2.4	13

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	N0	Naphthalene	130	2.4	240	13
3	AY	Acenaphthylene	1600	2.4	2300	13
3	AE	Acenaphthene	100	2.4	540	13
3	F0	Fluorene	240	2.4	580	13
3	A0	Anthracene	2200	2.4	3200	13
3	P0	Phenanthrene	1100	2.4	3400	13
4	FL0	Fluoranthene	14000	D 24	47000	D 130
4	PY0	Pyrene	15000	D 24	35000	D 130
4	BA0	Benz[a]anthracene	7500	D 24	15000	D 130
4	C0	Chrysene/Triphenylene	9500	D 24	15000	D 130
5	BBF	Benz[b]fluoranthene	9600	D 24	14000	D 130
5	BJKF	Benzoj[fl]uoranthene	8900	D 24	12000	13
5	BAP	Benz[a]pyrene	7700	D 24	12000	13
6	IND	Indeno[1,2,3-cd]pyrene	5800	D 24	8200	13
5	DA	Dibenz[a,h]anthracene	1200	2.4	2100	13
6	GHI	Benzof[g,h,i]perylene	4400	D 24	6100	13
	TPAH		89070		176660	
Surrogates (% Recovery)						
		2-Methylnaphthalene-d10	90		84	
		Pyrene-d10	120		93	
		Benzo[b]fluoranthene-d12	79		99	

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	PROPS T STA-05' 12"	PROPS T STA-05' 12"
Lab ID	0609052-03	0609052-04
Matrix	Soil	Soil
Reference Method		
Batch ID	Modified 8270C SS091406B08	Modified 8270C SS091406B08
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/15/2006
Sample Size (wt)		
% Solid	20.42	20.33
File ID	82.52	77.73
Units	A11192.D	A11194.D
Final Volume	µg/Kg	µg/Kg
Dilution	25	28.57
Reporting Limit	10	10
	150	180

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	N0	Naphthalene	2200	150	2300	180
3	AY	Acenaphthylene				
3	AE	Acenaphthene	7400	150	9300	180
3	F0	Fluorene	60000	150	95000	180
3	A0	Anthracene	140000	150	250000	D 1800
3	P0	Phenanthrene	180000	D 1500	210000	D 1800
4	FL0	Fluoranthene	800000	D 1500	1300000	D 1800
4	PY0	Pyrene	610000	D 1500	840000	D 1800
4	BA0	Benz[a]anthracene	390000	D 1500	540000	D 1800
4	C0	Chrysene/Triphenylene	110000	150	140000	180
5	BBF	Benz[b]fluoranthene	100000	150	130000	180
5	BJKF	Benzoj(k)fluoranthene	47000	150	56000	180
5	BAP	Benz[a]pyrene	45000	150	56000	180
6	IND	Indeno[1,2,3-cd]pyrene	48000	150	58000	180
5	DA	Dibenz[a,h]anthracene	22000	150	25000	180
6	GHI	Benzog,h,iperylene	5000	150	5700	180
		TPAH	16000	150	18000	180
			2580600		3735300	
Surrogates (% Recovery)						
2-Methylnaphthalene-d10						
Pyrene-d10						
Benzof[b]fluoranthene-d12						
			84		85	
			98		100	
			90		90	

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	PROPS T E STA + 175' N. EDG	PROPS T F BPRC E. EDG
Lab ID	0609052-05	0609052-08
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS091406B08	SS091406B08
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/16/2006
Sample Size (wet)		
% Solid	29.94	30.74
File ID	79.98	66.85
Units	A11186.D	A11212.D
Final Volume	µg/Kg	µg/Kg
Dilution	2	9.09
Reporting Limit	1	1
	0.84	4.4

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPST G STA + 50'	PROPST CHAR
Lab ID	0609052-07	0609052-08
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS091406B08	SS091406B08
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2008	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/15/2006
Sample Size (wt)	30.37	20.84
% Solid	74.5	78.01
File ID	A11188.D	A11200.D
Units	$\mu\text{g}/\text{Kg}$	$\mu\text{g}/\text{Kg}$
Final Volume	2	15.38
Dilution	1	10
Reporting Limit	0.88	95

Class	Abbrev	Analyses	Result	SSRL	Result	SSRL
2	N0	Naphthalene	1.8	0.88	540	95
3	AY	Acenaphthylene	23	0.88	2800	95
3	AE	Acenaphthene	4.2	0.88	25000	95
3	F0	Fluorene	7.5	0.88	55000	95
3	A0	Anthracene	29	0.88	40000	95
3	P0	Phenanthrene	38	0.88	250000 D	950
4	FL0	Fluoranthene	140	0.88	170000 D	950
4	PY0	Pyrene	130	0.88	120000 D	950
4	BA0	Benz[a]anthracene	60	0.88	36000	95
4	C0	Chrysene/Trifluorophene	81	0.88	32000	95
5	BBF	Benz[b]fluoranthene	92	0.88	19000	95
5	BJKF	Benz[k]fluoranthene	73	0.88	17000	95
5	BAP	Benz[a]pyrene	64	0.88	19000	95
6	IND	Indeno[1,2,3-cd]pyrene	64	0.88	9200	95
5	DA	Dibenz[a,h]anthracene	14	0.88	2100	95
6	GHI	Benzof[g,h,i]perylene	53	0.88	7000	95
		TPAH	875		804640	

Surrogates (% Recovery)

2-Methylnaphthalene-d10	74	79
Pyrene-d10	107	89
Benz[b]fluoranthene-d12	98	90

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	WIER BOX NAPL	ROLL OFF BOX
Lab ID	0609052-09	0609052-10
Matrix	Oil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SC0091406B13	SS091406B08
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/15/2006
Sample Size (wet)	0.1083	20.42
% Solid	100	99.43
File ID	A11168.D	A11202.D
Units	mg/Kg	µg/Kg
Final Volume	20	28.57
Dilution	10	10
Reporting Limit	18	t40

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	N0	Naphthalene	90000	D 180	420	140
3	AY	Acenaphthylene	2500	18	8000	140
3	AE	Acenaphthene	29000	D 180	41000	140
3	F0	Fluorene	28000	D 180	78000	140
3	A0	Anthracene	10000	18	56000	140
3	P0	Phenanthrene	79000	D 180	500000	D 1400
4	FL0	Fluoranthene	45000	D 180	520000	D 1400
4	PY0	Pyrene	29000	D 180	320000	D 1400
4	BA0	Benz[a]anthracene	8400	18	100000	140
4	C0	Chrysene/Triphenylene	6400	18	87000	140
5	BBF	Benzol[b]fluoranthene	3300	18	51000	140
5	BJKF	Benzol[k]fluoranthene	3200	18	49000	140
5	BAP	Benzo[a]pyrene	3400	18	43000	140
6	IND	Indeno[1,2,3-cd]pyrene	1300	18	28000	140
5	DA	Dibenz[a,h]anthracene	310	18	6100	140
6	GHI	Benzo[g,h,i]perylene	940	18	22000	140
		TPAH	339750		1909520	

Surrogates (% Recovery)

2-Methylnaphthalene-d10	100	74
Pyrene-d10	119	88
Benzo[b]fluoranthene-d12	97	86

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	WIER BOX NAPL	WIER BOX NAPL
Lab ID	0609052-09	0609052-09D
Matrix	Oil	Oil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SO091406B13	SO091406B13
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/15/2006
Sample Size (wet)	0.1083	0.112
% Solid	100	100
File ID	A11170.D	A11172.D
Units	mg/Kg	mg/Kg
Final Volume	20	20
Dilution	10	10
Reporting Limit	18	18

Class	Abbrev	Analyses	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	90000 D	180	95000 D	180	2	30
3	AY	Acenaphthylene	2500	18	2600	18	1	30
3	AE	Acenaphthene	29000 D	180	30000 D	180	2	30
3	F0	Fluorene	28000 D	180	29000 D	180	1	30
3	A0	Anthracene	10000	18	10000	18	0	30
3	P0	Phenanthrene	79000 D	180	82000 D	180	2	30
4	FL0	Fluoranthene	45000 D	180	47000 D	180	1	30
4	PY0	Pyrene	29000 D	180	31000 D	180	2	30
4	BA0	Benz[a]anthracene	8400	18	8400	18	1	30
4	C0	Chrysene/Triphenylene	6400	18	6400	18	1	30
5	BBF	Benz[b]fluoranthene	3300	18	3300	18	1	30
5	BJKF	Benz[k]fluoranthene	3200	18	3200	18	1	30
5	BAP	Benz[a]pyrene	3400	18	3400	18	0	30
6	IND	Indeno[1,2,3-cd]pyrene	1300	18	1300	18	1	30
5	DA	Dibenz[a,h]anthracene	310	18	300	18	5	30
6	GHI	Benzof[g,h]perylene	940	18	930	18	1	30
		TPAH	339750		353830			

Surrogates (% Recovery)

2-Methylnaphthalene-d10	100	104	4	30
Pyrene-d10	119	121	2	30
Benzo[b]fluoranthene-d12	97	98	1	30

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	ROLL OFF BOX	ROLL OFF BOX
Lab ID	0609052-10	0609052-10D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS091406B08	SS091406B08
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/16/2006	9/16/2006
Sample Size (wet)	20.42	20.33
% Solid	99.43	99.43
File ID	A11202.D	A11204.D
Units	µg/Kg	µg/Kg
Final Volume	28.57	28.57
Dilution	10	10
Reporting Limit	140	140

Class	Abbrev	Analytics	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	420	140	440	140	5	30
3	AY	Acenaphthylene	8000	140	9600	140	18	30
3	AE	Acenaphthene	41000	140	51000	140	21	30
3	F0	Fluorene	78000	140	97000	140	21	30
3	A0	Anthracene	56000	140	68000	140	20	30
3	P0	Phenanthrene	500000	1400	620000 D	1400	20	30
4	FL0	Fluoranthene	520000	1400	630000 D	1400	18	30
4	PY0	Pyrene	320000	1400	390000 D	1400	18	30
4	BA0	Benz[a]anthracene	100000	140	120000	140	17	30
4	C0	Chrysene/Triphenylene	87000	140	100000	140	18	30
5	BBF	Benzo[b]fluoranthene	51000	140	59000	140	14	30
5	BJKF	Benzo[k]fluoranthene	49000	140	57000	140	16	30
5	BAP	Benzo[a]pyrene	43000	140	50000	140	16	30
6	IND	Indeno[1,2,3-cd]pyrene	28000	140	32000	140	14	30
5	DA	Dibenz[a,h]anthracene	6100	140	7600	140	22	30
6	GHI	Benzo[g,h,i]perylene	22000	140	25000	140	14	30
		TPAH	t909520		2316640			

Surrogates (% Recovery)

2-Methylnaphthalene-d10	74	77	4	30
Pyrene-d10	88	89	1	30
Benzo[b]fluoranthene-d12	86	87	1	30

NEWFIELDS

List of Potential Qualifiers

- U: The analyte was analyzed for but not detected at the sample specific level reported.
- B: Found in associated blank as well as sample.
- J: Estimated value, below quantitation limit.
- E: Estimated value, exceeds the upper limit of calibration.
- NA: Not Applicable
- D: Secondary Dilution Performed
- D1: Tertiary Dilution Performed
- *: Value outside of QC Limits.
- S: Surrogate value outside of acceptable range.
- X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
- G: Matrix Interference.
- P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
- I: Due to Interference, the lower value is reported.
- N: Spike recovery outside control limits.
- E: Estimated due to Interference. (Metals)
- #: Duplicate outside control limits.
- P: Spike compound. (Metals)
- J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
- C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

Parent and Alkylated PAH Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPS T A STA-100' 12"	PROPS T B STA-50' 12"
Lab ID	0609052-01	0609052-02
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS091406B08	SS091406B08
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/15/2006
Sample Size (wet)	30.27	20.47
% Solid	80.94	76.7
File ID	A11184.D	A11190.D
Units	µg/Kg	µg/Kg
Final Volume	5.66	20
Dilution	1	1
Reporting Limit	2.4	13

Class	Abbrev	Analyses	Result	SSRL	Result	SSRL
2	N0	Naphthalene	130	2.4	240	13
2	N1	C1-Naphthalenes	65	2.4	83	13
2	N2	C2-Naphthalenes	61	2.4	140	13
2	N3	C3-Naphthalenes	110	2.4	380	13
2	N4	C4-Naphthalenes	120	2.4	500	13
2	B	Biphenyl	28	2.4	34	13
3	DF	Dibenzofuran	140	2.4	230	13
3	AY	Acenaphthylene	1600	2.4	2300	13
3	AE	Acenaphthene	100	2.4	540	13
3	F0	Fluorene	240	2.4	580	13
3	F1	C1-Fluorenes	97	2.4	600	13
3	F2	C2-Fluorenes	230	2.4	870	13
3	F3	C3-Fluorenes	570	2.4	1100	13
3	A0	Anthracene	2200	2.4	3200	13
3	P0	Phenanthrene	1100	2.4	3400	13
3	PA1	C1-Phenanthrenes/Anthracenes	1300	2.4	3500	13
3	PA2	C2-Phenanthrenes/Anthracenes	1500	2.4	3800	13
3	PA3	C3-Phenanthrenes/Anthracenes	920	2.4	1900	13
3	PA4	C4-Phenanthrenes/Anthracenes	380	2.4	580	13
3	DBT0	Dibenzothiophene	100	2.4	440	13
3	DBT1	C1-Dibenzothiophenes	100	2.4	550	13
3	DBT2	C2-Dibenzothiophenes	210	2.4	890	13
3	DBT3	C3-Dibenzothiophenes	240	2.4	720	13
3	DBT4	C4-Dibenzothiophenes	130	2.4	340	13
4	BF	Benzo(b)fluorene	1100	2.4	6600	13
4	FL0	Fluoranthene	14000	D 24	47000	D 130
4	PY0	Pyrene	15000	D 24	35000	D 130
4	FP1	C1-Fluoranthenes/Pyrenes	6900	2.4	18000	13
4	FP2	C2-Fluoranthenes/Pyrenes	5500	2.4	6200	13
4	FP3	C3-Fluoranthenes/Pyrenes	2800	2.4	2600	13
4	FP4	C4-Fluoranthenes/Pyrenes	1500	2.4	1600	13
4	NBT0	Naphthobenzothiophenes	2500	2.4	4500	13
4	NBT1	C1-Naphthobenzothiophenes	1200	2.4	1700	13
4	NBT2	C2-Naphthobenzothiophenes	540	2.4	790	13
4	NBT3	C3-Naphthobenzothiophenes	280	2.4	490	13
4	NBT4	C4-Naphthobenzothiophenes	78	2.4	180	13
4	BA0	Benz[a]anthracene	7500	D 24	15000	D 130
4	C0	Chrysene/Triphenylene	9800	D 24	15000	D 130
4	BC1	C1-Chrysenes	2600	2.4	5200	13
4	BC2	C2-Chrysenes	1100	2.4	2100	13
4	BC3	C3-Chrysenes	1000	2.4	1800	13
4	BC4	C4-Chrysenes	360	2.4	590	13
5	BBF	Benzofluoranthene	9600	D 24	14000	D 130
5	BJKF	Benzofluoranthene	8900	D 24	12000	13
5	BAF	Benzofluoranthene	1600	2.4	3000	13
5	BEP	Benzofluoranthene	6500	D 24	9000	13
5	BAP	Benzofluoranthene	7700	D 24	12000	13
5	PER	Perylene	2000	2.4	3500	13
6	IND	Indeno[1,2,3-cd]pyrene	5800	D 24	8200	13
5	DA	Dibenz[a,h]anthracene	1200	2.4	2100	13
6	GHI	Benzofluoranthene	4400	D 24	6100	13
3	4MDT	4-Methylbenzothiophene	33	2.4	190	13
3	2MDT	2/3-Methylbenzothiophene	38	2.4	220	13
3	1MDT	1-Methylbenzothiophene	9.3	2.4	61	13
3	3MP	3-Methylphenanthrene	200	2.4	660	13
3	2MP	2/4-Methylphenanthrene	260	2.4	680	13
3	2MA	2-Methylnaphthalene	330	2.4	690	13
3	9MP	9-Methylnaphthalene	330	2.4	990	13
3	1MP	1-Methylnaphthalene	170	2.4	480	13
	TPAH		134299		265038	
	Surrogates (% Recovery)					
	2-Methylnaphthalene-d10		90		84	
	Pyrene-d10		120		93	
	Benzofluoranthene-d12		79		99	

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPS T C STA-05' 12"	PROPS T D STA-05' 12"
Lab ID	0609052-03	0609052-04
Matrix	Soli	Soli
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS091406B08	SS091406B08
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/15/2006
Sample Size (wet)	20.42	20.33
% Solid	82.52	77.73
File ID	A11192.D	A11194.D
Units	µg/Kg	µg/Kg
Final Volume	25	28.57
Dilution	10	10
Reporting Limit	150	180

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	N0	Naphthalene	2200	150	2300	180
2	N1	C1-Naphthalenes	9500	150	5800	180
2	N2	C2-Naphthalenes	51000	150	87000	180
2	N3	C3-Naphthalenes	53000	150	59000	180
2	N4	C4-Naphthalenes	21000	150	17000	180
2	B	Biphenyl	4400	150	2800	180
3	DF	Dibenzofuran	59000	150	100000	180
3	AY	Acenaphthylene	7400	150	9300	180
3	AE	Acenaphthene	60000	150	95000	180
3	F0	Fluorene	140000	150	250000 D	1800
3	F1	C1-Fluorennes	40000	150	54000	180
3	F2	C2-Fluorennes	19000	150	19000	180
3	F3	C3-Fluorennes	13000	150	15000	180
3	A0	Anthracene	180000 D	1500	210000 D	1800
3	P0	Phenanthrene	800000 D	1500	1300000 D	1800
3	PA1	C1-Phenanthrenes/Anthracenes	170000	150	230000	180
3	PA2	C2-Phenanthrenes/Anthracenes	59000	150	75000	180
3	PA3	C3-Phenanthrenes/Anthracenes	15000	150	19000	180
3	PA4	C4-Phenanthrenes/Anthracenes	3100	150	4900	180
3	DBT0	Dibenzothiophene	54000	150	86000	180
3	DBT1	C1-Dibenzothiophenes	19000	150	24000	180
3	DBT2	C2-Dibenzothiophenes	11000	150	12000	180
3	DBT3	C3-Dibenzothiophenes	4600	150	5200	180
3	DBT4	C4-Dibenzothiophenes	1300	150	1600	180
4	BF	Benz{o}fluorene	72000	150	97000	180
4	FL0	Fluoranthene	610000 D	1500	840000 D	1800
4	PY0	Pyrene	390000 D	1500	540000 D	1800
4	FP1	C1-Fluoranthenes/Pyrenes	150000	150	210000	180
4	FP2	C2-Fluoranthenes/Pyrenes	28000	150	38000	180
4	FP3	C3-Fluoranthenes/Pyrenes	9600	150	12000	180
4	FP4	C4-Fluoranthenes/Pyrenes	4600	150	6100	180
4	NBT0	Naphthobenzothiophenes	34000	150	40000	180
4	NBT1	C1-Naphthobenzothiophenes	8100	150	9800	180
4	NBT2	C2-Naphthobenzothiophenes	2500	150	3000	180
4	NBT3	C3-Naphthobenzothiophenes	1100	150	1400	180
4	NBT4	C4-Naphthobenzothiophenes	300	150	420	180
4	BA0	Benz[a]anthracene	110000	150	140000	180
4	C0	Chrysene/Triphenylene	100000	150	130000	180
4	BC1	C1-Chrysenes	23000	150	30000	180
4	BC2	C2-Chrysenes	6900	150	8600	180
4	BC3	C3-Chrysenes	4100	150	5300	180
4	BC4	C4-Chrysenes	1100	150	1400	180
5	BBF	Benz{o}bifluoranthene	47000	150	56000	180
5	BJKF	Benz{o}kifluoranthene	45000	150	56000	180
5	BAF	Benz{o}aifluoranthene	11000	150	14000	180
5	BEP	Benzo[e]pyrene	28000	150	33000	180
5	BAP	Benzo[a]pyrene	46000	150	58000	180
5	PER	Perlyene	12000	150	16000	180
6	IND	Indeno[1,2,3-cd]pyrene	22000	150	25000	180
5	DA	Dibenz[a,h]anthracene	5000	150	5700	180
6	GHI	Benz{o}g,h,i]perlyene	16000	150	18000	180
3	4MDT	4-Methylbenzothiophene	6500	150	7400	180
3	2MDT	2/3-Methylbenzothiophene	8200	150	9600	180
3	1MDT	1-Methylbenzothiophene	2000	150	2800	180
3	3MP	3-Methylphenanthrene	44000	150	60000	180
3	2MP	2/4-Methylphenanthrene	54000	150	74000	180
3	2MA	2-Methylanthracene	19000	150	26000	180
3	9MP	9-Methylphenanthrene	29000	150	40000	180
3	1MP	1-Methylphenanthrene	21000	150	29000	180
	TPAH		3767500		5327420	

Surrogates (% Recovery)		
2-Methylnaphthalene-d10	84	85
Pyrene-d10	98	100
Benzo[b]fluoranthene-d12	90	90

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPS T E STA + 175' N. EDG	PROPS T F BPRC E. EDG
Lab ID	0609052-05	0609052-06
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS091406B08	SS091406B08
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/16/2006
Sample Size (wet)	29.94	30.74
% Solid	79.88	66.85
File ID	A11186.D	A11212.D
Units	µg/Kg	µg/Kg
Final Volume	2	9.09
Dilution	1	1
Reporting Limit	0.84	4.4

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	N0	Naphthalene	0.45	JB 0.84	94	4.4
2	N1	C1-Naphthalenes	0.39	J 0.84	40	4.4
2	N2	C2-Naphthalenes	0.57	J 0.84	40	4.4
2	N3	C3-Naphthalenes	0.49	J 0.84	36	4.4
2	N4	C4-Naphthalenes	0.26	J 0.84	30	4.4
2	B	Biphenyl	0.21	J 0.84	15	4.4
3	DF	Dibenzofuran	0.93	0.84	70	4.4
3	AY	Acenaphthylene	4.7	0.84	1300	4.4
3	AE	Acenaphthene	0.95	0.84	48	4.4
3	F0	Fluorene	1.8	0.84	66	4.4
3	F1	C1-Fluorenes	0.49	J 0.84	32	4.4
3	F2	C2-Fluorenes	U	0.84	70	4.4
3	F3	C3-Fluorenes	U	0.84	190	4.4
3	A0	Anthracene	4.8	0.84	1400	4.4
3	P0	Phenanthrene	9.3	0.84	420	4.4
3	PA1	C1-Phenanthrenes/Anthracenes	2.4	0.84	370	4.4
3	PA2	C2-Phenanthrenes/Anthracenes	1.5	0.84	320	4.4
3	PA3	C3-Phenanthrenes/Anthracenes	0.97	0.84	240	4.4
3	PA4	C4-Phenanthrenes/Anthracenes	0.59	J 0.84	120	4.4
3	DBT0	Dibenzothiophene	0.69	J 0.84	31	4.4
3	DBT1	C1-Dibenzothiophenes	0.27	J 0.84	28	4.4
3	DBT2	C2-Dibenzothiophenes	0.31	J 0.84	53	4.4
3	DBT3	C3-Dibenzothiophenes	U	0.84	80	4.4
3	DBT4	C4-Dibenzothiophenes	U	0.84	72	4.4
4	BF	Benz(o)fluorene	1.2	0.84	390	4.4
4	FL0	Fluoranthene	14	0.84	2500	4.4
4	PY0	Pyrene	13	0.84	2900	4.4
4	FP1	C1-Fluoranthenes/Pyrenes	6.5	0.84	1900	4.4
4	FP2	C2-Fluoranthenes/Pyrenes	3.7	0.84	1300	4.4
4	FP3	C3-Fluoranthenes/Pyrenes	1.8	0.84	810	4.4
4	FP4	C4-Fluoranthenes/Pyrenes	1.5	0.84	540	4.4
4	NBT0	Naphthobenzothiophenes	1.8	0.84	570	4.4
4	NBT1	C1-Naphthobenzothiophenes	1.2	0.84	380	4.4
4	NBT2	C2-Naphthobenzothiophenes	0.65	J 0.84	230	4.4
4	NBT3	C3-Naphthobenzothiophenes	0.58	J 0.84	180	4.4
4	NBT4	C4-Naphthobenzothiophenes	U	0.84	61	4.4
4	BA0	Benz[a]anthracene	5.8	0.84	1900	4.4
4	C0	Chrysene/Triphenylene	8.0	0.84	2700	4.4
4	BC1	C1-Chrysenes	3.0	0.84	1200	4.4
4	BC2	C2-Chrysenes	1.9	0.84	620	4.4
4	BC3	C3-Chrysenes	1.6	0.84	540	4.4
4	BC4	C4-Chrysenes	U	0.84	240	4.4
5	BBF	Benzo[b]fluoranthene	13	0.84	4300	4.4
5	BJKF	Benzo[k]fluoranthene	11	0.84	3100	4.4
5	BAF	Benzo[a]fluoranthene	3.4	0.84	1100	4.4
5	BEP	Benzo[e]pyrene	9.7	0.84	3000	4.4
5	BAP	Benzo[a]pyrene	8.6	0.84	3300	4.4
5	PER	Perylene	2.8	0.84	1100	4.4
6	IND	Indeno[1,2,3-cd]pyrene	9.8	0.84	3500	4.4
5	DA	Dibenz[a,h]anthracene	1.8	0.84	810	4.4
6	GHI	Benzo[g,h]perylene	6.3	0.84	2900	4.4
3	4MDT	4-Methyldibenzothiophene	0.093	J 0.84	7.9	4.4
3	2MDT	2/3-Methyldibenzothiophene	0.092	J 0.84	9.4	4.4
3	1MDT	1-Methyldibenzothiophene	0.028	J 0.84	3.6	4.4
3	3MP	3-Methylphenanthrene	0.52	J 0.84	41	4.4
3	2MP	2/4-Methylphenanthrene	0.59	J 0.84	55	4.4
3	2MA	2-Methylnaphthalene	0.46	J 0.84	150	4.4
3	9MP	9-Methylphenanthrene	0.48	J 0.84	90	4.4
3	1MP	1-Methylnaphthalene	0.31	J 0.84	33	4.4
	TPAH		169		47626	
	Surrogates (% Recovery)					
	2-Methylnaphthalene-d10		73		71	
	Pyrene-d10		104		91	
	Benzo[b]fluoranthene-d12		95		80	

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPS T G STA + 50'	PROPS T CHAR
Lab ID	0609052-07	0609052-08
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS091406B08	SS091406B08
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/15/2008
Sample Size (wet)	30.37	20.84
% Solid	74.5	78.01
File ID	A11188.D	A11200.D
Units	µg/Kg	µg/Kg
Final Volume	2	15.38
Dilution	1	10
Reporting Limit	0.88	95

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	N0	Naphthalene	1.8	0.88	540	95
2	N1	C1-Naphthalenes	1.3	0.88	4100	95
2	N2	C2-Naphthalenes	1.9	0.88	15000	95
2	N3	C3-Naphthalenes	1.7	0.88	10000	95
2	N4	C4-Naphthalenes	1.1	0.88	2900	95
2	B	Biphenyl	0.71 J	0.88	2200	95
3	DF	Dibenzofuran	4.0	0.88	26000	95
3	AY	Acenaphthylene	23	0.88	2800	95
3	AE	Acenaphthene	4.2	0.88	25000	95
3	F0	Fluorene	7.5	0.88	55000	95
3	F1	C1-Fluorennes	2.3	0.88	11000	95
3	F2	C2-Fluorennes	2.2	0.88	3600	95
3	F3	C3-Fluorennes	5.7	0.88	3000	95
3	A0	Anthracene	29	0.88	40000	95
3	P0	Phenanthrene	38	0.88	250000 D	950
3	PA1	C1-Phenanthrenes/Anthracenes	13	0.88	47000	95
3	PA2	C2-Phenanthrenes/Anthracenes	10	0.88	16000	95
3	PA3	C3-Phenanthrenes/Anthracenes	8.1	0.88	4200	95
3	PA4	C4-Phenanthrenes/Anthracenes	3.3	0.88	920	95
3	DBT0	Dibenzothiophene	3.1	0.88	18000	95
3	DBT1	C1-Dibenzothiophenes	1.5	0.88	4600	95
3	DBT2	C2-Dibenzothiophenes	2.6	0.88	2300	95
3	DBT3	C3-Dibenzothiophenes	3.7	0.88	1100	95
3	DBT4	C4-Dibenzothiophenes	2.4	0.88	380	95
4	BF	Benzo(b)fluorene	11	0.88	20000	95
4	FL0	Fluoranthene	140	0.88	170000 D	950
4	PY0	Pyrene	130	0.88	120000 D	950
4	FP1	C1-Fluoranthenes/Pyrenes	56	0.88	49000	95
4	FP2	C2-Fluoranthenes/Pyrenes	43	0.88	10000	95
4	FP3	C3-Fluoranthenes/Pyrenes	21	0.88	3700	95
4	FP4	C4-Fluoranthenes/Pyrenes	12	0.88	1900	95
4	NBT0	Naphthobenzothiophenes	20	0.88	9700	95
4	NBT1	C1-Naphthobenzothiophenes	10	0.88	2900	95
4	NBT2	C2-Naphthobenzothiophenes	6.5	0.88	990	95
4	NBT3	C3-Naphthobenzothiophenes	5.0	0.88	470	95
4	NBT4	C4-Naphthobenzothiophenes	2.5	0.88	130	95
4	BA0	Benz[a]anthracene	60	0.88	36000	95
4	C0	Chrysene/Triphenylene	81	0.88	32000	95
4	BC1	C1-Chrysenes	26	0.88	9000	95
4	BC2	C2-Chrysenes	12	0.88	2900	95
4	BC3	C3-Chrysenes	12	0.88	2000	95
4	BC4	C4-Chrysenes	4.6	0.88	530	95
5	BBF	Benzo[b]fluoranthene	92	0.88	19000	95
5	BJKF	Benzo[a]fluoranthene	73	0.88	17000	95
5	BAF	Benzo[a]fluoranthene	22	0.88	4500	95
5	BEP	Benzo[e]pyrene	64	0.88	11000	95
5	BAP	Benzo[a]pyrene	64	0.88	19000	95
5	PER	Perylene	21	0.88	5300	95
6	IND	Indeno[1,2,3-cd]pyrene	64	0.88	9200	95
5	DA	Dibenzo[a,h]anthracene	14	0.88	2100	95
6	GHI	Benzo[g,h,i]perylene	53	0.88	7000	95
3	4MDT	4-Methylbenzothiophene	0.46 J	0.88	1400	95
3	2MDT	2/3-Methylbenzothiophene	0.45 J	0.88	1900	95
3	1MDT	1-Methylbenzothiophene	0.26 J	0.88	560	95
3	3MP	3-Methylphenanthrene	2.4	0.88	12000	95
3	2MP	2/4-Methylphenanthrene	2.9	0.88	15000	95
3	2MA	2-Methylnaphthalene	3.1	0.88	5300	95
3	9MP	9-Methylphenanthrene	3.1	0.88	8300	95
3	1MP	1-Methylphenanthrene	1.5	0.88	5800	95
		TPAH	1306		1161220	

Surrogates (% Recovery)		
2-Methylnaphthalene-d10	74	79
Pyrene-d10	107	89
Benzo[b]fluoranthene-d12	98	90

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

	Client ID	WIER BOX NAPL	ROLL OFF BOX
	Lab ID	0609052-09	0609052-10
	Matrix	Oil	Soil
	Reference Method	Modified 8270C	Modified 8270C
	Batch ID	SO091406B13	SS091406B08
	Date Collected	9/13/2006	9/13/2006
	Date Received	9/14/2006	9/14/2006
	Date Prepped	9/14/2006	9/14/2006
	Date Analyzed	9/15/2006	9/15/2006
	Sample Size (wet)	0.1083	20.42
	% Solid	100	99.43
	File ID	A11166.D	A11202.D
	Units	mg/Kg	ug/Kg
	Final Volume	20	28.57
	Dilution	10	10
	Reporting Limit	18	140

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	N0	Naphthalene	90000	D 180	420	140
2	N1	C1-Naphthalenes	24000	D 180	600	140
2	N2	C2-Naphthalenes	9200	18	8900	140
2	N3	C3-Naphthalenes	3200	18	9600	140
2	N4	C4-Naphthalenes	930	18	3800	140
2	B	Biphenyl	6200	18	570	140
3	DF	Dibenzofuran	21000	D 180	36000	140
3	AY	Acenaphthylene	2500	18	8000	140
3	AE	Acenaphthene	29000	D 180	41000	140
3	F0	Fluorene	28000	D 180	78000	140
3	F1	C1-Fluorenes	3000	18	14000	140
3	F2	C2-Fluorenes	980	18	12000	140
3	F3	C3-Fluorenes	780	18	18000	140
3	A0	Anthracene	10000	18	56000	140
3	P0	Phenanthrene	79000	D 180	500000	D 1400
3	PA1	C1-Phenanthrenes/Anthracenes	12000	18	100000	140
3	PA2	C2-Phenanthrenes/Anthracenes	3800	18	35000	140
3	PA3	C3-Phenanthrenes/Anthracenes	930	18	9100	140
3	PA4	C4-Phenanthrenes/Anthracenes	240	18	2000	140
3	DBT0	Dibenzothiophene	5800	18	28000	140
3	DBT1	C1-Dibenzothiophenes	1400	18	9300	140
3	DBT2	C2-Dibenzothiophenes	740	18	5400	140
3	DBT3	C3-Dibenzothiophenes	370	18	2700	140
3	DBT4	C4-Dibenzothiophenes	140	18	1000	140
4	BF	Benzo(b)fluorrene	5200	18	10000	140
4	FL0	Fluoranthene	45000	D 180	520000	D 1400
4	PY0	Pyrene	29000	D 180	320000	D 1400
4	FP1	C1-Fluoranthenes/Pyrenes	11000	18	73000	140
4	FP2	C2-Fluoranthenes/Pyrenes	2000	18	71000	140
4	FP3	C3-Fluoranthenes/Pyrenes	620	18	16000	140
4	FP4	C4-Fluoranthenes/Pyrenes	310	18	5500	140
4	NBT0	Naphthobenzothiophenes	2300	18	30000	140
4	NBT1	C1-Naphthobenzothiophenes	560	18	7400	140
4	NBT2	C2-Naphthobenzothiophenes	180	18	2400	140
4	NBT3	C3-Naphthobenzothiophenes	88	18	1100	140
4	NBT4	C4-Naphthobenzothiophenes	26	18	300	140
4	BA0	Benz[a]anthracene	8400	18	100000	140
4	C0	Chrysene/Triphenylene	6400	18	87000	140
4	BC1	C1-Chrysenes	1600	18	20000	140
4	BC2	C2-Chrysenes	450	18	6200	140
4	BC3	C3-Chrysenes	260	18	5200	140
4	BC4	C4-Chrysenes	57	18	1500	140
5	BBF	Benzo[b]fluoranthene	3300	18	51000	140
5	BJKF	Benzo[k]fluoranthene	3200	18	49000	140
5	BAF	Benzo[a]fluoranthene	760	18	9400	140
5	BEP	Benzo[e]pyrene	1900	18	31000	140
5	BAP	Benzo[a]pyrene	3400	18	43000	140
5	PER	Perylene	900	18	13000	140
6	IND	Indeno[1,2,3-cd]pyrene	1300	18	28000	140
5	DA	Dibenz[a,h]anthracene	310	18	6100	140
6	GHI	Benzo[g,h,i]perylene	940	18	22000	140
3	4MDT	4-Methylbenzothiophene	420	18	3100	140
3	2MDT	2,3-Methylbenzothiophene	520	18	3900	140
3	1MDT	1-Methylbenzothiophene	150	18	1000	140
3	3MP	3-Methylphenanthrene	3300	18	29000	140
3	2MP	2,4-Methylphenanthrene	4000	18	35000	140
3	2MA	2-Methylnaphthalene	1500	18	7800	140
3	9MP	9-Methylnaphthalene	2100	18	17000	140
3	1MP	1-Methylnaphthalene	1600	18	14000	140
	TPAH		476261		2619290	

Sumogates (% Recovery)		
2-Methylnaphthalene-d10	100	74
Pyrene-d10	119	88
Benzo[b]fluoranthene-d12	97	86

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	WIER BOX NAPL	WIER BOX NAPL
Lab ID	0609052-09	0609052-09D
Matrix	Oil	Oil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SO091406B13	SO091406B13
Date Collected	9/13/2006	9/13/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/15/2006	9/15/2006
Sample Size (wet)	0.1083	0.112
% Solid	100	100
File ID	A11170.D	A11172.D
Units	mg/Kg	mg/Kg
Final Volume	20	20
Dilution	10	10
Reporting Limit	18	18

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	90000	D 180	95000	D 180	2	30
2	N1	C1-Naphthalenes	24000	D 180	25000	D 180	2	30
2	N2	C2-Naphthalenes	9200	18	9400	18	2	30
2	N3	C3-Naphthalenes	3200	18	3300	18	2	30
2	N4	C4-Naphthalenes	930	18	960	18	3	30
2	B	Biphenyl	6200	18	6300	18	2	30
3	DF	Dibenzofuran	21000	D 180	22000	D 180	2	30
3	AY	Acenaphthylene	2500	18	2600	18	1	30
3	AE	Acenaphthene	29000	D 180	30000	D 180	2	30
3	F0	Fluorene	28000	D 180	29000	D 180	1	30
3	F1	C1-Fluorenes	3000	18	3200	18	4	30
3	F2	C2-Fluorenes	980	18	970	18	1	30
3	F3	C3-Fluorenes	780	18	750	18	4	30
3	A0	Anthracene	10000	18	10000	18	0	30
3	P0	Phenanthrene	79000	D 180	82000	D 180	2	30
3	PA1	C1-Phenanthrenes/Anthracenes	12000	18	13000	18	1	30
3	PA2	C2-Phenanthrenes/Anthracenes	3800	18	3900	18	1	30
3	PA3	C3-Phenanthrenes/Anthracenes	930	18	950	18	1	30
3	PA4	C4-Phenanthrenes/Anthracenes	240	18	230	18	5	30
3	DBT0	Dibenzothiophene	5800	18	5900	18	1	30
3	DBT1	C1-Dibenzothiophenes	1400	18	1400	18	2	30
3	DBT2	C2-Dibenzothiophenes	740	18	740	18	1	30
3	DBT3	C3-Dibenzothiophenes	370	18	380	18	2	30
3	DBT4	C4-Dibenzothiophenes	140	18	130	18	4	30
4	BF	Benz(b)fluorene	5200	18	5200	18	1	30
4	FL0	Fluoranthene	45000	D 180	47000	D 180	1	30
4	PY0	Pyrene	29000	D 180	31000	D 180	2	30
4	FP1	C1-Fluoranthenes/Pyrenes	11000	18	11000	18	1	30
4	FP2	C2-Fluoranthenes/Pyrenes	2000	18	2100	18	2	30
4	FP3	C3-Fluoranthenes/Pyrenes	620	18	670	18	7	30
4	FP4	C4-Fluoranthenes/Pyrenes	310	18	310	18	2	30
4	NBT0	Naphthobenzothiophenes	2300	18	2400	18	1	30
4	NBT1	C1-Naphthobenzothiophenes	560	18	570	18	2	30
4	NBT2	C2-Naphthobenzothiophenes	180	18	190	18	1	30
4	NBT3	C3-Naphthobenzothiophenes	88	18	81	18	8	30
4	NBT4	C4-Naphthobenzothiophenes	26	18	28	18	6	30
4	BA0	Benz[a]anthracene	8400	18	8400	18	1	30
4	C0	Chrysene/Triphenylene	6400	18	6400	18	1	30
4	BC1	C1-Chrysenes	1600	18	1700	18	2	30
4	BC2	C2-Chrysenes	450	18	440	18	3	30
4	BC3	C3-Chrysenes	260	18	260	18	1	30
4	BC4	C4-Chrysenes	57	18	60	18	5	30
5	BBF	Benz[b]fluoranthene	3300	18	3300	18	1	30
5	BJKF	Benzol[k]fluoranthene	3200	18	3200	18	1	30
5	BAF	Benzol[a]fluoranthene	760	18	770	18	1	30
5	BEP	Benzo[e]pyrene	1900	18	1900	18	0	30
5	BAP	Benzo[a]pyrene	3400	18	3400	18	0	30
5	PER	Perylene	900	18	880	18	2	30
6	IND	Indeno[1,2,3-cd]pyrene	1300	18	1300	18	1	30
5	DA	Dibenzo[a,h]anthracene	310	18	300	18	5	30
6	GHI	Benzol[g,h,i]perylene	940	18	930	18	1	30
3	4MDT	4-Methylbenzothiophene	420	18	430	18	1	30
3	2MDT	2,3-Methylbenzothiophene	520	18	570	18	10	30
3	1MDT	1-Methylbenzothiophene	150	18	150	18	1	30
3	3MP	3-Methylphenanthrene	3300	18	3300	18	1	30
3	2MP	2,4-Methylphenanthrene	4000	18	4000	18	2	30
3	2MA	2-Methylnaphthalene	1500	18	1500	18	0	30
3	9MP	9-Methylnaphthalene	2100	18	2100	18	1	30
3	1MP	1-Methylnaphthalene	1600	18	1600	18	0	30
		TPAH	476261		494549			
		Surrogates (% Recovery)						
		2-Methylnaphthalene-d10	100		104	4	30	
		Pyrene-d10	119		121	2	30	
		Benzo[b]fluoranthene-d12	97		98	1	30	

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

	ROLL OFF BOX	ROLL OFF BOX
Client ID	0609052-10	0609052-10D
Lab ID	Soll	Soil
Matrix	Modified 8270C	Modified 8270C
Reference Method	SS091406B08	SS091406B08
Batch ID	9/13/2006	9/13/2006
Date Collected	9/14/2006	9/14/2006
Date Received	9/14/2006	9/14/2006
Date Prepped	9/16/2006	9/16/2006
Date Analyzed	20.42	20.33
Sample Size (wet)	99.43	99.43
% Solid	A11202.D	A11204.D
File ID	µg/Kg	µg/Kg
Units	28.57	28.57
Final Volume	10	10
Dilution	140	140
Reporting Limit		

Class	Abbrev	Analtes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	420	140	440	140	5	30
2	N1	C1-Naphthalenes	600	140	710	140	18	30
2	N2	C2-Naphthalenes	8900	140	11000	140	20	30
2	N3	C3-Naphthalenes	9800	140	12000	140	22	30
2	N4	C4-Naphthalenes	3800	140	4600	140	20	30
2	B	Biphenyl	570	140	680	140	20	30
3	DF	Dibenzofuran	36000	140	44000	140	21	30
3	AY	Acenaphthylene	8000	140	9600	140	18	30
3	AE	Acenaphthene	41000	140	51000	140	21	30
3	F0	Fluorene	78000	140	97000	140	21	30
3	F1	C1-Fluorenes	14000	140	18000	140	23	30
3	F2	C2-Fluorenes	12000	140	14000	140	21	30
3	F3	C3-Fluorenes	18000	140	21000	140	18	30
3	A0	Anthracene	58000	140	68000	140	20	30
3	P0	Phenanthrene	500000	1400	620000 D	1400	20	30
3	PA1	C1-Phenanthrenes/Anthracenes	100000	140	130000	140	20	30
3	PA2	C2-Phenanthrenes/Anthracenes	35000	140	41000	140	17	30
3	PA3	C3-Phenanthrenes/Anthracenes	9100	140	10000	140	15	30
3	PA4	C4-Phenanthrenes/Anthracenes	2000	140	2600	140	27	30
3	DBT0	Dibenzothiophene	28000	140	34000	140	19	30
3	DBT1	C1-Dibenzothiophenes	9300	140	11000	140	19	30
3	DBT2	C2-Dibenzothiophenes	5400	140	6500	140	19	30
3	DBT3	C3-Dibenzothiophenes	2700	140	3300	140	18	30
3	DBT4	C4-Dibenzothiophenes	1000	140	1300	140	21	30
4	BF	Benz(b)fluorene	10000	140	14000	140	29	30
4	FL0	Fluoranthene	520000	1400	630000 D	1400	18	30
4	PY0	Pyrene	320000	1400	390000 D	1400	18	30
4	FP1	C1-Fluoranthenes/Pyrenes	73000	140	90000	140	21	30
4	FP2	C2-Fluoranthenes/Pyrenes	71000	140	85000	140	17	30
4	FP3	C3-Fluoranthenes/Pyrenes	18000	140	18000	140	18	30
4	FP4	C4-Fluoranthenes/Pyrenes	5500	140	8600	140	18	30
4	NBT0	Naphthobenzothiophenes	30000	140	37000	140	21	30
4	NBT1	C1-Naphthobenzothiophenes	7400	140	8800	140	17	30
4	NBT2	C2-Naphthobenzothiophenes	2400	140	2900	140	20	30
4	NBT3	C3-Naphthobenzothiophenes	1100	140	1300	140	15	30
4	NBT4	C4-Naphthobenzothiophenes	300	140	340	140	18	30
4	BA0	Benz[a]anthracene	100000	140	120000	140	17	30
4	C0	Chrysene/Triphenylene	87000	140	100000	140	18	30
4	BC1	C1-Chrysenes	20000	140	24000	140	18	30
4	BC2	C2-Chrysenes	6200	140	7400	140	18	30
4	BC3	C3-Chrysenes	5200	140	5900	140	13	30
4	BC4	C4-Chrysenes	1500	140	1900	140	23	30
5	BBF	Benz[b]fluoranthene	51000	140	59000	140	14	30
5	BJKF	Benz[j]fluoranthene	49000	140	57000	140	16	30
5	BAF	Benz[a]jfluoranthene	9400	140	11000	140	17	30
5	BEP	Benz[e]pyrene	31000	140	35000	140	15	30
5	BAP	Benz[a]pyprene	43000	140	50000	140	16	30
5	PER	Perylene	13000	140	15000	140	15	30
6	IND	Indeno[1,2,3-cd]pyrene	28000	140	32000	140	14	30
5	DA	Dibenzo[a,h]anthracene	6100	140	7600	140	22	30
6	GHI	Benzog,h,pipyrene	22000	140	25000	140	14	30
3	4MDT	4-Methylbenzothiophene	3100	140	3700	140	19	30
3	2MDT	2/3-Methylbenzothiophene	3900	140	4800	140	20	30
3	1MDT	1-Methylbenzothiophene	1000	140	1300	140	20	30
3	3MP	3-Methylphenanthrene	29000	140	35000	140	19	30
3	2MP	2/4-Methylphenanthrene	35000	140	43000	140	20	30
3	2MA	2-Methylnanthracene	7800	140	9700	140	22	30
3	9MP	9-Methylnaphthalene	17000	140	21000	140	18	30
3	1MP	1-Methylnaphthalene	14000	140	17000	140	20	30

	TPAH	2619290	3181980
Surrogates (% Recovery)			
2-Methylnaphthalene-d10	74	77	4 30
Pyrene-d10	88	89	1 30
Benzo[b]fluoranthene-d12	86	87	1 30

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Method Blank	Method Blank
Lab ID	SS091406B13	Sol
Matrix	Oil	
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS091406B13	SS091406B08
Date Collected	N/A	N/A
Date Received	N/A	N/A
Date Prepped	9/14/2006	9/14/2006
Date Analyzed	9/14/2006	9/15/2006
Sample Size (wt)	0.1	30
% Soln	100	100
File ID	A11154.D	A11178.D
Units	mg/Kg	µg/Kg
Final Volume	1	2
Dilution	1	1
Reporting Limit	0.1	0.67

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	N0	Naphthalene	U 0.10		0.13 J 0.67	
2	N1	C1-Naphthalenes	U 0.10		U 0.67	
2	N2	C2-Naphthalenes	U 0.10		U 0.67	
2	N3	C3-Naphthalenes	U 0.10		U 0.67	
2	N4	C4-Naphthalenes	U 0.10		U 0.67	
2	B	Biphenyl	U 0.10		U 0.67	
3	DF	Dibenzofuran	U 0.10		0.33 J 0.67	
3	AY	Acenaphthylene	U 0.10		U 0.67	
3	AE	Acenaphthene	U 0.10		U 0.67	
3	F0	Fluorene	U 0.10		U 0.67	
3	F1	C1-Fluorenes	U 0.10		U 0.67	
3	F2	C2-Fluorenes	U 0.10		U 0.67	
3	F3	C3-Fluorenes	U 0.10		U 0.67	
3	A0	Anthracene	U 0.10		U 0.67	
3	P0	Phenanthrene	U 0.10		0.13 J 0.67	
3	PA1	C1-Phenanthrenes/Anthracenes	U 0.10		U 0.67	
3	PA2	C2-Phenanthrenes/Anthracenes	U 0.10		U 0.67	
3	PA3	C3-Phenanthrenes/Anthracenes	U 0.10		U 0.67	
3	PA4	C4-Phenanthrenes/Anthracenes	U 0.10		U 0.67	
3	DBT0	Dibenzothiophene	U 0.10		U 0.67	
3	DBT1	C1-Dibenzothiophenes	U 0.10		U 0.67	
3	DBT2	C2-Dibenzothiophenes	U 0.10		U 0.67	
3	DBT3	C3-Dibenzothiophenes	U 0.10		U 0.67	
3	DBT4	C4-Dibenzothiophenes	U 0.10		U 0.67	
4	BF	Benzo(b)fluorlene	U 0.10		0.10 J 0.67	
4	FL0	Fluoranthene	U 0.10		0.073 J 0.67	
4	PY0	Pyrene	U 0.10		U 0.67	
4	FP1	C1-Fluoranthenes/Pyrenes	U 0.10		U 0.67	
4	FP2	C2-Fluoranthenes/Pyrenes	U 0.10		U 0.67	
4	FP3	C3-Fluoranthenes/Pyrenes	U 0.10		U 0.67	
4	FP4	C4-Fluoranthenes/Pyrenes	U 0.10		U 0.67	
4	NBT0	Naphthobenzothiophenes	U 0.10		U 0.67	
4	NBT1	C1-Naphthobenzothiophenes	U 0.10		U 0.67	
4	NBT2	C2-Naphthobenzothiophenes	U 0.10		U 0.67	
4	NBT3	C3-Naphthobenzothiophenes	U 0.10		U 0.67	
4	NBT4	C4-Naphthobenzothiophenes	U 0.10		U 0.67	
4	BA0	Benz[a]anthracene	U 0.10		0.047 J 0.67	
4	C0	Chrysene/Triphenylene	U 0.10		0.038 J 0.67	
4	BC1	C1-Chrysenes	U 0.10		U 0.67	
4	BC2	C2-Chrysenes	U 0.10		U 0.67	
4	BC3	C3-Chrysenes	U 0.10		U 0.67	
4	BC4	C4-Chrysenes	U 0.10		U 0.67	
5	BBF	Benzo[b]fluoranthene	U 0.10		U 0.67	
5	BJKF	Benzo[k]fluoranthene	U 0.10		U 0.67	
5	BAF	Benzo[a]fluoranthene	U 0.10		U 0.67	
5	BEP	Benzo[e]pyrene	U 0.10		U 0.67	
5	BAP	Benzo[a]pyrene	U 0.10		U 0.67	
5	PER	Perylene	U 0.10		U 0.67	
6	IND	Indeno[1,2,3-cd]pyrene	U 0.10		U 0.67	
5	DA	Dibenz[a,h]anthracene	U 0.10		U 0.67	
6	GHI	Benzog[h,i]perylene	U 0.10		U 0.67	
3	4MDT	4-Methyl dibenzothiophene	U 0.10		U 0.67	
3	2MDT	2/3-Methyl dibenzothiophene	U 0.10		U 0.67	
3	1MDT	1-Methyl dibenzothiophene	U 0.10		U 0.67	
3	3MP	3-Methylphenanthrene	U 0.10		U 0.67	
3	2MP	2/4-Methylphenanthrene	U 0.10		U 0.67	
3	2MA	2-Methylanthracene	U 0.10		U 0.67	
3	9MP	9-Methylphenanthrene	U 0.10		U 0.67	
3	1MP	1-Methylphenanthrene	U 0.10		U 0.67	

Surrogates (% Recovery)		
2-Methylnaphthalene-d10	109	89
Pyrene-d10	121	109
Benzo[b]fluoranthene-d12	103	94

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SO091406LCS07
Matrix	Oil
Reference Method	Modified B270C
Batch ID	SO091406B13
Date Collected	N/A
Date Received	N/A
Date Prepped	9/14/2006
Date Analyzed	9/14/2006
Sample Size (wet)	0.1
% Solid	100
File ID	A11156.D
Units	mg/Kg
Final Volume	1
Dilution	1
Reporting Limit	0.1

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	9.8	S 0.10	98	10	50	130
2	N1	C1-Naphthalenes		U 0.10				
2	N2	C2-Naphthalenes		U 0.10				
2	N3	C3-Naphthalenes		U 0.10				
2	N4	C4-Naphthalenes		U 0.10				
2	B	Biphenyl		U 0.10				
3	DF	Dibenzofuran	10	S 0.10	103	10	50	130
3	AY	Aceanaphthalene	9.8	S 0.10	98	10	50	130
3	AE	Aceanaphthene	10	S 0.10	100	10	50	130
3	F0	Fluorene		U 0.10				
3	F1	C1-Fluorenes		U 0.10				
3	F2	C2-Fluorenes		U 0.10				
3	F3	C3-Fluorenes		U 0.10				
3	A0	Anthracene	11	S 0.10	107	10	50	130
3	P0	Phenanthrene	9.7	S 0.10	97	10	50	130
3	PA1	C1-Phenanthrenes/Anthracenes		U 0.10				
3	PA2	C2-Phenanthrenes/Anthracenes		U 0.10				
3	PA3	C3-Phenanthrenes/Anthracenes		U 0.10				
3	PA4	C4-Phenanthrenes/Anthracenes		U 0.10				
3	DBT0	Dibenzothiophene		U 0.10				
3	DBT1	C1-Dibenzothiophenes		U 0.10				
3	DBT2	C2-Dibenzothiophenes		U 0.10				
3	DBT3	C3-Dibenzothiophenes		U 0.10				
3	DBT4	C4-Dibenzothiophenes		U 0.10				
4	BF	Benz(a)fluorene	10	S 0.10	100	10	50	130
4	FL0	Fluoranthene	11	S 0.10	106	10	50	130
4	PY0	Pyrene		U 0.10				
4	FP1	C1-Fluoranthenes/Pyrenes		U 0.10				
4	FP2	C2-Fluoranthenes/Pyrenes		U 0.10				
4	FP3	C3-Fluoranthenes/Pyrenes		U 0.10				
4	FP4	C4-Fluoranthenes/Pyrenes		U 0.10				
4	NBT0	Naphthobenzothiophenes		U 0.10				
4	NBT1	C1-Naphthobenzothiophenes		U 0.10				
4	NBT2	C2-Naphthobenzothiophenes		U 0.10				
4	NBT3	C3-Naphthobenzothiophenes		U 0.10				
4	NBT4	C4-Naphthobenzothiophenes		U 0.10				
4	BA0	Benz(a)anthracene	9.4	S 0.10	94	10	50	130
4	C0	Chrysene/Triphenylene	8.9	S 0.10	89	10	50	130
4	BC1	C1-Chrysenes		U 0.10				
4	BC2	C2-Chrysenes		U 0.10				
4	BC3	C3-Chrysenes		U 0.10				
4	BC4	C4-Chrysenes		U 0.10				
5	BBF	Benzofluoranthene	8.9	S 0.10	89	10	50	130
5	BJK	Benzofluoranthene	9.5	S 0.10	95	10	50	130
5	BAF	Benz(a)fluoranthene		U 0.10				
5	BEP	Benz(a)pyrene		U 0.10				
5	BAP	Benz(a)pyrene	9.4	S 0.10	94	10	50	130
5	PER	Perylene		U 0.10				
6	IND	Indeno[1,2,3-cd]pyrene	8.5	S 0.10	85	10	50	130
5	DA	Dibenz[a,h]anthracene	8.3	S 0.10	83	10	50	130
6	GHI	Benzog,h,iperylene	9.0	S 0.10	89	10	50	130
3	4MDT	4-Methylbenzothiophene		U 0.10				
3	2MDT	2/3-Methylbenzothiophene		U 0.10				
3	1MDT	1-Methylbenzothiophene		U 0.10				
3	3MP	3-Methylphenanthrene		U 0.10				
3	2MP	2/4-Methylphenanthrene		U 0.10				
3	2MA	2-Methylnaphthalene		U 0.10				
3	9MP	9-Methylphenanthrene		U 0.10				
3	1MP	1-Methylphenanthrene		U 0.10				

Surrogates (% Recovery)	
2-Methylnaphthalene-d10	108
Pyrene-d10	124
Benzo(b)fluoranthene-d12	110

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SO091406LCS007
Matrix	Oil
Reference Method	Modified 8270C
Batch ID	SO091406B13
Date Collected	N/A
Date Received	N/A
Date Prepped	9/14/2006
Date Analyzed	9/14/2006
Sample Size (wet)	0.1
% Solid	100
File ID	A11158.D
Units	mg/Kg
Final Volume	1
Dilution	1
Reporting Limit	0.1

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
2	N0	Naphthalene	9.7	S 0.10	97	10	50	130	1	30
2	N1	C1-Naphthalenes		U	0.10					
2	N2	C2-Naphthalenes		U	0.10					
2	N3	C3-Naphthalenes		U	0.10					
2	N4	C4-Naphthalenes		U	0.10					
2	B	Biphenyl		U	0.10					
3	DF	Dibenzofuran		U	0.10					
3	AY	Acenaphthylene	10	S 0.10	103	10	50	130	0	30
3	AE	Acenaphthene	9.7	S 0.10	97	10	50	130	1	30
3	F0	Fluorene	9.8	S 0.10	98	10	50	130	1	30
3	F1	C1-Fluorenes		U	0.10					
3	F2	C2-Fluorenes		U	0.10					
3	F3	C3-Fluorenes		U	0.10					
3	A0	Anthracene	11	S 0.10	107	10	50	130	1	30
3	P0	Phenanthrene	9.5	S 0.10	95	10	50	130	2	30
3	PA1	C1-Phenanthrenes/Anthracenes		U	0.10					
3	PA2	C2-Phenanthrenes/Anthracenes		U	0.10					
3	PA3	C3-Phenanthrenes/Anthracenes		U	0.10					
3	PA4	C4-Phenanthrenes/Anthracenes		U	0.10					
3	DBT0	Dibenzothiophene		U	0.10					
3	DBT1	C1-Dibenzothiophenes		U	0.10					
3	DBT2	C2-Dibenzothiophenes		U	0.10					
3	DBT3	C3-Dibenzothiophenes		U	0.10					
3	DBT4	C4-Dibenzothiophenes		U	0.10					
4	BF	Benz[b]fluorene		U	0.10					
4	FL0	Fluoranthene	9.8	S 0.10	98	10	50	130	2	30
4	PY0	Pyrene	10	S 0.10	102	10	50	130	3	30
4	FP1	C1-Fluoranthenes/Pyrenes		U	0.10					
4	FP2	C2-Fluoranthenes/Pyrenes		U	0.10					
4	FP3	C3-Fluoranthenes/Pyrenes		U	0.10					
4	FP4	C4-Fluoranthenes/Pyrenes		U	0.10					
4	NBT0	Naphthobenzothiophenes		U	0.10					
4	NBT1	C1-Naphthobenzothiophenes		U	0.10					
4	NBT2	C2-Naphthobenzothiophenes		U	0.10					
4	NBT3	C3-Naphthobenzothiophenes		U	0.10					
4	NBT4	C4-Naphthobenzothiophenes		U	0.10					
4	BA0	Benz[a]anthracene	9.6	S 0.10	96	10	50	130	2	30
4	C0	Chrysene/Triphenylene	9.1	S 0.10	91	10	50	130	2	30
4	BC1	C1-Chrysenes		U	0.10					
4	BC2	C2-Chrysenes		U	0.10					
4	BC3	C3-Chrysenes		U	0.10					
4	BC4	C4-Chrysenes		U	0.10					
5	BFF	Benz[b]fluoranthene	9.0	S 0.10	90	10	50	130	1	30
5	BJKF	Benz[j]fluoranthene	9.4	S 0.10	94	10	50	130	1	30
5	BAF	Benz[a]jifluoranthene		U	0.10					
5	BEP	Benz[e]pyrene		U	0.10					
5	BAP	Benz[a]pyprene	9.5	S 0.10	95	10	50	130	1	30
5	PER	Perylene		U	0.10					
6	IND	Indeno[1,2,3-cd]pyrene	8.8	S 0.10	88	10	50	130	4	30
5	DA	Dibenz[a,h]anthracene	8.9	S 0.10	89	10	50	130	7	30
6	GHI	Benz[g,h,i]perylene	9.0	S 0.10	90	10	50	130	1	30
3	4MDT	4-Methylidibenzothiophene		U	0.10					
3	2MDT	2/3-Methylidibenzothiophene		U	0.10					
3	1MDT	1-Methylidibenzothiophene		U	0.10					
3	3MP	3-Methylphenanthrene		U	0.10					
3	2MP	2/4-Methylphenanthrene		U	0.10					
3	2MA	2-Methylnanthracene		U	0.10					
3	9MP	9-Methylphenanthrene		U	0.10					
3	1MP	1-Methylphenanthrene		U	0.10					

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 108
 Pyrene-d10 121
 Benzo[b]fluoranthene-d12 109

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS091408LCS05
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS091406B08
Date Collected	N/A
Date Received	N/A
Date Prepped	9/14/2006
Date Analyzed	9/15/2006
Sample Size (wet)	30
% Solid	100
File ID	A11180.D
Units	µg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	29 S	0.67	88	33	50	130
2	N1	C1-Naphthalenes		U	0.67			
2	N2	C2-Naphthalenes		U	0.67			
2	N3	C3-Naphthalenes		U	0.67			
2	N4	C4-Naphthalenes		U	0.67			
2	B	Biphenyl		U	0.67			
3	DF	Dibenzofuran	30 S	0.67	91	33	50	130
3	AY	Acenaphthylene	29 S	0.67	86	33	50	130
3	AE	Acenaphthene	29 S	0.67	88	33	50	130
3	F0	Fluorene		U	0.67			
3	F1	C1-Fluorenes		U	0.67			
3	F2	C2-Fluorenes		U	0.67			
3	F3	C3-Fluorenes		U	0.67			
3	A0	Anthracene	31 S	0.67	94	33	50	130
3	P0	Phenanthrene	29 S	0.67	87	33	50	130
3	PA1	C1-Phenanthrenes/Anthracenes		U	0.67			
3	PA2	C2-Phenanthrenes/Anthracenes		U	0.67			
3	PA3	C3-Phenanthrenes/Anthracenes		U	0.67			
3	PA4	C4-Phenanthrenes/Anthracenes		U	0.67			
3	DBT0	Dibenzothiophene		U	0.67			
3	DBT1	C1-Dibenzothiophenes		U	0.67			
3	DBT2	C2-Dibenzothiophenes		U	0.67			
3	DBT3	C3-Dibenzothiophenes		U	0.67			
3	DBT4	C4-Dibenzothiophenes		U	0.67			
4	BF	Benz(b)fluorene		U	0.67			
4	FL0	Fluoranthene	30 S	0.67	88	33	50	130
4	PY0	Pyrene	31 S	0.67	94	33	50	130
4	FP1	C1-Fluoranthenes/Pyrenes		U	0.67			
4	FP2	C2-Fluoranthenes/Pyrenes		U	0.67			
4	FP3	C3-Fluoranthenes/Pyrenes		U	0.67			
4	FP4	C4-Fluoranthenes/Pyrenes		U	0.67			
4	NBT0	Naphthobenzothiophenes		U	0.67			
4	NBT1	C1-Naphthobenzothiophenes		U	0.67			
4	NBT2	C2-Naphthobenzothiophenes		U	0.67			
4	NBT3	C3-Naphthobenzothiophenes		U	0.67			
4	NBT4	C4-Naphthobenzothiophenes		U	0.67			
4	BA0	Benz[a]anthracene	28 S	0.67	85	33	50	130
4	CD	Chrysene/Triphenylene	27 S	0.67	81	33	50	130
4	BC1	C1-Chrysenes		U	0.67			
4	BC2	C2-Chrysenes		U	0.67			
4	BC3	C3-Chrysenes		U	0.67			
4	BC4	C4-Chrysenes		U	0.67			
5	BBF	Benz[b]fluoranthene	27 S	0.67	81	33	50	130
5	BJKF	Benz[k]fluoranthene	28 S	0.67	85	33	50	130
5	BAF	Benz[a]fluoranthene		U	0.67			
5	BEP	Benz[e]pyrene		U	0.67			
5	BAP	Benz[a]pyrene	28 S	0.67	83	33	50	130
5	PER	Perylene		U	0.67			
6	IND	Indeno[1,2,3-cd]pyrene	26 S	0.67	79	33	50	130
5	DA	Dibenz[a,h]anthracene	27 S	0.67	81	33	50	130
6	GHI	Benzog,h,iperylene	27 S	0.67	80	33	50	130
3	4MDT	4-Methylbenzothiophene		U	0.67			
3	2MDT	2/3-Methylbenzothiophene		U	0.67			
3	1MDT	1-Methylbenzothiophene		U	0.67			
3	3MP	3-Methylphenanthrene		U	0.67			
3	2MP	2/4-Methylphenanthrene		U	0.67			
3	2MA	2-Methylnaphthalene		U	0.67			
3	9MP	9-Methylphenanthrene		U	0.67			
3	1MP	1-Methylphenanthrene		U	0.67			

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 96
 Pyrene-d10 110
 Benzo[b]fluoranthene-d12 98

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS091406LCSD05
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS091406B08
Date Collected	N/A
Date Received	N/A
Date Prepped	9/14/2006
Date Analyzed	9/15/2006
Sample Size (wet)	30
% Solid	100
File ID	A11182.D
Units	$\mu\text{g}/\text{kg}$
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
2	N0	Naphthalene	28 S	0.67	85	33	50	130	4	30
2	N1	C1-Naphthalenes		U	0.67					
2	N2	C2-Naphthalenes		U	0.67					
2	N3	C3-Naphthalenes		U	0.67					
2	N4	C4-Naphthalenes		U	0.67					
2	B	BiPhenyl		U	0.67					
3	DF	Dibenzofuran	29 S	0.67	88	33	50	130	3	30
3	AY	Acenaphthylene	28 S	0.67	83	33	50	130	4	30
3	AE	Acenaphthene	28 S	0.67	85	33	50	130	4	30
3	F0	Fluorene		U	0.67					
3	F1	C1-Fluorenes		U	0.67					
3	F2	C2-Fluorenes		U	0.67					
3	F3	C3-Fluorenes		U	0.67					
3	A0	Anthracene	30 S	0.67	91	33	50	130	3	30
3	P0	Phenanthrene	28 S	0.67	85	33	50	130	3	30
3	PA1	C1-Phenanthrenes/Anthracenes		U	0.67					
3	PA2	C2-Phenanthrenes/Anthracenes		U	0.67					
3	PA3	C3-Phenanthrenes/Anthracenes		U	0.67					
3	PA4	C4-Phenanthrenes/Anthracenes		U	0.67					
3	DBT0	Dibenzothiophene		U	0.67					
3	DBT1	C1-Dibenzothiophenes		U	0.67					
3	DBT2	C2-Dibenzothiophenes		U	0.67					
3	DBT3	C3-Dibenzothiophenes		U	0.67					
3	DBT4	C4-Dibenzothiophenes		U	0.67					
4	BP	Benzo(b)fluorene	28 S	0.67	85	33	50	130	5	30
4	FL0	Fluoranthene	30 S	0.67	89	33	50	130	4	30
4	PY0	Pyrene		U	0.67					
4	FP1	C1-Fluoranthenes/Pyrenes		U	0.67					
4	FP2	C2-Fluoranthenes/Pyrenes		U	0.67					
4	FP3	C3-Fluoranthenes/Pyrenes		U	0.67					
4	FP4	C4-Fluoranthenes/Pyrenes		U	0.67					
4	NBT0	Naphthobenzothiophenes		U	0.67					
4	NBT1	C1-Naphthobenzothiophenes		U	0.67					
4	NBT2	C2-Naphthobenzothiophenes		U	0.67					
4	NBT3	C3-Naphthobenzothiophenes		U	0.67					
4	NBT4	C4-Naphthobenzothiophenes		U	0.67					
4	BA0	Benz[a]anthracene	28 S	0.67	83	33	50	130	2	30
4	C0	Chrysene/Triphenylene	27 S	0.67	80	33	50	130	2	30
4	BC1	C1-Chrysenes		U	0.67					
4	BC2	C2-Chrysenes		U	0.67					
4	BC3	C3-Chrysenes		U	0.67					
4	BC4	C4-Chrysenes		U	0.67					
5	BBF	Benz[b]fluoranthene	26 S	0.67	78	33	50	130	3	30
5	BJKF	Benz[k]fluoranthene	27 S	0.67	81	33	50	130	5	30
5	BAF	Benz[a]fluoranthene		U	0.67					
5	BEP	Benz[e]pyrene		U	0.67					
5	BAP	Benz[a]pyrene	27 S	0.67	81	33	50	130	3	30
5	PER	Perylene		U	0.67					
6	IND	Indeno[1,2,3-cd]pyrene	25 S	0.67	75	33	50	130	5	30
5	DA	Dibenz[a,h]anthracene	26 S	0.67	78	33	50	130	5	30
6	GHI	Benz[a,h]perylene	25 S	0.67	76	33	50	130	5	30
3	4MDT	4-Methyl dibenzothiophene		U	0.67					
3	2MDT	2/3-Methyl dibenzothiophene		U	0.67					
3	1MDT	1-Methyl dibenzothiophene		U	0.67					
3	3MP	3-Methylphenanthrene		U	0.67					
3	2MP	2/4-Methylphenanthrene		U	0.67					
3	2MA	2-Methylanthracene		U	0.67					
3	9MP	9-Methylphenanthrene		U	0.67					
3	1MP	1-Methylphenanthrene		U	0.67					

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 93
 Pyrene-d10 105
 Benzo[b]fluoranthene-d12 96

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

		Alaska North Slope Crude SO053106AWS01						
Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	690	2.0	103	669.92	65	135
2	N1	C1-Naphthalenes	1500	2.0	103	1432.05	65	135
2	N2	C2-Naphthalenes	1800	2.0	102	1770.37	65	135
2	N3	C3-Naphthalenes	1300	2.0	100	1321.83	65	135
2	N4	C4-Naphthalenes	730	2.0	99	731.64	65	135
2	B	Biphenyl	200	2.0	105	190.36	65	135
3	DF	Dibenzofuran	66	2.0				
3	AY	Acenaphthylene	6.4	2.0				
3	AE	Acenaphthene	20	2.0	139	14.71	65	135
3	F0	Fluorene	80	2.0	103	77.57	65	135
3	F1	C1-Fluorenes	200	2.0	96	203.64	65	135
3	F2	C2-Fluorenes	280	2.0	90	314.43	65	135
3	F3	C3-Fluorenes	270	2.0	92	290.03	65	135
3	A0	Anthracene	U	2.0				
3	P0	Phenanthrene	260	2.0	99	259.89	65	135
3	PA1	C1-Phenanthrenes/Anthracenes	530	2.0	98	545.96	65	135
3	PA2	C2-Phenanthrenes/Anthracenes	600	2.0	102	587.69	65	135
3	PA3	C3-Phenanthrenes/Anthracenes	410	2.0	96	428.71	65	135
3	PA4	C4-Phenanthrenes/Anthracenes	150	2.0	96	159.5	65	135
3	DBT0	Dibenzothiophene	210	2.0	101	210.91	65	135
3	DBT1	C1-Dibenzothiophenes	400	2.0	100	396.93	65	135
3	DBT2	C2-Dibenzothiophenes	520	2.0	97	538.82	65	135
3	DBT3	C3-Dibenzothiophenes	450	2.0	97	464.97	65	135
3	DBT4	C4-Dibenzothiophenes	240	2.0	101	243.14	65	135
4	BF	Benzo(b)fluorene	3.9	2.0	94	4.14	65	135
4	FL0	Fluoranthene	13	2.0	105	12.07	65	135
4	PY0	Pyrene	70	2.0	97	72.24	65	135
4	FP1	C1-Fluoranthenes/Pyrenes	120	2.0	99	120.66	65	135
4	FP2	C2-Fluoranthenes/Pyrenes	130	2.0	100	130.08	65	135
4	FP3	C3-Fluoranthenes/Pyrenes	110	2.0				
4	FP4	C4-Fluoranthenes/Pyrenes	54	2.0				
4	NBT0	Naphthobenzothiophenes	150	2.0				
4	NBT1	C1-Naphthobenzothiophenes	180	2.0				
4	NBT2	C2-Naphthobenzothiophenes	140	2.0				
4	NBT3	C3-Naphthobenzothiophenes	92	2.0				
4	NBT4	C4-Naphthobenzothiophenes	1.6 J	2.0				
4	BA0	Benz[a]anthracene	44	2.0	89	49.55	65	135
4	C0	Chrysene/Triphenylene	80	2.0	96	82.86	65	135
4	BC1	C1-Chrysenes	95	2.0	93	102.78	65	135
4	BC2	C2-Chrysenes	100	2.0	94	107.68	65	135
4	BC3	C3-Chrysenes	59	2.0	94	62.56	65	135
4	BC4	C4-Chrysenes	5.8	2.0	100	5.79	65	135
5	BBF	Benzo[b]fluoranthene	U	2.0				
5	BJKF	Benzo[k]fluoranthene	0.99	J	2.0			
5	BAF	Benzo[a]fluoranthene	11	2.0	91	12.05	65	135
5	BEP	Benzo[e]pyrene	1.5	J	2.0			
5	BAP	Benzo[a]pyrene	12	J	2.0			
5	PER	Perylene	0.59	J	2.0			
6	IND	Indeno[1,2,3-cd]pyrene	0.83	J	2.0	88	0.94	65
5	DA	Dibenz[a,h]anthracene	3.3	2.0	96	3.47	65	135
6	GHI	Benzol[g,h,i]perylene	200	2.0				
3	4MDT	4-Methylbenzothiophene	140	2.0				
3	2MDT	2,3-Methylbenzothiophene	60	2.0				
3	1MDT	1-Methylbenzothiophene	110	2.0				
3	3MP	3-Methylphenanthrene	120	2.0				
3	2MP	2,4-Methylphenanthrene	3.3	2.0				
3	2MA	2-Methylnaphthalene	170	2.0				
3	9MP	9-Methylphenanthrene	120	2.0				
3	1MP	1-Methylphenanthrene						

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Alaska North Slope Crude
Lab ID	SO080906AWS01
Matrix	Oil
Reference Method	Modified 8270C
Batch ID	N/A
Date Collected	N/A
Date Received	N/A
Date Prepped	N/A
Date Analyzed	8/8/2006
Sample Size (wet)	0.0523
% Solid	100
File ID	A10715.D
Units	mg/Kg
Final Volume	10
Dilution	1
Reporting Limit	1.9

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit		
2	N0	Naphthalene	660	1.9	99	669.92	65	135		
2	N1	C1-Naphthalenes	1400	1.9	96	1432.05	65	135		
2	N2	C2-Naphthalenes	1700	1.9	96	1770.37	65	135		
2	N3	C3-Naphthalenes	1200	1.9	93	1321.83	65	135		
2	N4	C4-Naphthalenes	650	1.9	89	731.64	65	135		
2	B	BiPhenyl	210	1.9	110	190.36	65	135		
2	DF	Dibenzofuran	69	1.9						
3	AY	Acenaphthylene	8.6	1.9						
3	AE	Acenaphthene	15	1.9	103	14.71	65	135		
3	F0	Fluorene	92	1.9	118	77.57	65	135		
3	F1	C1-Fluorenes	210	1.9	104	203.54	65	135		
3	F2	C2-Fluorenes	310	1.9	98	314.43	65	135		
3	F3	C3-Fluorenes	270	1.9	95	290.03	65	135		
3	A0	Anthracene	270	U	1.9	104	259.89	65	135	
3	P0	Phenanthrene	560		1.9	102	545.98	65	135	
3	PA1	C1-Phenanthrenes/Anthracenes	600		1.9	102	587.69	65	135	
3	PA2	C2-Phenanthrenes/Anthracenes	390		1.9	90	428.71	65	135	
3	PA3	C3-Phenanthrenes/Anthracenes	140		1.9	85	159.5	65	135	
3	PA4	C4-Phenanthrenes/Anthracenes	230		1.9	110	210.91	65	135	
3	DBT0	Dibenzothiophene	410		1.9	103	396.93	65	135	
3	DBT1	C1-Dibenzothiophenes	540		1.9	100	538.82	65	135	
3	DBT2	C2-Dibenzothiophenes	440		1.9	96	464.97	65	135	
3	DBT3	C3-Dibenzothiophenes	210		1.9	86	243.14	65	135	
3	DBT4	C4-Dibenzothiophenes	6.6		1.9					
4	BF	Benzo(b)fluorene	4.1		1.9	99	4.14	65	135	
4	FL0	Fluoranthene	13		1.9	110	12.07	65	135	
4	PY0	Pyrene	75		1.9	104	72.24	65	135	
4	FP1	C1-Fluoranthenes/Pyrenes	110		1.9	93	120.66	65	135	
4	FP2	C2-Fluoranthenes/Pyrenes	120		1.9	93	130.08	65	135	
4	FP3	C3-Fluoranthenes/Pyrenes	86		1.9					
4	FP4	C4-Fluoranthenes/Pyrenes	60		1.9					
4	NBT0	Naphthobenzothiophenes	150		1.9					
4	NBT1	C1-Naphthobenzothiophenes	180		1.9					
4	NBT2	C2-Naphthobenzothiophenes	130		1.9					
4	NBT3	C3-Naphthobenzothiophenes	74		1.9					
4	NBT4	C4-Naphthobenzothiophenes	1.5	J	1.9					
4	BA0	Benz[a]anthracene	49		1.9	99	49.55	65	135	
4	C0	Chrysene/Triphenylene	78		1.9	94	82.86	65	135	
4	BC1	C1-Chrysenes	90		1.9	87	102.78	65	135	
4	BC2	C2-Chrysenes	86		1.9	80	107.68	65	135	
4	BC3	C3-Chrysenes	52		1.9	83	62.56	65	135	
4	BC4	C4-Chrysenes	6.4		1.9	110	5.79	65	135	
5	BBF	Benzo[b]fluoranthene	2.6	U	1.9					
5	BJKF	Benzo[k]fluoranthene	14		1.9	112	12.05	65	135	
5	BAF	Benzo[a]fluoranthene	2.2		1.9					
5	BEP	Benzo[e]pyrene	0.80		J	1.9				
5	BAP	Benzo[a]pyrene	0.99		J	1.9				
5	PER	Perylene	4.0		J	1.9				
6	IND	Indeno[1,2,3-cd]pyrene	110		J	1.9	105	0.94	65	135
5	DA	Dibenzo[a,h]anthracene	120		J	1.9	115	3.47	65	135
5	GHI	Benzo[g,h,i]perylene	200		1.9					
3	4MDT	4-Methylbenzothiophene	140		1.9					
3	2MDT	2/3-Methylbenzothiophene	62		1.9					
3	1MDT	1-Methylbenzothiophene	110		1.9					
3	3MP	3-Methylphenanthrene	120		1.9					
3	2MP	2/4-Methylphenanthrene	3.7		1.9					
3	2MA	2-Methylnaphthalene	180		1.9					
3	9MP	9-Methylphenanthrene	130		1.9					
3	1MP	1-Methylphenanthrene								

NEWFIELDS

List of Potential Qualifiers

- U: The analyte was analyzed for but not detected at the sample specific level reported.
- B: Found in associated blank as well as sample.
- J: Estimated value, below quantitation limit.
- E: Estimated value, exceeds the upper limit of calibration.
- NA: Not Applicable
- D: Secondary Dilution Performed
- D1: Tertiary Dilution Performed
- *: Value outside of QC limits.
- S: Surrogate value outside of acceptable range.
- X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
- G: Matrix interference.
- P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
- I: Due to interference, the lower value is reported.
- N: Spike recovery outside control limits.
- E: Estimated due to interference. (Metals)
- #: Duplicate outside control limits.
- P: Spike compound. (Metals)
- J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
- C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

TCLP Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPSI CHAR
Lab ID	0609052-08
Matrix	Soil
Reference Method	6270
Batch ID	SS091508B04
Date Collected	9/13/2006
Date Received	9/14/2006
Date Prepped	9/15/2006
Date Analyzed	9/15/2006
Sample Size (wet)	200
% Solid	78.01
File ID	0609052-08.D
Units	µg/L
Final Volume	1
Dilution	1
Reporting Limit	2.5

Class	Abbrev	Analytes	Result	SSRL
		Pyridine	2.50	
		Phenol	2.50	
		1,4-Dichlorobenzene	2.50	
		Nitrobenzene	2.50	
		2-Methylphenol	2.50	
		4-Methylphenol	2.50	
		Hexachloroethane	2.50	
		Naphthalene	3.50	2.50
		Hexachlorobutadiene	2.50	
		2,4,6-Trichlorophenol	2.50	
		2,4,5-Trichlorophenol	2.50	
		Acenaphthylene	2.50	
		Acenaphthene	54.1	2.50
		2,4-Dinitrotoluene	2.50	
		Fluorene	65.8	2.50
		Hexachlorobenzene	2.50	
		Pentachlorophenol	5.00	
		Phenanthrene	120.0	2.50
		Anthracene	10.45	2.50
		Fluoranthene	28.85	2.50
		Pyrene	15.45	2.50
		Benz(a)anthracene	2.50	
		Chrysene	2.50	
		Benzo(b)fluoranthene	2.50	
		Benzo(k)fluoranthene	2.50	
		Benzo(a)pyrene	2.50	
		Indeno(1,2,3-cd)pyrene	2.50	
		Dibenz(a,h)anthracene	2.50	
		Benzo(g,h,i)perylene	2.50	

Surrogates (% Recovery)	
Nitrobenzene-d5	87
2-Fluorobiphenyl	78
Terphenyl-d14	89
Phenol-d5	45
2-Fluorophenol	61
2,4,6-Tribromophenol	84

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Method Blank	TCLP Blank
Lab ID	SS091506B04	SS091506TBK01
Matrix	Soil	Soil
Reference Method	8270	8270
Batch ID	SS091506B04	SS091506B04
Date Collected	N/A	N/A
Date Received	N/A	N/A
Date Prepped	9/15/2006	9/14/2006
Date Analyzed	9/15/2006	9/15/2006
Sample Size (wet)	1000	500
% Solid	100	100
File ID	SS091506B04.D	SS091506TBLK01.D
Units	µg/L	µg/L
Final Volume	1	1
Dilution	1	1
Reporting Limit	0.5	2.5

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
		Pyridine	U 0.500		U 2.50	
		Phenol	U 0.500		U 2.50	
		1,4-Dichlorobenzene	U 0.500		U 2.50	
		Nitrobenzene	U 0.500		U 2.50	
		2-Methylphenol	U 0.500		U 2.50	
		4-Methylphenol	U 0.500		U 2.50	
		Hexachloroethane	U 0.500		U 2.50	
		Naphthalene	U 0.500		U 2.50	
		Hexachlorobutadiene	U 0.500		U 2.50	
		2,4,6-Trichlorophenol	U 0.500		U 2.50	
		2,4,5-Trichlorophenol	U 0.500		U 2.50	
		Acenaphthylene	U 0.500		U 2.50	
		Acenaphthene	U 0.500		U 2.50	
		2,4-Dinitrotoluene	U 0.500		U 2.50	
		Fluorene	U 0.500		U 2.50	
		Hexachlorobenzene	U 0.500		U 2.50	
		Pentachlorophenol	U 0.500		U 2.50	
		Phenanthrene	U 0.500		U 2.50	
		Anthracene	U 0.500		U 2.50	
		Fluoranthene	U 0.500		U 2.50	
		Pyrene	U 0.500		U 2.50	
		Benz(a)anthracene	U 0.500		U 2.50	
		Chrysene	U 0.500		U 2.50	
		Benz(0)fluoranthene	U 0.500		U 2.50	
		Benz(0)fluoranthene	U 0.500		U 2.50	
		Benzo(a)pyrene	U 0.500		U 2.50	
		Indeno(1,2,3-cd)pyrene	U 0.500		U 2.50	
		Dibenz(a,h)anthracene	U 0.500		U 2.50	
		Benzo(g,h,i)perylene	U 1.00		U 5.00	

Nitrobenzene-d5	87	79
2-Fluorobiphenyl	76	70
Terphenyl-d14	100	93
Phenol-d5	60	44
2-Fluorophenol	68	58
2,4,6-Tribromophenol	82	79

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS091506LCS01
Matrix	Soil
Reference Method	8270
Batch ID	SS091506B04
Date Collected	N/A
Date Received	N/A
Date Prepped	9/15/2006
Date Analyzed	9/15/2006
Sample Size (wet)	1000
% Solid	100
File ID	SS091506LCS01.D
Units	µg/L
Final Volume	1
Dilution	1
Reporting Limit	0.5

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	
		Pyridine	7.09	S	0.500	47	15.0	40	140
		Phenol	9.38	S	0.500	63	15.0	30	130
		1,4-Dichlorobenzene	10.3	S	0.500	69	15.0	40	140
		Nitrobenzene	10.7	S	0.500	72	15.0	40	140
		2-Methylphenol	10.7	S	0.500	71	15.0	30	130
		4-Methylphenol	8.95	S	0.500	60	15.0	30	130
		Hexachloroethane	10.4	S	0.500	69	15.0	40	140
		Naphthalene	10.8	S	0.500	72	15.0	40	140
		Hexachlorobutadiene	10.8	S	0.500	72	15.0	40	140
		2,4,6-Trichlorophenol	11.1	S	0.500	74	15.0	30	130
		2,4,5-Trichlorophenol	11.2	S	0.500	75	15.0	30	130
		Acenaphthylene	10.6	S	0.500	70	15.0	40	140
		Acenaphthene	10.5	S	0.500	70	15.0	40	140
		2,4-Dinitrotoluene	12.4	S	0.500	82	15.0	40	140
		Fluorene	11.2	S	0.500	75	15.0	40	140
		Hexachlorobenzene	12.2	S	0.500	81	15.0	40	140
		Pentachlorophenol	9.29	S	1.00	62	15.0	30	130
		Phenanthrene	11.9	S	0.500	79	15.0	40	140
		Anthracene	11.6	S	0.500	78	15.0	40	140
		Fluoranthene	12.1	S	0.500	80	15.0	40	140
		Pyrene	12.5	S	0.500	83	15.0	40	140
		Benz(a)anthracene	12.4	S	0.500	82	15.0	40	140
		Chrysene	12.5	S	0.500	83	15.0	40	140
		Benz(b)fluoranthene	12.7	S	0.500	85	15.0	40	140
		Benz(k)fluoranthene	12.5	S	0.500	83	15.0	40	140
		Benzo(a)pyrene	12.3	S	0.500	82	15.0	40	140
		Indeno(1,2,3-cd)pyrene	12.0	S	0.500	80	15.0	40	140
		Dibenz(a,h)anthracene	12.2	S	0.500	81	15.0	40	140
		Benzo(g,h,i)perylene	11.1	S	0.500	74	15.0	40	140

Surrogates (% Recovery)

Nitrobenzene-d5	78
2-Fluorobiphenyl	69
Terphenyl-d14	86
Phenol-d5	49
2-Fluorophenol	61
2,4,6-Tribromophenol	82

NEWFIELDS

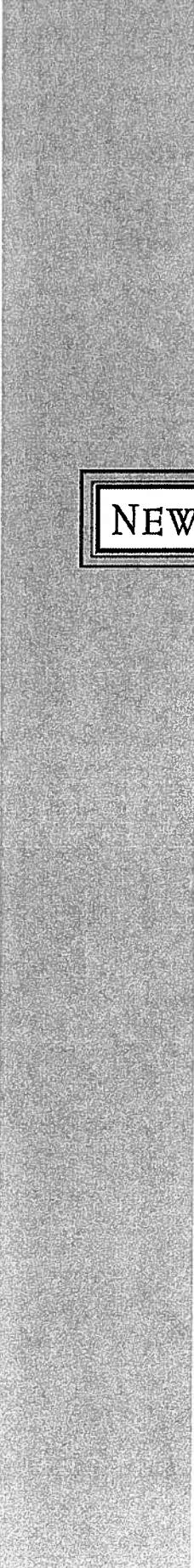
Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS091506LCSD01
Matrix	Soil
Reference Method	8270
Batch ID	SS091506B04
Date Collected	N/A
Date Received	N/A
Date Prepped	9/15/2006
Date Analyzed	9/15/2006
Sample Size (wet)	1000
% Solid	100
File ID	SS091506LCSD01.D
Units	µg/L
Final Volume	1
Dilution	1
Reporting Limit	0.5

Class	Abbrev	Analytics	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
Pyridine			8.74 S	0.500	58	15.0	40	140	21	30
Phenol			9.72 S	0.500	65	15.0	30	130	4	30
1,4-Dichlorobenzene			12.6 S	0.500	84	15.0	40	140	20	30
Nitrobenzene			13.6 S	0.500	90	15.0	40	140	23	30
2-Methylphenol			13.0 S	0.500	87	15.0	30	130	20	30
4-Methylphenol			12.2 S	0.500	81	15.0	30	130	30	30
Hexachloroethane			12.9 S	0.500	86	15.0	40	140	22	30
Naphthalene			13.3 S	0.500	89	15.0	40	140	21	30
Hexachlorobutadiene			13.4 S	0.500	90	15.0	40	140	22	30
2,4,6-Trichlorophenol			13.8 S	0.500	92	15.0	30	130	22	30
2,4,5-Trichlorophenol			13.9 S	0.500	93	15.0	30	130	21	30
Acenaphthylene			12.9 S	0.500	86	15.0	40	140	20	30
Acenaphthene			13.1 S	0.500	87	15.0	40	140	22	30
2,4-Dinitrotoluene			14.5 S	0.500	97	15.0	40	140	16	30
Fluorene			13.8 S	0.500	92	15.0	40	140	21	30
Hexachlorobenzene			14.3 S	0.500	95	15.0	40	140	15	30
Pentachlorophenol			10.6 S	1.00	71	15.0	30	130	13	30
Phenanthrene			13.7 S	0.500	91	15.0	40	140	14	30
Anthracene			13.4 S	0.500	89	15.0	40	140	14	30
Fluoranthene			13.3 S	0.500	89	15.0	40	140	10	30
Pyrene			13.1 S	0.500	88	15.0	40	140	5	30
Benz(a)anthracene			14.0 S	0.500	93	15.0	40	140	12	30
Chrysene			14.3 S	0.500	95	15.0	40	140	13	30
Benz(b)fluoranthene			15.1 S	0.500	101	15.0	40	140	17	30
Benz(k)fluoranthene			14.0 S	0.500	94	15.0	40	140	12	30
Benzo(a)pyrene			14.0 S	0.500	94	15.0	40	140	14	30
Indeno(1,2,3-cd)pyrene			13.0 S	0.500	87	15.0	40	140	8	30
Dibenz(a,h)anthracene			13.4 S	0.500	89	15.0	40	140	9	30
Benzo(g,h,i)perylene			11.8 S	0.500	79	15.0	40	140	6	30

Surrogates (% Recovery)

Nitrobenzene-d5	95
2-Fluorobiphenyl	85
Terphenyl-d14	89
Phenol-d5	60
2-Fluorophenol	73
2,4,6-Tribromophenol	96



NEWFIELDS

new INSIGHT | new DIRECTION | new DECISION

Tronox-Columbus
September 2006 Investigation
Data Deliverable #2

Chain of Custody

0609108

Chain of Custody

NEWFIELDS		Chain of Custody										
Environmental Forensics Practice LLC		100 Ledgewood Place, Suite 302, Rockland, MA 02370										
Proj. Name:	Tronox Columbus	Proj. No.	Client Info: (Name/Address/Phone/Email)									
Samplers: Signature <i>D. Hayes</i>		ANALYSIS REQUESTED (# of containers)										
LAB ID	CLIENT ID	COLLECTION		MATRIX (Oil/Soil/Water/ Sediment/Tissue)	SAMPLE DESCRIPTION		Total Number of Containers	Date	Time			
		DATE	TIME									
-1	Project H	9-25-06	5:30pm	Soil	Su11/SEA MENT FROM DTH	✓	9/25/06	7:35 PM				
-2	Project I	9-25-06	6:00pm	Soil		✓	9/24/06	10:20				
Relinquished by: <i>D. Hayes</i>										Date	Time	
Relinquished by: Fed Ex										9/25/06	7:35 PM	
Relinquished by: Fed Ex										9/24/06	10:20	
Relinquished by: <i>Mark J. Laurianno</i>										9/24/06	10:50	
Ship samples to:		Comments:								Date	Time	
Alpha Woods Hole Laboratory 375 Paramount Drive, Suite B Raynham, MA 02767 Tel: (508) 822-9300 Attn: Norm Laurianno										9/25/06	7:35 PM	

Sample Receipt Checklist

Page 1 of 1

Client: <u>NewFields</u>	Receipt Date: <u>9/26/06</u>
Project: <u>Tronox - Columbus</u>	Log-in Date: <u>9/26/06</u>
ETR #: <u>0609108</u>	Inspection by: <u>NR</u> Login by: <u>WR</u>

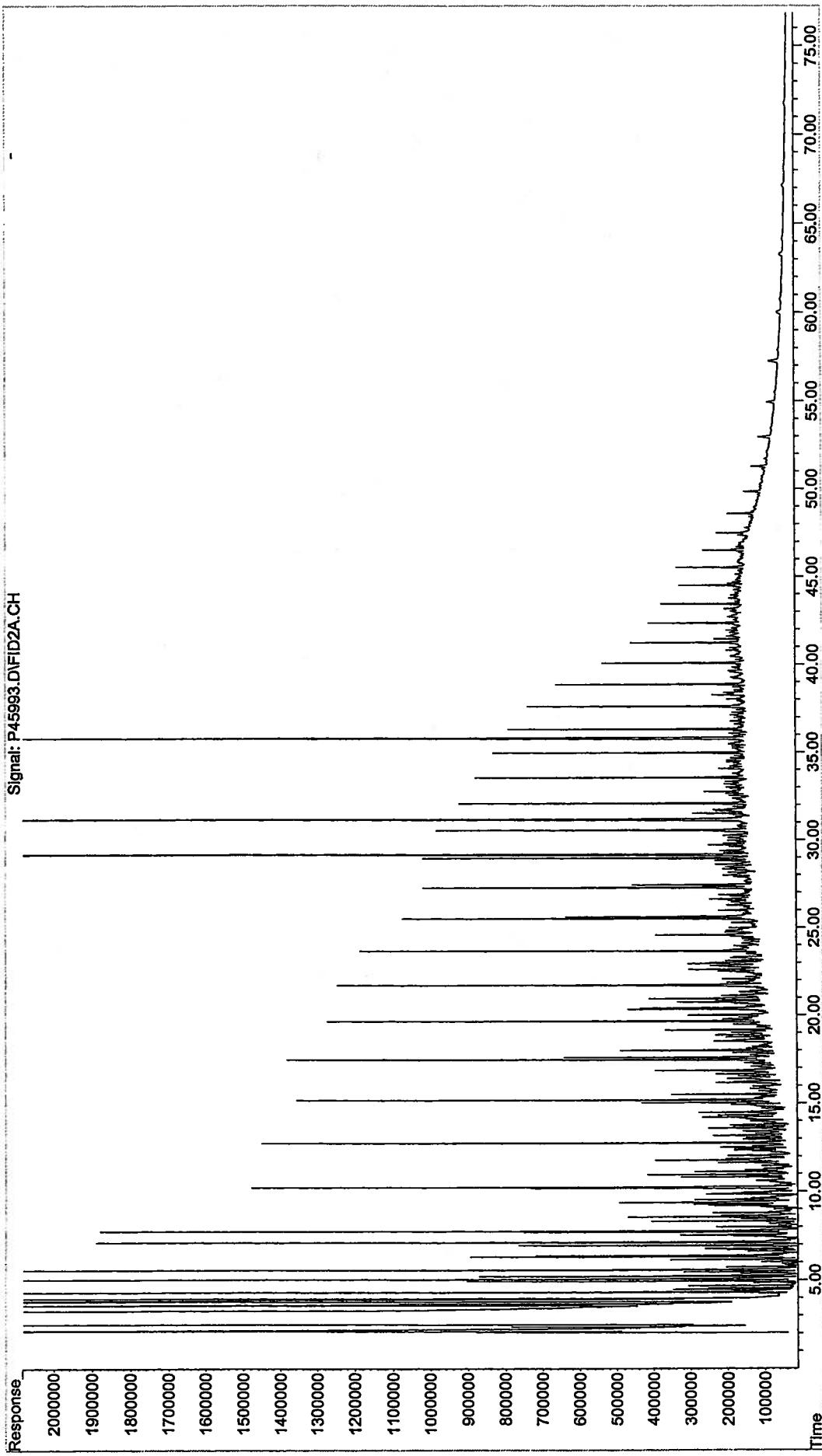
ALL SECTIONS BELOW MUST BE COMPLETED

	Comments / Notes
Were samples shipped? <input checked="" type="checkbox"/> FedEx / UPS / Other: _____ No, WHG Courier pick-up / Hand delivered	Sample storage refrigerator #: <u>F</u>
Is bill of lading retained? <input checked="" type="checkbox"/> Tracking #: <u>8573 0029 1422</u> No, Unavailable / NA	Sample storage freezer #: _____
Number of coolers received for this project delivery: <u>1</u>	Cooler 2: _____ Cooler 3: _____
Indicate cooler temperature upon opening (if multiple coolers, record all temps): <u>Note: If all coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note all samples received above 6°C.</u>	Cooler 4: _____ Cooler 5: _____
Cooler 1: Temperature(s) taken from: <u>40</u> IR Gun, <u>30</u> Temp. Blank, / NA	Cooler 6: _____ Cooler 7: _____
Were samples received on ice? Yes / No	More: _____
Chain-of-Custody present? Complete? <input checked="" type="checkbox"/> Yes / No	
Custody seals present on Cooler? on Bottles? <input checked="" type="checkbox"/> Yes / No Intact? <input checked="" type="checkbox"/> Yes / No / NA	
<i>Note: Affix custody seals to back of this page.</i>	
Were sample containers intact? <input checked="" type="checkbox"/> Yes / No	If No, list samples: →
Did VOA/VPH waters contain headspace (>5mm)? Yes / No / NA	If Yes, list samples: →
Were 5035 VOA soils, or VPH soils, covered with MeOH? Yes / No / NA If No, list samples: →	
Was a sufficient amount of sample received for each test indicated on the COC? <input checked="" type="checkbox"/> Yes / No	If No, list samples: →
<i>If chemical preservation is appropriate -</i>	
Were samples field preserved? Yes / No / NA	Chemical preservation OK for ALL samples?
<input type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=H ₂ SO ₄ <input type="checkbox"/> H=NaOH <input type="checkbox"/> N=NHO ₃ , <input type="checkbox"/> Other: _____ <input type="checkbox"/> U= Unknown	Yes / No / N/A
Preservation (pH) verified at lab for EVERY bottle? (<u>Note: VOA / VPH / Sulfide</u>)	
YES: <2 or >12 (CN) or NO	<input checked="" type="checkbox"/> NA
If No, why?: _____	
Were samples received within hold time? <input checked="" type="checkbox"/> Yes / No	If No, list samples: →
Discrepancy between samples rec'd & COC? Yes / No	If Yes, list samples: →
Was the Project Manager notified of any other problems? Yes / No / NA	
Project Manager Acknowledgement: <u>W.L.J.</u>	Date: <u>9/26/10</u> Please use back for any additional notes!

FID Chromatograms

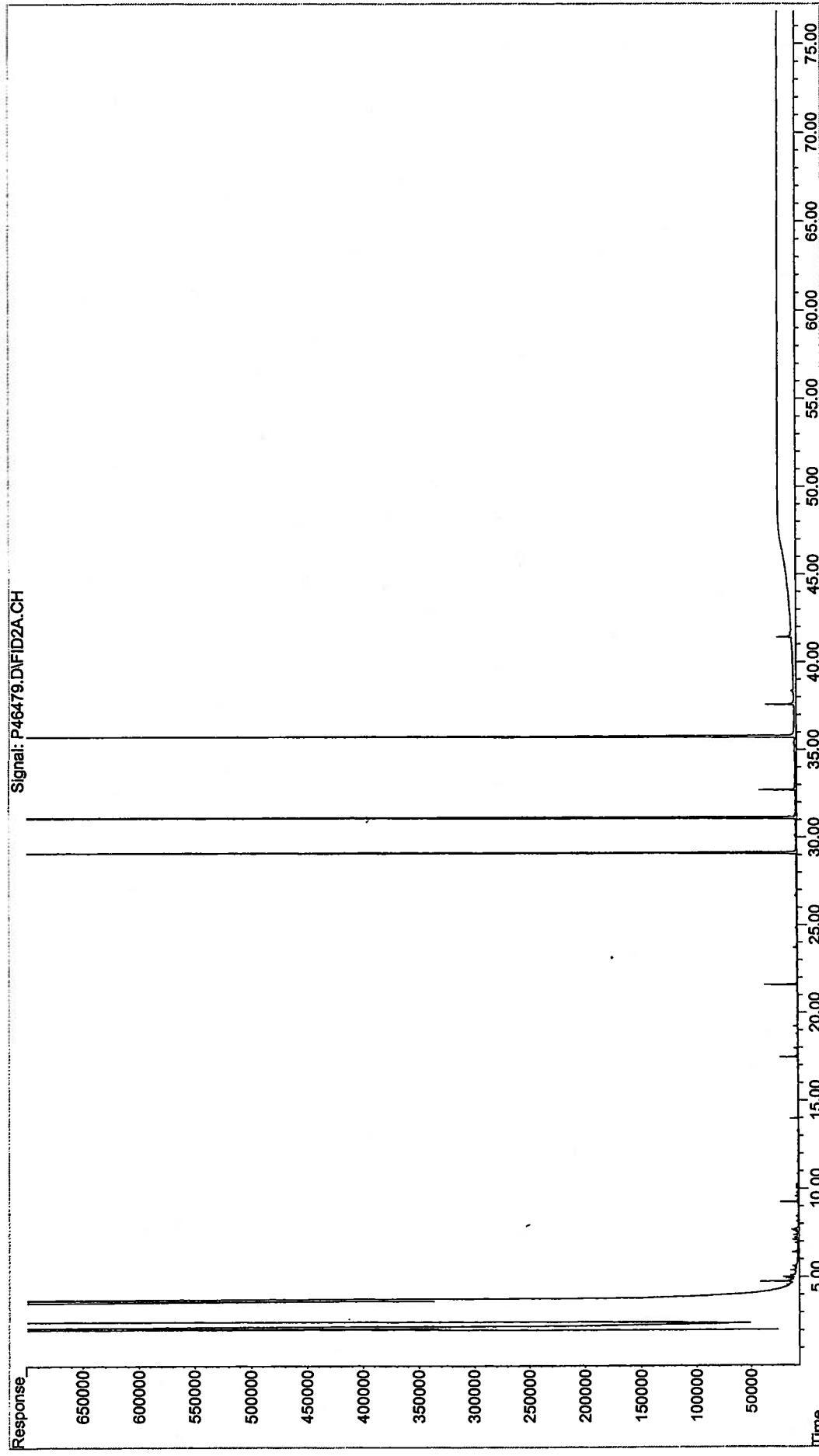
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Operator : AC
Instrument : PAH-4
Acquired : 16 Aug 2006 3:48 pm using AcqMethod FRNC4B.M
Sample Name: TS091106AWS01
Misc Info : ANS

**North Slope Crude
Reference Standard**



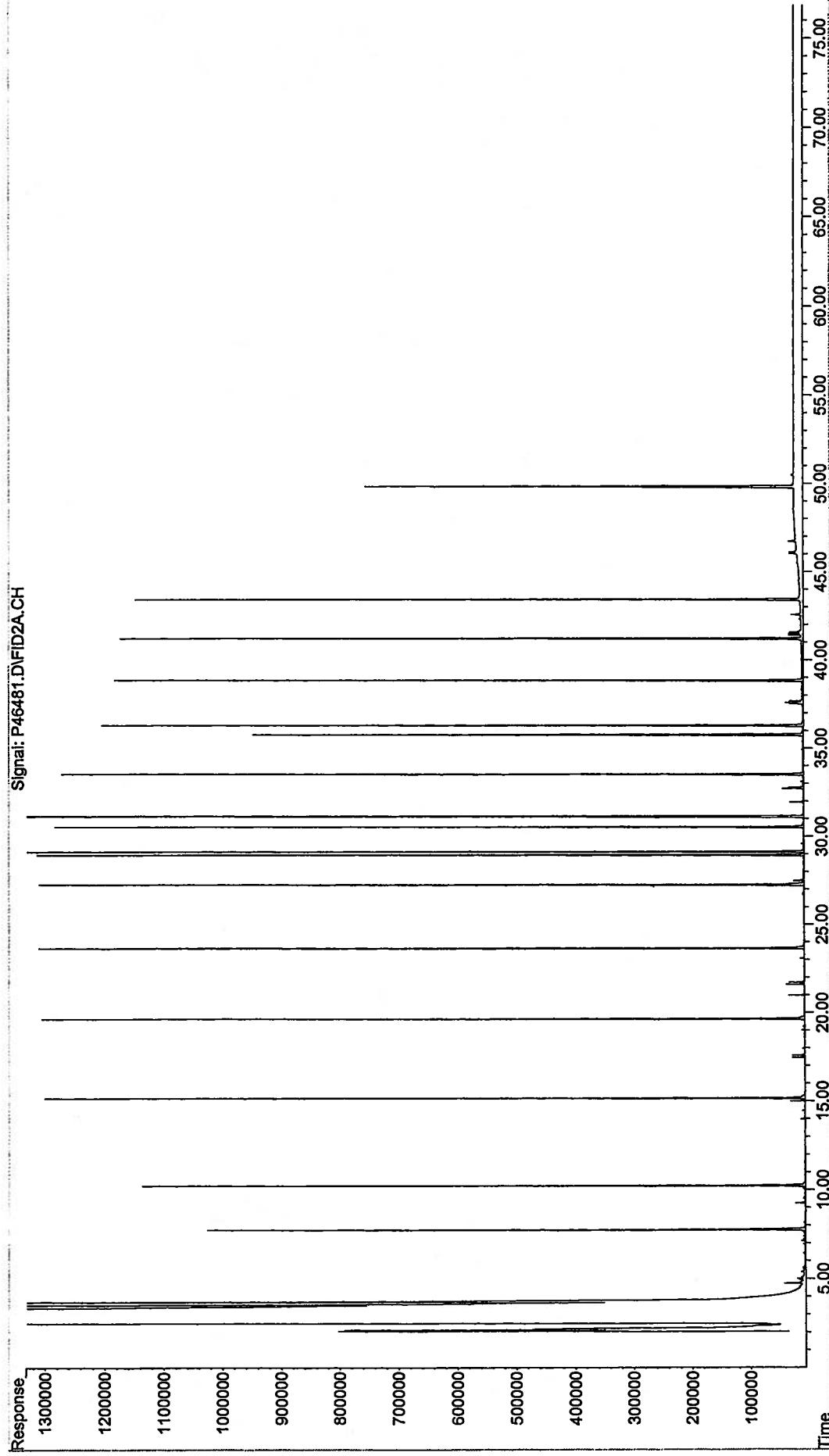
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Operator : AC
Acquired : 27 Sep 2006 8:59 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: SS092606B04
Misc Info : 1X ETR0609108
Vial Number: 56

Blank
SS092606B04

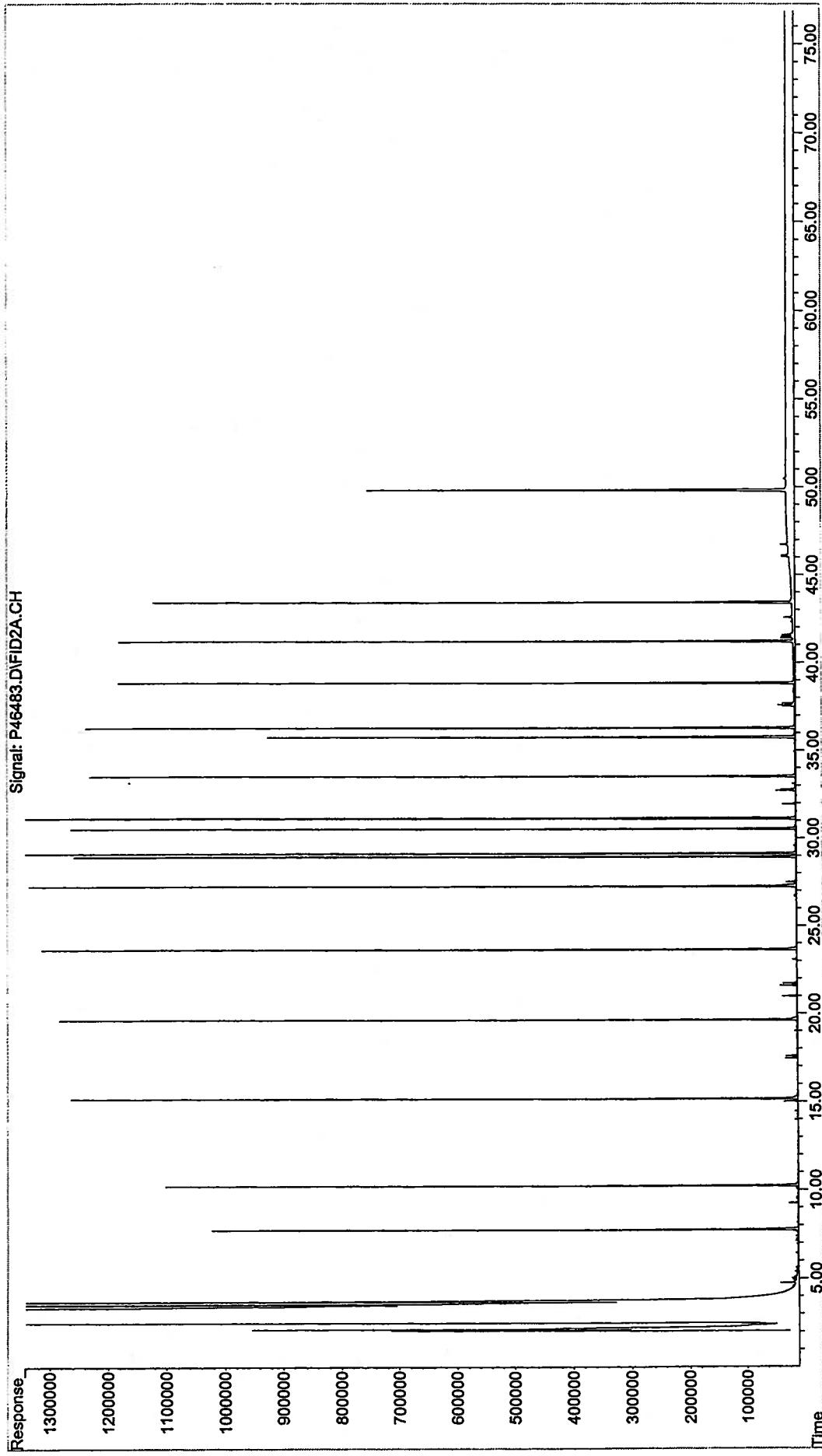


File : Y:\2006 AWHL DATA\Tronox-Columbus\0609108\FID Data\P46481.D
Operator : AC
Acquired : 27 Sep 2006 10:27 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: SS092606LCS02
Misc Info : 1X ETR0609108
Vial Number: 57

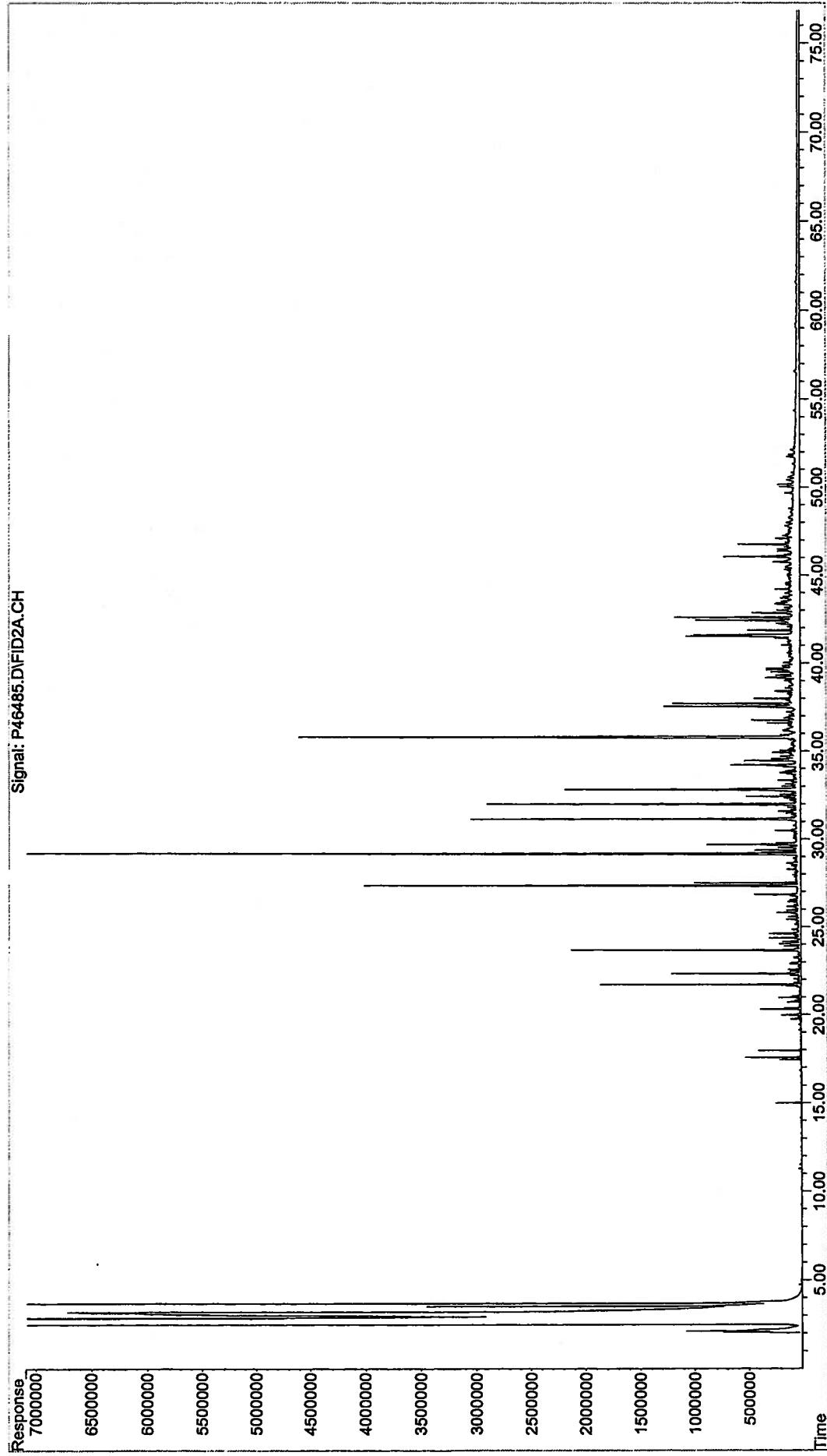
Lab Control Sample
SS092606LCS02



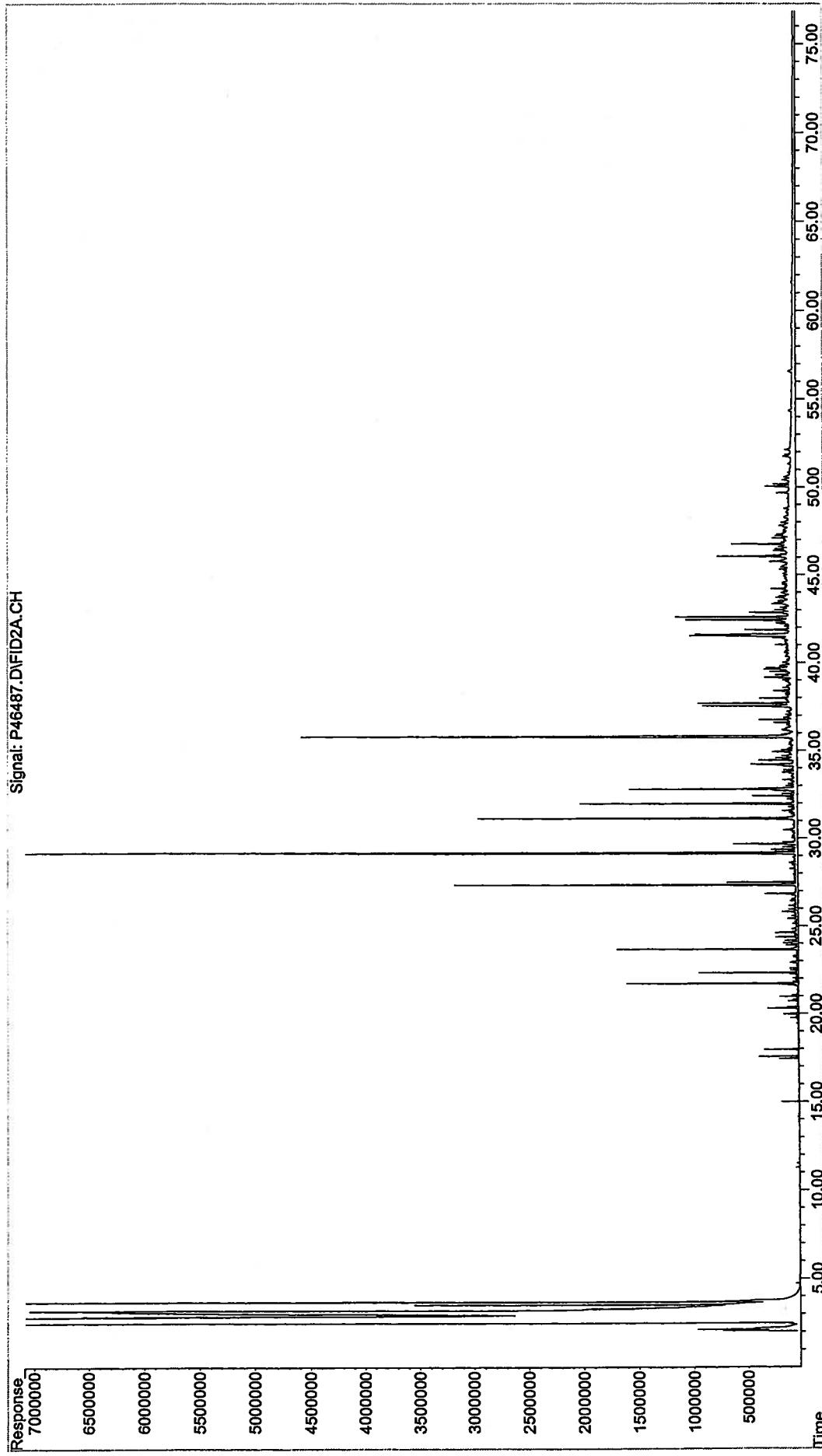
File : Y:\2006 AWHL DATA\Tronox-Columbus\0609108\FID Data\P46483.D
Operator : AC
Acquired : 27 Sep 2006 11:56 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: SS092606LCSD02
Misc Info : 1X ETR0609108
Vial Number: 58



File : Y:\2006 AWHL DATA\Tronox-Columbus\0609108\FID Data\P46485.D
Operator : AC
Acquired : 28 Sep 2006 1:25 am using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: 0609108-01
Misc Info : 1X
Vial Number: 59

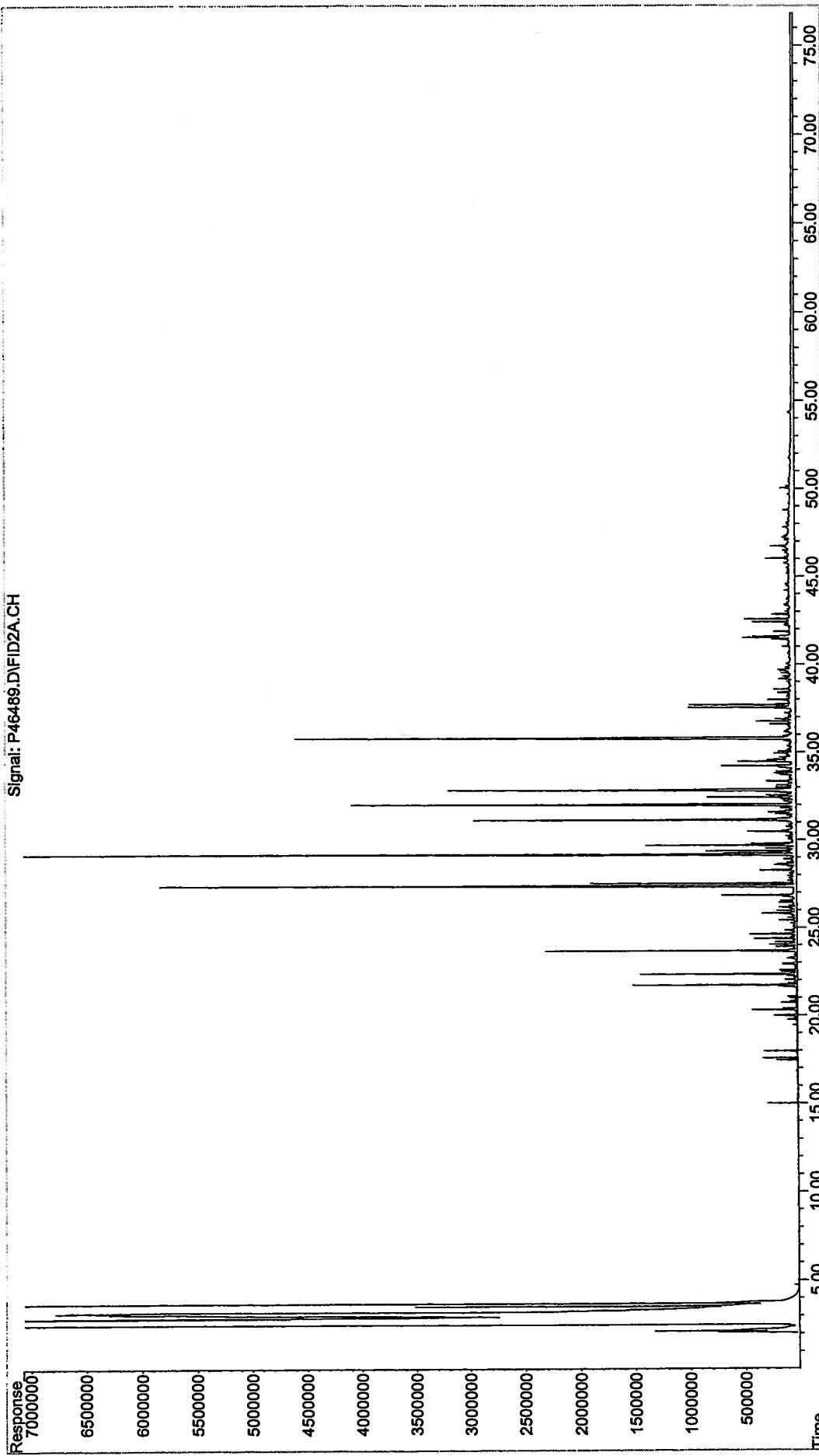


File : Y:\2006 AWHL DATA\Tronox-Columbus\0609108\FID Data\P46487.D
Operator : AC
Acquired : 28 Sep 2006 2:54 am using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: 0609108-01D
Misc Info : 1X
Vial Number: 60



File : Y:\2006 AWHL DATA\Tronox-Columbus\0609108\FID Data\P46489.D
Operator : AC
Acquired : 28 Sep 2006 4:22 am using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: 0609108-02
Misc Info : 1X
Vial Number: 61

Signal: P46489.D\FID2A.CH



Data Tables

Saturated Hydrocarbon Data



Project Name: Tronox-Columbus
Project Number:

Client ID	PROPSI H	PROPSI I
Lab ID	0609108-01	0609108-02
Matrix	Soil	Soil
Reference Method	SHC	SHC
Batch ID	SS092606B04	SS092606B04
Date Collected	9/25/2006	9/25/2006
Date Received	9/26/2006	9/26/2006
Date Prepped	9/26/2006	9/26/2006
Date Analyzed	9/28/2006	9/28/2006
Sample Size (wet)	10.61	10.03
% Solid	74.74	72.68
File ID	P46485.D	P46489.D
Units	mg/Kg	mg/Kg
Final Volume	5	5
Dilution	1	1
Reporting Limit	21	23

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	1100	21	1000	23

Surrogates (% Recovery)		
ortho-Terphenyl	79	78
d50-Tetracosane	81	81

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	PROPSH	PROPSH
Lab ID	0609108-01	0609108-01D
Matrix	Soil	Soil
Reference Method	SHC	SHC
Batch ID	SS092606B04	SS092606B04
Date Collected	9/25/2006	9/25/2006
Date Received	9/26/2006	9/26/2006
Date Prepped	9/26/2006	9/26/2006
Date Analyzed	9/28/2006	9/28/2006
Sample Size (wet)	10.61	10.67
% Solid	74.74	74.74
File ID	P46485.D	P46487.D
Units	mg/Kg	mg/Kg
Final Volume	5	5
Dilution	1	1
Reporting Limit	21	21

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
SHC	TPH	Total Petroleum Hydrocarbons	1100	21	930	21	14	30

Surrogates (% Recovery)								
ortho-Terphenyl	79	76	1	30				
d50-Tetracosane	81	80	1	30				

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	Method Blank
Lab ID	SS092606B04
Matrix	Soil
Reference Method	SHC
Batch ID	SS092606B04
Date Collected	N/A
Date Received	N/A
Date Prepped	9/26/2006
Date Analyzed	9/27/2006
Sample Size (wet)	30
% Solid	100
File ID	P46479.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	2.2

Class	Abbrev	Analytes	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	U	2.2

Surrogates (% Recovery)
ortho-Terphenyl 96
d50-Tetracosane 99

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS092606LCS02
Matrix	Soil
Reference Method	SHC
Batch ID	SS092606B04
Date Collected	N/A
Date Received	N/A
Date Prepped	9/26/2006
Date Analyzed	9/27/2006
Sample Size (wet)	30
% Solid	100
File ID	P46491.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.067

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	C9	n-Nonane (C9)	1.0 S	0.067	61	1.6	50	130
SHC	C10	n-Decane (C10)	1.1 S	0.067	68	1.6	50	130
SHC	C12	n-Dodecane (C12)	1.2 S	0.067	75	1.6	50	130
SHC	C14	n-Tetradecane (C14)	1.3 S	0.067	76	1.6	50	130
SHC	C16	n-Hexadecane (C16)	1.4 S	0.067	81	1.6	50	130
SHC	C18	n-Octadecane (C18)	1.3 S	0.067	80	1.6	50	130
SHC	C19	n-Nonadecane (C19)	1.4 S	0.067	81	1.6	50	130
SHC	C20	n-Eicosane (C20)	1.4 S	0.067	62	1.6	50	130
SHC	C22	n-Docosane (C22)	1.4 S	0.067	83	1.6	50	130
SHC	C24	n-Tetracosane (C24)	1.3 S	0.067	80	1.6	50	130
SHC	C26	n-Hexacosane (C26)	1.3 S	0.067	80	1.6	50	130
SHC	C28	n-Octacosane (C28)	1.3 S	0.067	79	1.6	50	130
SHC	C30	n-Triacontane (C30)	1.3 S	0.067	79	1.6	50	130
SHC	C36	n-Hexatriacontane (C36)	1.3 S	0.067	80	1.6	50	130
SHC	TPH	Total Petroleum Hydrocarbons	16		2.2			

Surrogates (% Recovery)
 ortho-Terphenyl
 d50-Tetracosane

94
 99

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS092806LCSD02
Matrix	Soil
Reference Method	SHC
Batch ID	SS092806B04
Date Collected	N/A
Date Received	N/A
Date Prepped	9/26/2006
Date Analyzed	9/27/2006
Sample Size (wt)	30
% Solid	100
File ID	P46483.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.067

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
SHC	C9	n-Nonane (C9)	1.0 S	0.067	61	1.6	50	130	0	30
SHC	C10	n-Decane (C10)	1.2 S	0.067	69	1.6	50	130	1	30
SHC	C12	n-Dodecane (C12)	1.2 S	0.067	75	1.6	50	130	1	30
SHC	C14	n-Tetradecane (C14)	1.3 S	0.067	77	1.6	50	130	1	30
SHC	C16	n-Hexadecane (C16)	1.4 S	0.067	82	1.6	50	130	1	30
SHC	C18	n-Octadecane (C18)	1.4 S	0.067	81	1.6	50	130	1	30
SHC	C19	n-Nonadecane (C19)	1.4 S	0.067	82	1.6	50	130	1	30
SHC	C20	n-Eicosane (C20)	1.4 S	0.067	83	1.6	50	130	1	30
SHC	C22	n-Docosane (C22)	1.4 S	0.067	84	1.6	50	130	1	30
SHC	C24	n-Tetracosane (C24)	1.4 S	0.067	81	1.6	50	130	1	30
SHC	C26	n-Hexacosane (C26)	1.3 S	0.067	81	1.6	50	130	1	30
SHC	C28	n-Octacosane (C28)	1.3 S	0.067	80	1.6	50	130	1	30
SHC	C30	n-Triacontane (C30)	1.3 S	0.067	80	1.6	50	130	1	30
SHC	C36	n-Hexatriacontane (C36)	1.3 S	0.067	80	1.6	50	130	0	30
SHC	TPH	Total Petroleum Hydrocarbons	16		2.2					

Surrogates (% Recovery)
 ortho-Terphenyl
 d50-Tetracosane

95
 99

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID Alaska North Slope Crude
Lab ID TS092806AWS02
Matrix Oil
Reference Method SHC
Batch ID N/A
Date Collected N/A
Date Received N/A
Date Prepped N/A
Date Analyzed 9/27/2006
Sample Size (wet) 0.0523
% Solid 100
File ID P46473.D
Units mg/Kg
Final Volume 10
Dilution 1
Reporting Limit 190

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	TPH	Total Petroleum Hydrocarbons	560000	6300	91	623913	65	135

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
*: Value outside of QC Limits.
S: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to Interference. (Metals)
a: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

Priority Pollutant PAH Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPSI H	PROPSI I
Lab ID	0609108-01	0609108-02
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS092608B04	SS092606B04
Date Collected	9/25/2008	9/25/2008
Date Received	9/26/2008	9/26/2008
Date Prepped	9/26/2008	9/26/2008
Date Analyzed	9/28/2008	9/28/2008
Sample Size (wet)	10.61	10.03
% Solid	74.74	72.68
File ID	P46466.D	P46490.D
Units	µg/Kg	µg/Kg
Final Volume	5	5
Dilution	1	1
Reporting Limit	6.3	6.9

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	N0	Naphthalene	1900	6.3	2500	6.9
3	AY	Acenaphthylene	2300	6.3	770	6.9
3	AE	Acenaphthene	15000	D 63	13000	D 170
3	F0	Fluorene	17000	D 63	22000	D 170
3	A0	Anthracene	8400	D 63	19000	D 170
3	P0	Phenanthrene	46000	D 63	96000	D 170
4	FL0	Fluoranthene	35000	D 63	66000	D 170
4	PY0	Pyrene	24000	D 63	45000	D 170
4	BA0	Benz[a]anthracene	12000	D 63	9800	D 170
4	C0	Chrysene/Triphenylene	13000	D 63	9700	D 170
5	BBF	Benz[b]fluoranthene	14000	D 63	5700	6.9
5	BJKF	Benz[k]fluoranthene	11000	D 63	5100	6.9
5	BAP	Benz[a]pyrene	13000	D 63	5100	6.9
6	IND	Indeno[1,2,3-cd]pyrene	7800	D 63	3000	6.9
5	DA	Dibenz[a,h]anthracene	3000	6.3	720	6.9
6	GHI	Benzog,h,i]perylene	5900	D 63	2300	6.9
		TPAH	229300		305690	

Surrogates (% Recovery)			
2-Methylnaphthalene-d10		73	75
Pyrene-d10		76	77
Benzo[b]fluoranthene-d12		81	80

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPS TH	PROPS TH
Lab ID	0609108-01	0609108-01D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS092606B04	SS092606B04
Date Collected	9/25/2006	9/25/2006
Date Received	9/26/2006	9/26/2006
Date Prepped	9/26/2006	9/26/2006
Date Analyzed	9/28/2006	9/28/2006
Sample Size (wet)	10.61	10.67
% Solid	74.74	74.74
File ID	P46486.D	P46488.D
Units	µg/Kg	µg/Kg
Final Volume	5	5
Dilution	1	1
Reporting Limit	6.3	6.3

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	NO	Naphthalene	1900	6.3	1400	6.3	31	30
3	AY	Acenaphthylene	2300	6.3	1800	6.3	20	30
3	AE	Acenaphthene	15000	D 63	13000	D 63	17	30
3	F0	Fluorene	17000	D 63	14000	D 63	24	30
3	A0	Anthracene	8400	D 63	5600	D 63	40	30
3	P0	Phenanthrene	46000	D 63	32000	D 63	37	30
4	FL0	Fluoranthene	35000	D 63	20000	D 63	51	30
4	PY0	Pyrene	24000	D 63	15000	D 63	47	30
4	BA0	Benz[a]anthracene	12000	D 63	7700	D 63	44	30
4	CD	Chrysene/Triphenylene	13000	D 63	10000	D 63	26	30
5	BBF	Benz[b]fluoranthene	14000	D 63	13000	D 63	6	30
5	BjKF	Benzof[k]fluoranthene	11000	D 63	11000	D 63	5	30
5	BAP	Benz[a]pyrene	13000	D 63	12000	D 63	4	30
6	IND	Indeno[1,2,3-cd]pyrene	7800	D 63	7600	D 63	3	30
5	DA	Dibenz[a,h]anthracene	3000	6.3	3200	6.3	6	30
6	GHI	Benzog,h,iperylene	5900	D 63	6000	D 63	2	30
		TPAH	229300		173300			

Surrogates (% Recovery)

2-Methylnaphthalene-d10	73	74	1	30
Pyrene-d10	76	73	4	30
Benzo[b]fluoranthene-d12	81	82	1	30

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
*: Value outside of QC Limits.
S: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to Interference. (Metals)
o: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

Parent and Alkylated PAH Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPSI H	PROPSI I
Lab ID	0609108-01	0609108-02
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS092606B04	SS092606B04
Date Collected	9/25/2006	9/25/2006
Date Received	9/26/2006	9/26/2006
Date Prepped	9/26/2006	9/26/2006
Date Analyzed	9/28/2006	9/28/2006
Sample Size (wet)	10.61	10.03
% Solid	74.74	72.88
File ID	P46486.D	P46490.D
Units	µg/Kg	µg/Kg
Final Volume	5	5
Dilution	1	1
Reporting Limit	6.3	6.9

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	N0	Naphthalene	1900	6.3	2500	6.9
2	N1	C1-Naphthalenes	5000	6.3	3800	6.9
2	N2	C2-Naphthalenes	5200	6.3	6200	6.9
2	N3	C3-Naphthalenes	2800	6.3	4600	6.9
2	N4	C4-Naphthalenes	980	6.3	1700	6.9
2	B	Biphenyl	130	6.3	270	6.9
3	DF	Dibenzofuran	11000 D	6.3	14000 D	170
3	AY	Acenaphthylene	2300	6.3	770	6.9
3	AE	Acenaphthene	15000 D	6.3	13000 D	170
3	F0	Fluorene	17000 D	6.3	22000 D	170
3	F1	C1-Fluorenes	2400	6.3	4000	6.9
3	F2	C2-Fluorenes	1200	6.3	2200	6.9
3	F3	C3-Fluorenes	940	6.3	1700	6.9
3	A0	Anthracene	8400 D	6.3	19000 D	170
3	P0	Phenanthrene	46000 D	6.3	96000 D	170
3	PA1	C1-Phenanthrenes/Anthracenes	9900	6.3	21000	6.9
3	PA2	C2-Phenanthrenes/Anthracenes	4300	6.3	7600	6.9
3	PA3	C3-Phenanthrenes/Anthracenes	2000	6.3	2300	6.9
3	PA4	C4-Phenanthrenes/Anthracenes	810	6.3	700	6.9
3	DBT0	Dibenzothiophene	4200	6.3	6800 D	170
3	DBT1	C1-Dibenzothiophenes	1100	6.3	3400	6.9
3	DBT2	C2-Dibenzothiophenes	840	6.3	3000	6.9
3	DBT3	C3-Dibenzothiophenes	830	6.3	1800	6.9
3	DBT4	C4-Dibenzothiophenes	410	6.3	590	6.9
4	BF	Benz(a)fluorene	5800 D	6.3	6600 D	170
4	FL0	Fluoranthene	35000 D	6.3	68000 D	170
4	PY0	Pyrene	24000 D	6.3	45000 D	170
4	FP1	C1-Fluoranthenes/Pyrenes	14000 D	6.3	14000 D	170
4	FP2	C2-Fluoranthenes/Pyrenes	6200	6.3	4000	6.9
4	FP3	C3-Fluoranthenes/Pyrenes	3100	6.3	1500	6.9
4	FP4	C4-Fluoranthenes/Pyrenes	1600	6.3	800	6.9
4	NBT0	Naphthobenzothiophenes	3600	6.3	3400	6.9
4	NBT1	C1-Naphthobenzothiophenes	2000	6.3	1100	6.9
4	NBT2	C2-Naphthobenzothiophenes	960	6.3	450	6.9
4	NBT3	C3-Naphthobenzothiophenes	510	6.3	240	6.9
4	NBT4	C4-Naphthobenzothiophenes	180	6.3	89	6.9
4	BA0	Benz(a)anthracene	12000 D	6.3	9800 D	170
4	C0	Chrysene/Triphenylene	13000 D	6.3	9700 D	170
4	BC1	C1-Chrysenes	6500	6.3	2900	6.9
4	BC2	C2-Chrysenes	2800	6.3	940	6.9
4	BC3	C3-Chrysenes	2100	6.3	740	6.9
4	BC4	C4-Chrysenes	750	6.3	320	6.9
5	BBF	Benz(b)fluoranthene	14000 D	6.3	5700	6.9
5	BJKF	Benz(k)fluoranthene	11000 D	6.3	5100	6.9
5	BAF	Benz(a)fluoranthene	3800	6.3	1300	6.9
5	BEP	Benz(e)pyrene	9600 D	6.3	3600	6.9
5	BAP	Benz(a)pyrene	13000 D	6.3	5100	6.9
5	PER	Perylene	3900	6.3	1700	6.9
6	IND	Indeno[1,2,3-cd]pyrene	7600 D	6.3	3000	6.9
5	DA	Dibenz[a,h]anthracene	3000	6.3	720	6.9
6	GHI	Benzol[g,h,i]perylene	5900 D	6.3	2300	6.9
3	4MDT	4-Methyldibenzothiophene	330	6.3	1200	6.9
3	2MDT	2/3-Methyldibenzothiophene	450	6.3	1400	6.9
3	1MDT	1-Methyldibenzothiophene	120	6.3	380	6.9
3	3MP	3-Methylphenanthrene	2400	6.3	5500	6.9
3	2MP	2/4-Methylphenanthrene	2900	6.3	6600	6.9
3	2MA	2-Methylnaphthalene	1600	6.3	2500	6.9
3	9MP	9-Methylphenanthrene	1800	6.3	3600	6.9
3	1MP	1-Methylphenanthrene	1200	6.3	2600	6.9
		TPAH	361540		458809	

Surrogates (% Recovery)		
2-Methylnaphthalene-d10	73	75
Pyrene-d10	76	77
Benz[b]fluoranthene-d12	81	80

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPSH	PROPSH
Lab ID	0609108-01	0609108-01D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS092606B04	SS092606B04
Date Collected	9/25/2006	9/25/2006
Date Received	9/26/2006	9/26/2006
Date Prepped	9/26/2006	9/26/2006
Date Analyzed	9/28/2006	9/28/2006
Sample Size (wt)	10.81	10.67
% Solid	74.74	74.74
File ID	P46466.D	P46488.D
Units	µg/Kg	µg/Kg
Final Volume	5	5
Dilution	1	1
Reporting Limit	6.3	6.3

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	1900	6.3	1400	6.3	31	30
2	N1	C1-Naphthalenes	5000	6.3	3900	6.3	24	30
2	N2	C2-Naphthalenes	5200	6.3	4000	6.3	24	30
2	N3	C3-Naphthalenes	2600	6.3	2000	6.3	33	30
2	N4	C4-Naphthalenes	980	8.3	640	6.3	42	30
2	B	Biphenyl	130	6.3	99	6.3	26	30
3	DF	Dibenzofuran	11000 D	6.3	8200 D	6.3	26	30
3	AY	Acenaphthylene	2300	6.3	1800	6.3	20	30
3	AE	Acenaphthene	15000 D	6.3	13000 D	6.3	17	30
3	F0	Fluorene	17000 D	6.3	14000 D	6.3	24	30
3	F1	C1-Fluorennes	2400	6.3	1600	6.3	40	30
3	F2	C2-Fluorennes	1200	6.3	720	6.3	50	30
3	F3	C3-Fluorennes	940	6.3	610	6.3	42	30
3	A0	Anthracene	8400 D	6.3	5600 D	6.3	40	30
3	P0	Phenanthrene	45000 D	6.3	32000 D	6.3	37	30
3	PA1	C1-Phenanthrenes/Anthracenes	9900	6.3	5800	6.3	52	30
3	PA2	C2-Phenanthrenes/Anthracenes	4300	6.3	2400	6.3	57	30
3	PA3	C3-Phenanthrenes/Anthracenes	2000	6.3	1300	6.3	45	30
3	PA4	C4-Phenanthrenes/Anthracenes	810	6.3	560	6.3	36	30
3	DBT0	Dibenzothiophene	4200	6.3	3000	6.3	33	30
3	DBT1	C1-Dibenzothiophenes	1100	6.3	660	6.3	50	30
3	DBT2	C2-Dibenzothiophenes	840	6.3	440	6.3	62	30
3	DBT3	C3-Dibenzothiophenes	830	6.3	380	6.3	74	30
3	DBT4	C4-Dibenzothiophenes	410	6.3	180	6.3	77	30
4	BF	Benzo(b)fluorene	5800 D	6.3	3300 D	6.3	55	30
4	FL0	Fluoranthene	35000 D	6.3	20000 D	6.3	51	30
4	PY0	Pyrene	24000 D	6.3	15000 D	6.3	47	30
4	FP1	C1-Fluoranthenes/Pyrenes	14000 D	6.3	9500 D	6.3	35	30
4	FP2	C2-Fluoranthenes/Pyrenes	8200	6.3	5200	6.3	17	30
4	FP3	C3-Fluoranthenes/Pyrenes	3100	6.3	2700	6.3	16	30
4	FP4	C4-Fluoranthenes/Pyrenes	1600	6.3	1600	6.3	3	30
4	NBT0	Naphthobenzothiophenes	3600	6.3	2200	6.3	50	30
4	NBT1	C1-Naphthobenzothiophenes	2000	6.3	1600	6.3	23	30
4	NBT2	C2-Naphthobenzothiophenes	960	6.3	910	6.3	5	30
4	NBT3	C3-Naphthobenzothiophenes	510	6.3	500	6.3	2	30
4	NBT4	C4-Naphthobenzothiophenes	180	6.3	170	6.3	4	30
4	BA0	Benz[a]anthracene	12000 D	6.3	7700 D	6.3	44	30
4	C0	Chrysene/Triphenylene	13000 D	6.3	10000 D	6.3	26	30
4	BC1	C1-Chrysenes	6500	6.3	6000	6.3	8	30
4	BC2	C2-Chrysenes	2800	6.3	3100	6.3	10	30
4	BC3	C3-Chrysenes	2100	6.3	2300	6.3	11	30
4	BC4	C4-Chrysenes	750	6.3	790	6.3	6	30
5	BBF	Benzo[b]fluoranthene	14000 D	6.3	13000 D	6.3	6	30
5	BJKF	Benzo[k]fluoranthene	11000 D	6.3	11000 D	6.3	5	30
5	BAF	Benzo[a]fluoranthene	3800	6.3	3600	6.3	5	30
5	BEP	Benzo[e]pyrene	9800 D	6.3	10000 D	6.3	5	30
5	BAP	Benzo[a]pyrene	13000 D	6.3	12000 D	6.3	4	30
5	PER	Perylene	3900	6.3	3900	6.3	1	30
6	IND	Indeno[1,2,3-cd]pyrene	7800 D	6.3	7600 D	6.3	3	30
5	DA	Dibenz[a,h]anthracene	3000	6.3	3200	6.3	6	30
6	GHI	Benzof[h,i]perylene	5900 D	6.3	6000 D	6.3	2	30
3	4MDT	4-Methylbenzothiophene	330	6.3	200	6.3	50	30
3	2MDT	2/3-Methylbenzothiophene	450	6.3	260	6.3	52	30
3	1MDT	1-Methylbenzothiophene	120	6.3	78	6.3	43	30
3	3MP	3-Methylphenanthrene	2400	6.3	1400	6.3	54	30
3	2MP	2/4-Methylphenanthrene	2900	6.3	1600	6.3	57	30
3	2MA	2-Methylnaphthalene	1600	6.3	1000	6.3	42	30
3	9MP	9-Methylnaphthalene	1800	6.3	1000	6.3	55	30
3	1MP	1-Methylnaphthalene	1200	6.3	680	6.3	52	30
	TPAH		361540		273378			

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 73 74 1 30
 Pyrene-d10 76 73 4 30
 Benzo[b]fluoranthene-d12 81 82 1 30

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Method Blank
Lab ID	SS092606B04
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS092606B04
Date Collected	N/A
Date Received	N/A
Date Prepped	9/26/2006
Date Analyzed	9/27/2006
Sample Size (wet)	30
% Solid	100
File ID	P46480.D
Units	µg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL
2	N0	Naphthalene	0.12	J 0.67
2	N1	C1-Naphthalenes	0.26	J 0.67
2	N2	C2-Naphthalenes		U 0.67
2	N3	C3-Naphthalenes	0.24	J 0.67
2	N4	C4-Naphthalenes		U 0.67
2	B	Biphenyl		U 0.67
3	DF	Dibenzofuran		U 0.67
3	AY	Acenaphthylene		U 0.67
3	AE	Acenaphthene		U 0.67
3	F0	Fluorene	0.099	J 0.67
3	F1	C1-Fluorenes		U 0.67
3	F2	C2-Fluorenes		U 0.67
3	F3	C3-Fluorenes		U 0.67
3	A0	Anthracene		U 0.67
3	P0	Phenanthrene	0.24	J 0.67
3	PA1	C1-Phenanthrenes/Anthracenes		U 0.67
3	PA2	C2-Phenanthrenes/Anthracenes		U 0.67
3	PA3	C3-Phenanthrenes/Anthracenes		U 0.67
3	PA4	C4-Phenanthrenes/Anthracenes		U 0.67
3	DBT0	Dibenzothiophene	0.053	J 0.67
3	DBT1	C1-Dibenzothiophenes		U 0.67
3	DBT2	C2-Dibenzothiophenes	0.30	J 0.67
3	DBT3	C3-Dibenzothiophenes		U 0.67
3	DBT4	C4-Dibenzothiophenes		U 0.67
4	BF	Benzo(b)fluorene		U 0.67
4	FL0	Fluoranthene	0.055	J 0.67
4	PY0	Pyrene		U 0.67
4	FP1	C1-Fluoranthenes/Pyrenes		U 0.67
4	FP2	C2-Fluoranthenes/Pyrenes		U 0.67
4	FP3	C3-Fluoranthenes/Pyrenes		U 0.67
4	FP4	C4-Fluoranthenes/Pyrenes		U 0.67
4	NBT0	Naphthobenzothiophenes		U 0.67
4	NBT1	C1-Naphthobenzothiophenes		U 0.67
4	NBT2	C2-Naphthobenzothiophenes		U 0.67
4	NBT3	C3-Naphthobenzothiophenes		U 0.67
4	NBT4	C4-Naphthobenzothiophenes		U 0.67
4	BA0	Benz[a]anthracene		U 0.67
4	C0	Chrysene/Triphenylene		U 0.67
4	BC1	C1-Chrysenes		U 0.67
4	BC2	C2-Chrysenes		U 0.67
4	BC3	C3-Chrysenes		U 0.67
4	BC4	C4-Chrysenes		U 0.67
5	BBF	Benzo[b]fluoranthene		U 0.67
5	BJKF	Benzo[k]fluoranthene		U 0.67
5	BAF	Benzo[a]fluoranthene		U 0.67
5	BEP	Benzo[e]pyrene		U 0.67
5	BAP	Benzo[a]pyrene		U 0.67
5	PER	Perylene		U 0.67
6	IND	Indeno[1,2,3-cd]pyrene		U 0.67
5	DA	Dibenz[a,h]anthracene		U 0.67
6	GHI	Benzol[g,h,i]perylene		U 0.67
3	4MDT	4-Methyl dibenzothiophene		U 0.67
3	2MDT	2/3-Methyl dibenzothiophene		U 0.67
3	1MDT	1-Methyl dibenzothiophene		U 0.67
3	3MP	3-Methyl phenanthrene		U 0.67
3	2MP	2/4-Methyl phenanthrene		U 0.67
3	2MA	2-Methylnaphthalene		U 0.67
3	9MP	9-Methyl phenanthrene		U 0.67
3	1MP	1-Methyl phenanthrene		U 0.67

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 82
 Pyrene-d10 88
 Benzo[b]fluoranthene-d12 90

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS092606LCS02
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS092606B04
Date Collected	N/A
Date Received	N/A
Date Prepped	9/26/2006
Date Analyzed	9/27/2006
Sample Size (wet)	30
% Solid	100
File ID	P46482.D
Units	$\mu\text{g}/\text{Kg}$
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	27 S	0.67	82	33	50	130
2	N1	C1-Naphthalenes	U	0.67				
2	N2	C2-Naphthalenes	U	0.67				
2	N3	C3-Naphthalenes	U	0.67				
2	N4	C4-Naphthalenes	U	0.67				
2	B	Biphenyl	U	0.67				
3	DF	Dibenzofuran	U	0.67				
3	AY	Acenaphthylene	25 S	0.67	75	33	50	130
3	AE	Acenaphthene	26 S	0.67	77	33	50	130
3	F0	Fluorene	24 S	0.67	72	33	50	130
3	F1	C1-Fluorenes	U	0.67				
3	F2	C2-Fluorenes	U	0.67				
3	F3	C3-Fluorenes	U	0.67				
3	A0	Anthracene	25 S	0.67	75	33	50	130
3	P0	Phenanthrene	24 S	0.67	71	33	50	130
3	PA1	C1-Phenanthrenes/Anthracenes	U	0.67				
3	PA2	C2-Phenanthrenes/Anthracenes	U	0.67				
3	PA3	C3-Phenanthrenes/Anthracenes	U	0.67				
3	PA4	C4-Phenanthrenes/Anthracenes	U	0.67				
3	DBT0	Dibenzothiophene	U	0.67				
3	DBT1	C1-Dibenzothiophenes	U	0.67				
3	DBT2	C2-Dibenzothiophenes	U	0.67				
3	DBT3	C3-Dibenzothiophenes	U	0.67				
3	DBT4	C4-Dibenzothiophenes	U	0.67				
4	BF	Benzo(b)fluorene	U	0.67				
4	FL0	Fluoranthene	23 S	0.67	70	33	50	130
4	PY0	Pyrene	26 S	0.67	77	33	50	130
4	FP1	C1-Fluoranthenes/Pyrenes	U	0.67				
4	FP2	C2-Fluoranthenes/Pyrenes	U	0.67				
4	FP3	C3-Fluoranthenes/Pyrenes	U	0.67				
4	FP4	C4-Fluoranthenes/Pyrenes	U	0.67				
4	NBT0	Naphthobenzothiophenes	U	0.87				
4	NBT1	C1-Naphthobenzothiophenes	U	0.67				
4	NBT2	C2-Naphthobenzothiophenes	U	0.67				
4	NBT3	C3-Naphthobenzothiophenes	U	0.67				
4	NBT4	C4-Naphthobenzothiophenes	U	0.67				
4	BA0	Benz[a]anthracene	24 S	0.67	72	33	50	130
4	C0	Chrysene/Triphenylene	26 S	0.67	77	33	50	130
4	BC1	C1-Chrysenes	U	0.67				
4	BC2	C2-Chrysenes	U	0.67				
4	BC3	C3-Chrysenes	U	0.67				
4	BC4	C4-Chrysenes	U	0.67				
5	BBF	Benzo[b]fluoranthene	24 S	0.67	73	33	50	130
5	BJKF	Benzo[k]fluoranthene	27 S	0.67	80	33	50	130
5	BAF	Benzo[a]fluoranthene	U	0.67				
5	BEP	Benzo[e]pyrene	U	0.67				
5	BAP	Benzo[a]pyrene	25 S	0.67	76	33	50	130
5	PER	Perylene	U	0.67				
6	IND	Indeno[1,2,3-cd]pyrene	26 S	0.67	80	33	50	130
5	DA	Dibenz[a,h]anthracene	27 S	0.67	81	33	50	130
6	GHI	Benzol[g,h]perylene	25 S	0.67	76	33	50	130
3	4MDT	4-Methylbenzothiophene	U	0.67				
3	2MDT	2/3-Methylbenzothiophene	U	0.67				
3	1MDT	1-Methylbenzothiophene	U	0.67				
3	3MP	3-Methylphenanthrene	U	0.67				
3	2MP	2/4-Methylphenanthrene	U	0.67				
3	2MA	2-Methylnaphthalene	U	0.67				
3	9MP	9-Methylnaphthalene	U	0.67				
3	1MP	1-Methylnaphthalene	U	0.67				

Surrogates (% Recovery)

2-Methylnaphthalene-d10
 Pyrene-d10
 Benzo[b]fluoranthene-d12

87
 89
 90

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID Laboratory Control Sample Dup
 Lab ID SS092606LCSD02
 Matrix Soil
 Reference Method Modified 8270C
 Batch ID SS092606B04
 Date Collected N/A
 Date Received N/A
 Date Prepped 9/26/2006
 Date Analyzed 9/27/2006
 Sample Size (wet) 30
 % Solid 100
 File ID P46484.D
 Units µg/Kg
 Final Volume 2
 Dilution 1
 Reporting Limit 0.67

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
2	N0	Naphthalene	27 S	0.67	82	33	50	130	0	30
2	N1	C1-Naphthalenes		U	0.67					
2	N2	C2-Naphthalenes		U	0.67					
2	N3	C3-Naphthalenes		U	0.67					
2	N4	C4-Naphthalenes		U	0.67					
2	B	Biphenyl		U	0.67					
3	DF	Dibenzofuran		U	0.67					
3	AY	Acenaphthylene	26 S	0.67	77	33	50	130	2	30
3	AE	Acenaphthene	26 S	0.67	78	33	50	130	1	30
3	F0	Fluorene	24 S	0.67	73	33	50	130	1	30
3	F1	C1-Fluorenes		U	0.67					
3	F2	C2-Fluorenes		U	0.67					
3	F3	C3-Fluorenes		U	0.67					
3	A0	Anthracene	25 S	0.67	75	33	50	130	0	30
3	P0	Phenanthrene	24 S	0.67	73	33	50	130	2	30
3	PA1	C1-Phenanthrenes/Anthracenes		U	0.67					
3	PA2	C2-Phenanthrenes/Anthracenes		U	0.67					
3	PA3	C3-Phenanthrenes/Anthracenes		U	0.67					
3	PA4	C4-Phenanthrenes/Anthracenes		U	0.67					
3	DBT0	Dibenzothiophene		U	0.67					
3	DBT1	C1-Dibenzothiophenes		U	0.67					
3	DBT2	C2-Dibenzothiophenes		U	0.67					
3	DBT3	C3-Dibenzothiophenes		U	0.67					
3	DBT4	C4-Dibenzothiophenes		U	0.67					
4	BF	Benz(b)fluorene		U	0.67					
4	FL0	Fluoranthene	24 S	0.67	71	33	50	130	2	30
4	PY0	Pyrene	26 S	0.67	78	33	50	130	2	30
4	FP1	C1-Fluoranthenes/Pyrenes		U	0.67					
4	FP2	C2-Fluoranthenes/Pyrenes		U	0.67					
4	FP3	C3-Fluoranthenes/Pyrenes		U	0.67					
4	FP4	C4-Fluoranthenes/Pyrenes		U	0.67					
4	NBT0	Naphthobenzothiophenes		U	0.67					
4	NBT1	C1-Naphthobenzothiophenes		U	0.67					
4	NBT2	C2-Naphthobenzothiophenes		U	0.67					
4	NBT3	C3-Naphthobenzothiophenes		U	0.67					
4	NBT4	C4-Naphthobenzothiophenes		U	0.67					
4	BA0	Benz(a)anthracene	24 S	0.67	72	33	50	130	0	30
4	C0	Chrysene/Triphenylene	26 S	0.67	77	33	50	130	1	30
4	BC1	C1-Chrysenes		U	0.67					
4	BC2	C2-Chrysenes		U	0.67					
4	BC3	C3-Chrysenes		U	0.67					
4	BC4	C4-Chrysenes		U	0.67					
5	BBF	Benz(b)fluoranthene	24 S	0.67	73	33	50	130	0	30
5	BJKF	Benz(k)fluoranthene	27 S	0.67	82	33	50	130	2	30
5	BAF	Benz(a)fluoranthene		U	0.67					
5	BEP	Benz(e)pyrene		U	0.67					
5	BAP	Benz(a)pyrene	25 S	0.67	76	33	50	130	0	30
5	PER	Perylene		U	0.67					
6	IND	Indeno[1,2,3-cd]pyrene	26 S	0.67	78	33	50	130	2	30
5	DA	Dibenz(a,h)anthracene	27 S	0.67	61	33	50	130	0	30
6	GHI	Benz(g,h,i)perylene	25 S	0.67	75	33	50	130	2	30
3	4MDT	4-Methyldibenzothiophene		U	0.67					
3	2MDT	2/3-Methyldibenzothiophene		U	0.67					
3	tMDT	1-Methyldibenzothiophene		U	0.67					
3	3MP	3-Methylphenanthrene		U	0.67					
3	2MP	2/4-Methylphenanthrene		U	0.67					
3	2MA	2-Methylnaphthalene		U	0.67					
3	9MP	9-Methylnaphthalene		U	0.67					
3	1MP	1-Methylnaphthalene		U	0.67					

Surrogates (% Recovery)

2-Methylnaphthalene-d10
 Pyrene-d10
 Benzo[b]fluoranthene-d12

87
 90
 90

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

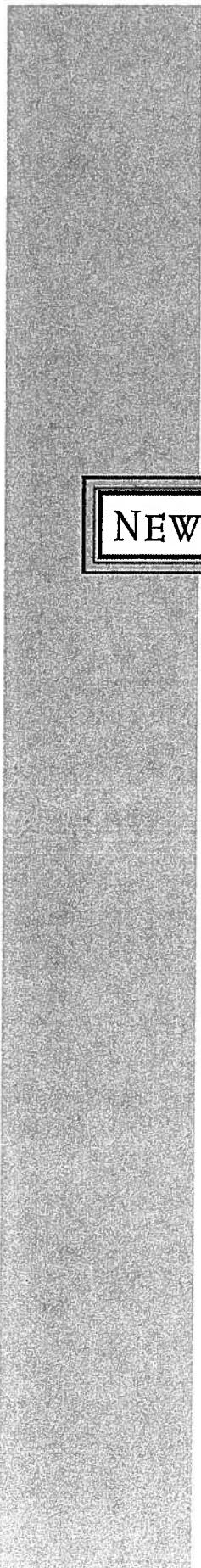
Client ID	Alaska North Slope Crude
Lab ID	S0053106AWS01
Matrix	OII
Reference Method	Modified 8270C
Batch ID	N/A
Date Collected	N/A
Date Received	N/A
Date Prepped	N/A
Date Analyzed	5/30/2006
Sample Size (wet)	0.051
% Solid	100
File ID	P45492.D
Units	mg/Kg
Final Volume	10
Dilution	1
Reporting Limit	2

Class	Abbrev	Analytics	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	690	2.0	103	669.92	65	135
2	N1	C1-Naphthalenes	1500	2.0	103	1432.05	65	135
2	N2	C2-Naphthalenes	1800	2.0	102	1770.37	65	135
2	N3	C3-Naphthalenes	1300	2.0	100	1321.83	65	135
2	N4	C4-Naphthalenes	730	2.0	99	731.64	65	135
2	B	Biphenyl	200	2.0	105	190.36	65	135
3	DF	Dibenzofuran	66	2.0				
3	AY	Acenaphthylene	6.4	2.0				
3	AE	Acenaphthene	20	2.0	139	14.71	65	135
3	F0	Fluorene	80	2.0	103	77.57	65	135
3	F1	C1-Fluorenes	200	2.0	96	203.54	65	135
3	F2	C2-Fluorenes	280	2.0	90	314.43	65	135
3	F3	C3-Fluorenes	270	2.0	92	290.03	65	135
3	A0	Anthracene	U	2.0				
3	P0	Phenanthrene	260	2.0	99	259.89	65	135
3	PA1	C1-Phenanthrenes/Anthracenes	530	2.0	98	545.98	65	135
3	PA2	C2-Phenanthrenes/Anthracenes	600	2.0	102	587.69	65	135
3	PA3	C3-Phenanthrenes/Anthracenes	410	2.0	96	428.71	65	135
3	PA4	C4-Phenanthrenes/Anthracenes	150	2.0	96	159.5	65	135
3	DBT0	Dibenzothiophene	210	2.0	101	210.91	65	135
3	DBT1	C1-Dibenzothiophenes	400	2.0	100	396.93	65	135
3	DBT2	C2-Dibenzothiophenes	520	2.0	97	538.82	65	135
3	DBT3	C3-Dibenzothiophenes	450	2.0	97	464.97	65	135
3	DBT4	C4-Dibenzothiophenes	240	2.0	101	243.14	65	135
4	BF	Benz(b)fluorene	U	2.0				
4	FL0	Fluoranthene	3.9	2.0	94	4.14	65	135
4	PY0	Pyrene	13	2.0	105	12.07	65	135
4	FP1	C1-Fluoranthenes/Pyrenes	70	2.0	97	72.24	65	135
4	FP2	C2-Fluoranthenes/Pyrenes	120	2.0	99	120.66	65	135
4	FP3	C3-Fluoranthenes/Pyrenes	130	2.0	100	130.08	65	135
4	FP4	C4-Fluoranthenes/Pyrenes	110	2.0				
4	NBT0	Naphthobenzothiophenes	54	2.0				
4	NBT1	C1-Naphthobenzothiophenes	150	2.0				
4	NBT2	C2-Naphthobenzothiophenes	180	2.0				
4	NBT3	C3-Naphthobenzothiophenes	140	2.0				
4	NBT4	C4-Naphthobenzothiophenes	92	2.0				
4	BA0	Benz[a]anthracene	1.6 J	2.0				
4	C0	Chrysene/Triphenylene	44	2.0	89	49.55	65	135
4	BC1	C1-Chrysenes	80	2.0	96	82.86	65	135
4	BC2	C2-Chrysenes	95	2.0	93	102.78	65	135
4	BC3	C3-Chrysenes	100	2.0	94	107.68	65	135
4	BC4	C4-Chrysenes	59	2.0	94	62.56	65	135
5	BBF	Benz(b)fluoranthene	5.8	2.0	100	5.79	65	135
5	BJKF	Benz(j)fluoranthene	U	2.0				
5	BAF	Benz(a)fluoranthene	0.99 J	2.0				
5	BEP	Benzole[ep]pyrene	11	2.0	91	12.05	65	135
5	BAP	Benz(a)pyrene	1.5 J	2.0				
5	PER	Perylene	1.2 J	2.0				
6	IND	Indeno[1,2,3-cd]pyrene	0.59 J	2.0				
5	DA	Dibenz[a,h]anthracene	0.83 J	2.0	88	0.94	65	135
6	GHI	Benz[g,h,i]perylene	3.3	2.0	96	3.47	65	135
3	4MDT	4-Methyldibenzothiophene	200	2.0				
3	2MDT	2/3-Methyldibenzothiophene	140	2.0				
3	1MDT	1-Methyldibenzothiophene	60	2.0				
3	3MP	3-Methylphenanthrene	110	2.0				
3	2MP	2/4-Methylphenanthrene	120	2.0				
3	2MA	2-Methylantracene	3.3	2.0				
3	9MP	9-Methylphenanthrene	170	2.0				
3	1MP	1-Methylphenanthrene	120	2.0				

NEWFIELDS

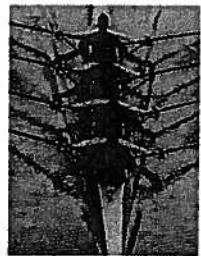
List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
DT: Tertiary Dilution Performed
*: Value outside of QC Limits.
S: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to Interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to interference. (Metals)
A: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)



NEWFIELDS

new INSIGHT | new DIRECTION | new DECISION



**Tronox-Columbus
September 2006 Investigation
Data Deliverable #3**

Chain of Custody

Oct 09 121

NEW FIELDS

Chain of Custody

Chain of Custody								
Environmental Forensics Practice LLC 100 Ledgewood Place, Suite 302, Rockland, MA 02370 ph: 781-681-5040 fax: 781-681-5048								
Proj. Name: TRU NIX COLUMBUS		Proj. No.	Client Info: (Name/Address/Phone/Email)					
Samplers: Signature RAJ VADAMODER		TUVIX, LLC 2300 14th AVE NORTH COLUMBUS, OH 33170						
ANALYSIS REQUESTED (# of containers)								
			Total Number of Containers					
			✓					
			Pesticides					
			PCB					
			METALS					
			Organic Lead					
			PIANO - VOA					
			GCMs-Biomarkers					
			GCMs-Aliphatic PAH					
			GC-FID-TPH (C ₉ +)					
			SAMPLE DESCRIPTION					
COLLECTION	MATRIX (Oil/Soil/Water/ Sediment/Tissue)							
CLIENT ID	DATE	TIME						
-01	PROJ T	9-21-16	12:00	SOIL	SOIL FROM CULVERT X 7 M AREA			
Relinquished by: <i>Norm Laurianno</i>				Date	Time	Received by: <i>Fred Ex</i>	Date	Time
				9/27/08	7:20		9/27/08	7:20
Relinquished by: <i>Fred Ex</i>				Date	Time	Received by: <i>Norm Laurianno (AWHL)</i>	Date	Time
				9/28/08			9/28/08	
Relinquished by:				Date	Time	Received by:	Date	Time
Ship samples to:				Comments:				
Alpha Woods Hole Laboratory 375 Paramount Drive, Suite B Raynham, MA 02767 Tel: (508) 822-9300 Attn: Norm Laurianno				FIRE & PRINT ANALYSIS FOR PAHS (SVOCs) PUSH TURN AROUND				

Sample Receipt Checklist

Page 1 of _____

Client: <u>New fields</u>	Receipt Date: <u>9/28/06</u>
Project: <u>Prolog - Columbus</u>	Log-in Date: <u>9/28/06</u>
ETR #: <u>0609121</u>	Inspection by: <u>JK</u> Login by: <u>MAe</u>

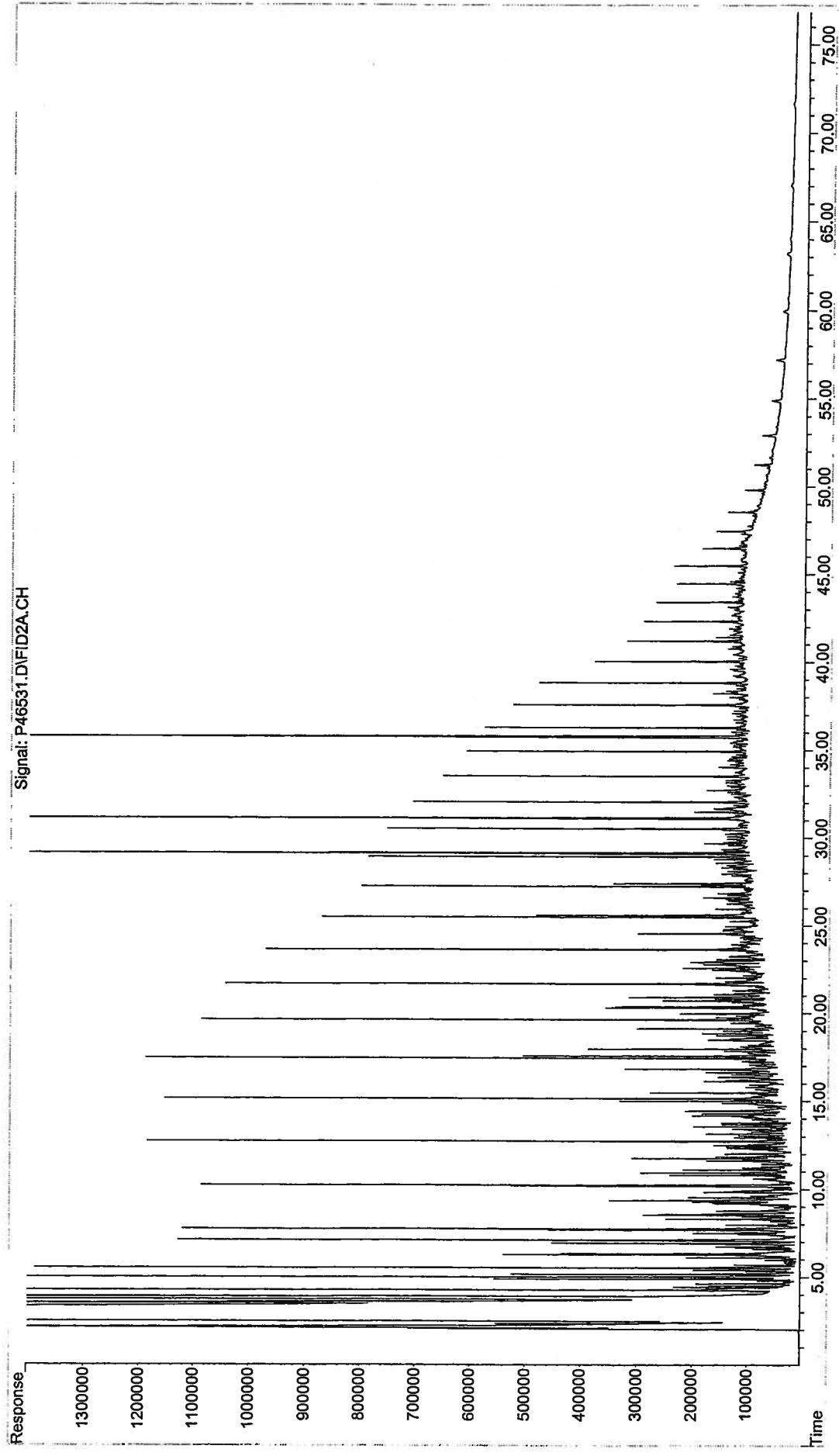
ALL SECTIONS BELOW MUST BE COMPLETED

	Comments / Notes
Were samples shipped? <input checked="" type="checkbox"/> Yes / FedEx / UPS / Other: _____ No, WHG Courier pick-up / Hand delivered	Sample storage refrigerator #: <u>F2</u>
Is bill of lading retained? <input checked="" type="checkbox"/> Yes Tracking #: <u>8573 0029 1444</u> No, Unavailable / NA	Sample storage freezer #: _____
Number of coolers received for this project delivery: _____	Cooler 2: _____ Cooler 3: _____
Indicate cooler temperature upon opening (if multiple coolers, record <u>all</u> temps): <u>Note:</u> If <u>all</u> coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note <u>all</u> samples received <u>above</u> 6°C.	Cooler 4: _____ Cooler 5: _____
<u>Cooler 1:</u> Temperature(s) taken from: <u>30</u> IR Gun, _____ Temp. Blank, / NA	Cooler 6: _____ Cooler 7: _____
Were samples received on ice? Yes / No	More: _____
Chain-of-Custody present? <input checked="" type="checkbox"/> Yes / No Complete? <input checked="" type="checkbox"/> Yes / No	
Custody seals present on Cooler? Yes / <input checked="" type="checkbox"/> No on Bottles? Yes / <input checked="" type="checkbox"/> No Intact? Yes / No / <input checked="" type="checkbox"/> NA	
<u>Note: Affix custody seals to back of this page.</u>	
Were sample containers intact? <input checked="" type="checkbox"/> Yes / No	If No, list samples: →
Did VOA/VPH waters contain headspace (>5mm)? Yes / No / <input checked="" type="checkbox"/> NA	If Yes, list samples: →
Were 5035 VOA soils, or VPH soils, <u>covered</u> with MeOH? Yes / No / <input checked="" type="checkbox"/> NA	If No, list samples: →
Was a sufficient amount of sample received for each test indicated on the COC? <input checked="" type="checkbox"/> Yes / No	If No, list samples: →
<u>If chemical preservation is appropriate -</u>	
Were samples field preserved? Yes / No / <input checked="" type="checkbox"/> NA	Chemical preservation OK for ALL samples?
<input type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=H ₂ SO ₄ <input type="checkbox"/> H=NaOH <input type="checkbox"/> N=NHO ₃ , <input type="checkbox"/> Other: _____ <input type="checkbox"/> U=Unknown	Yes / No / N/A
Preservation (pH) verified at lab for <u>EVERY</u> bottle? (<u>Note:</u> VOA / VPH / Sulfide) YES: <2 or >12 (CN) or NO <input checked="" type="checkbox"/> NA	
If No, why?: _____	
Were samples received within hold time? <input checked="" type="checkbox"/> Yes / No	If No, list samples: →
Discrepancy between samples rec'd & COC? <input checked="" type="checkbox"/> Yes / No If Yes, list samples: →	
Was the Project Manager notified of any other problems? Yes / No / <input checked="" type="checkbox"/> NA	
Project Manager Acknowledgement: <u>JK</u> Date: <u>9/28/06</u>	
<u>Sample jar has time collected 12:15 pm</u> <u>COC has time collected 12:00 pm</u>	
<u>Please use back for any additional notes!</u>	

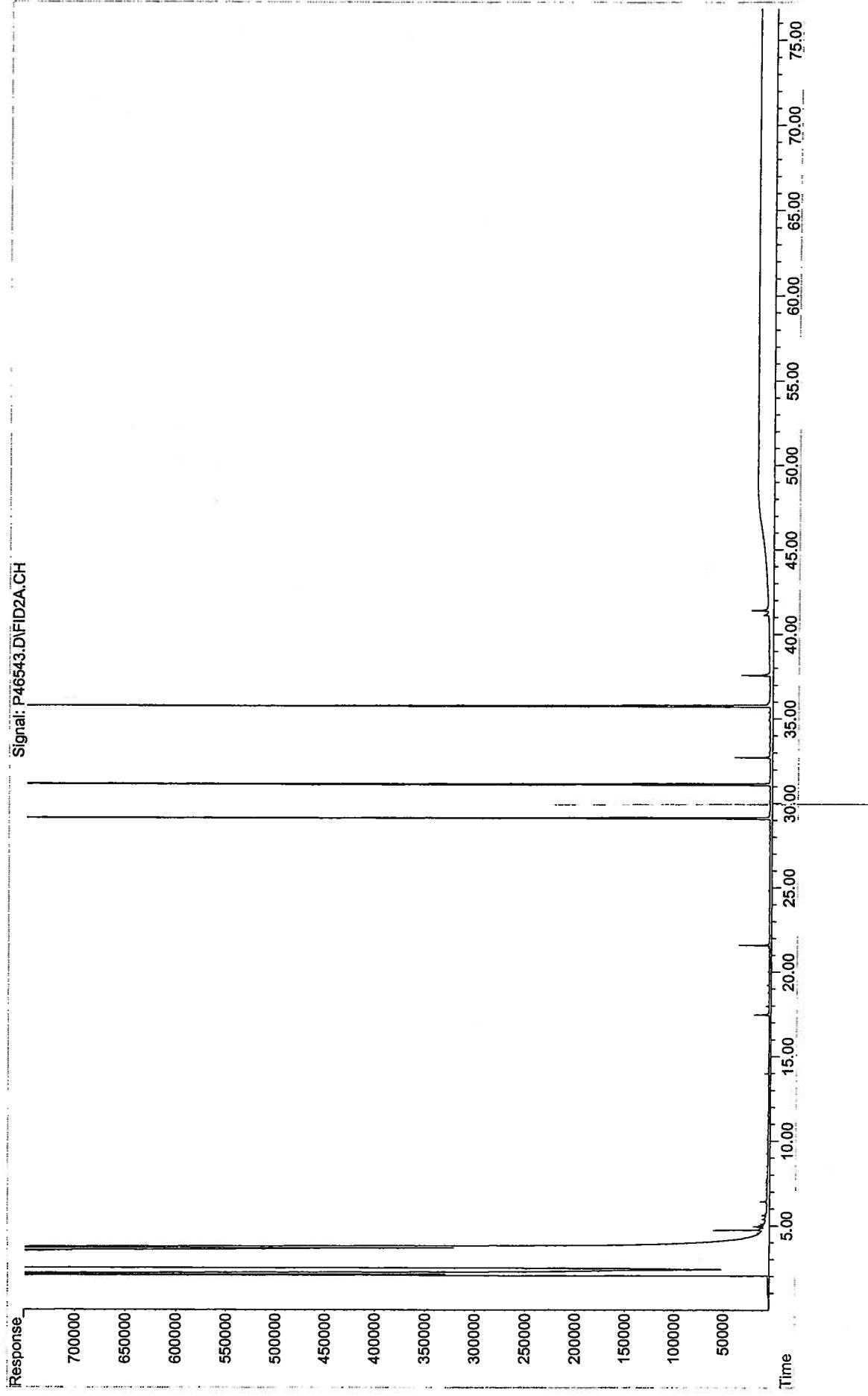
FID Chromatograms

File : Y:\2006 AWHL DATA\Tronox-Columbus\0609121\FID Data\P46531.D
Operator : AC
Acquired : 29 Sep 2006 12:31 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: TS093006AWS01
Misc Info : 1X
Vial Number: 52

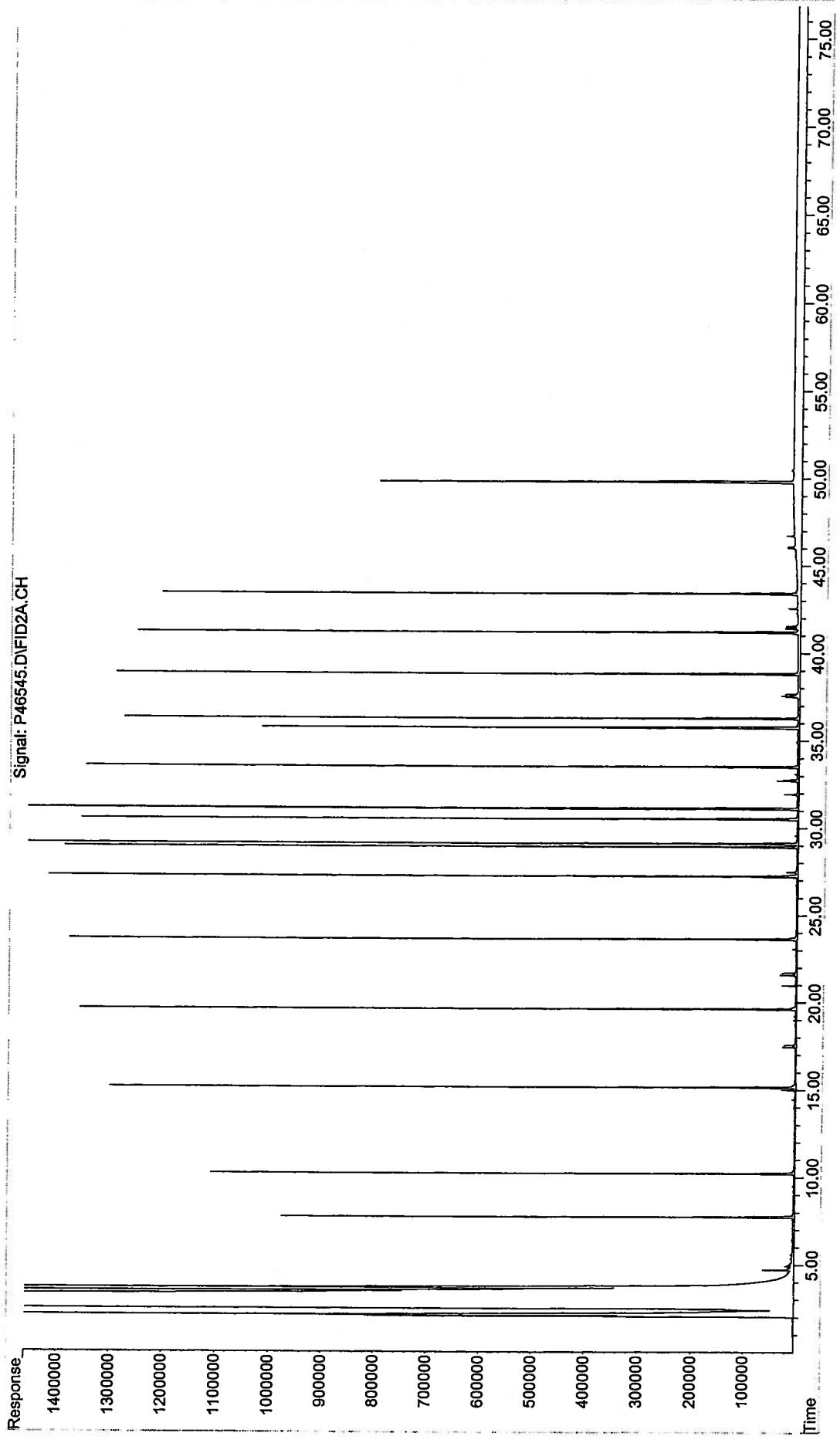
**North Slope Crude
Reference Standard**



File : Y:\2006 AWHL DATA\Tronox-Columbus\0609121\FID Data\P46543.D
Operator : AC
Acquired : 29 Sep 2006 9:31 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: SS092806B03-AFID
Misc Info : 1X ETR0609121
Vial Number: 58

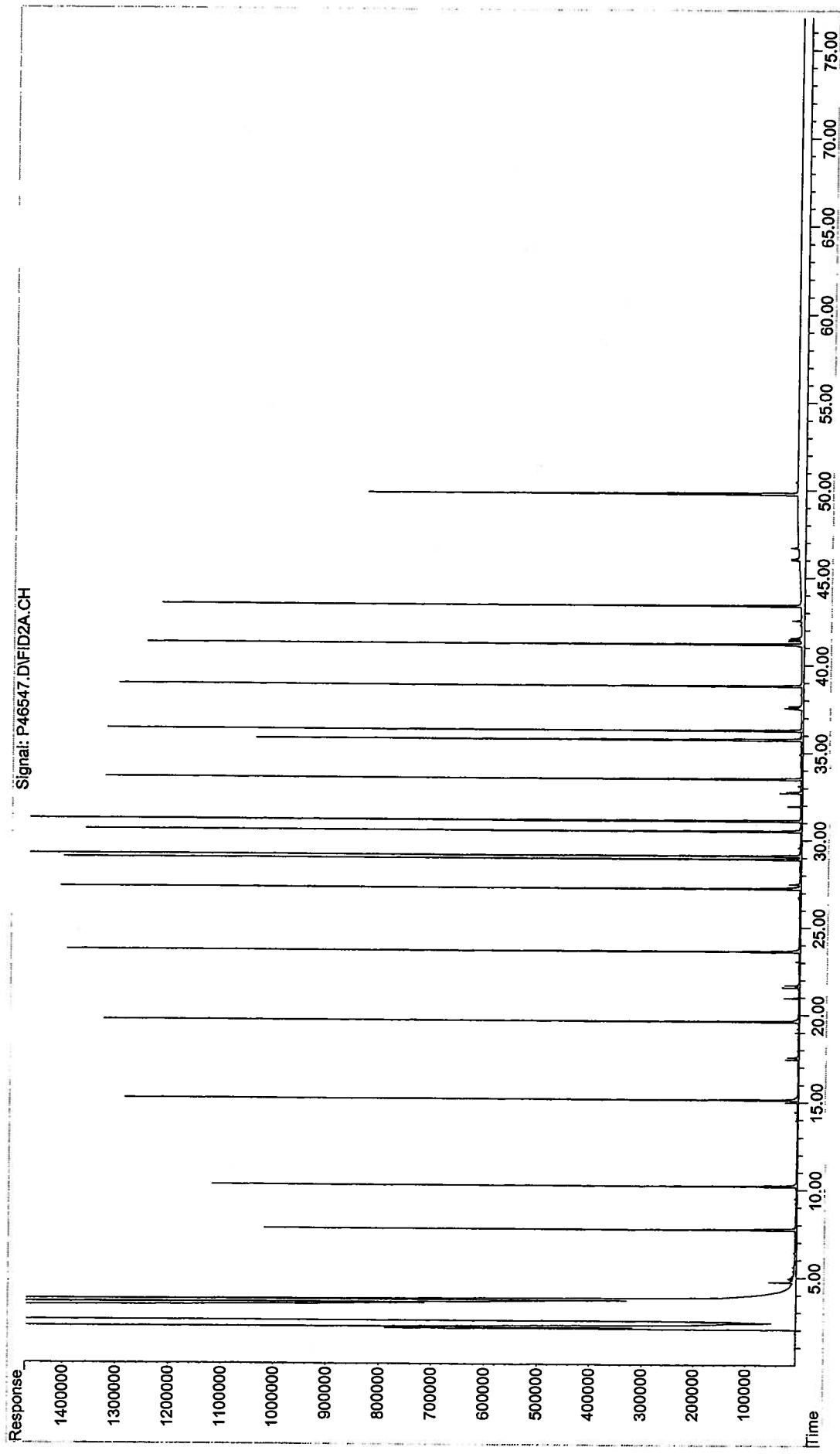


File : Y:\2006 AWHL DATA\Tronox-Columbus\0609121\FID Data\P46545.D
Operator : AC
Acquired : 29 Sep 2006 11:00 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: SS092806LCS01-AFID
Misc Info : 1X ETR0609121
Vial Number: 59

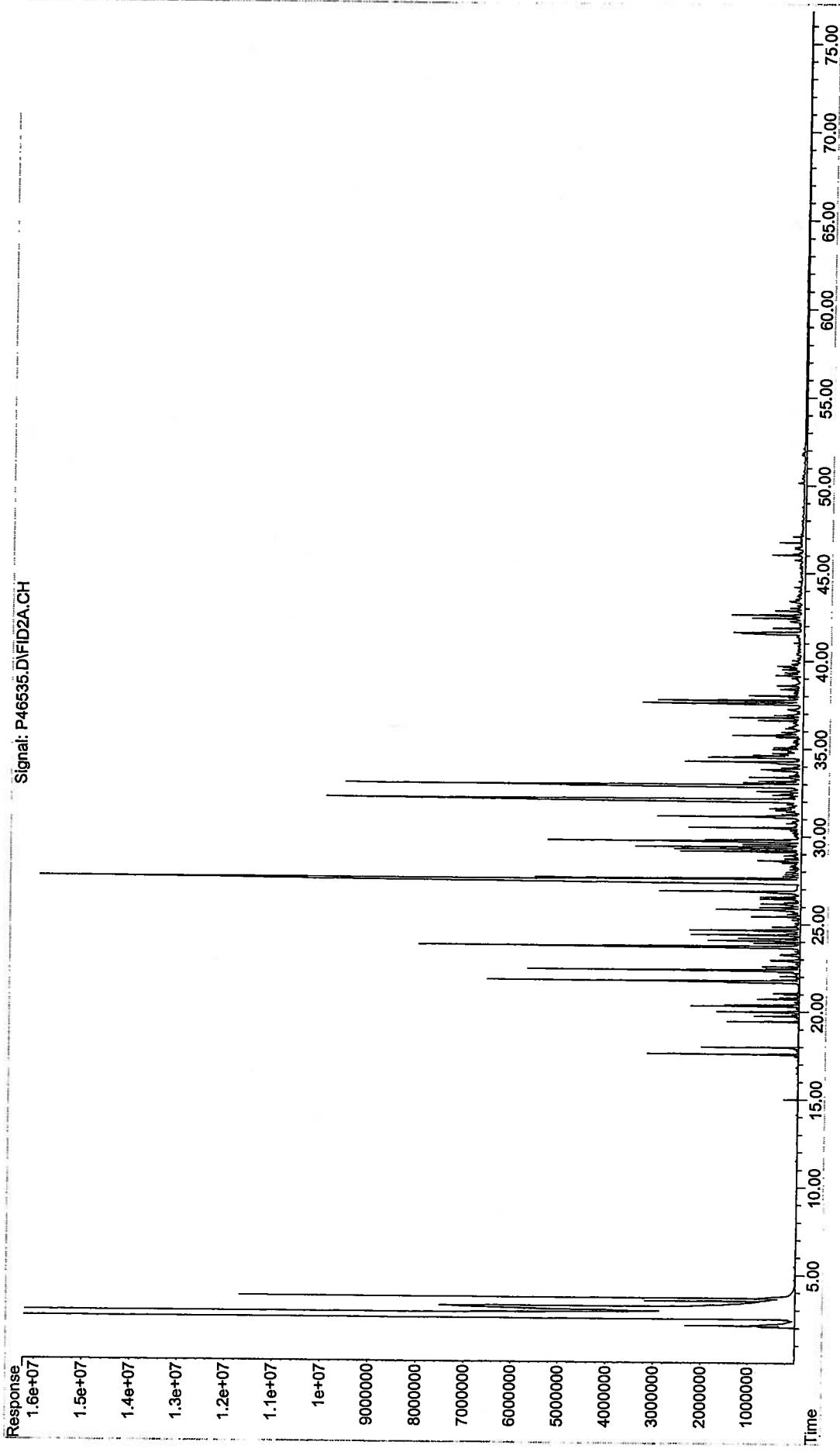


File : Y:\2006 AWHL DATA\Tronox-Columbus\0609121\FID Data\P46547.D
Operator : AC
Acquired : 30 Sep 2006 12:29 am using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: SS092806LCSD01
Misc Info : 1X ETR0609121
Vial Number: 60

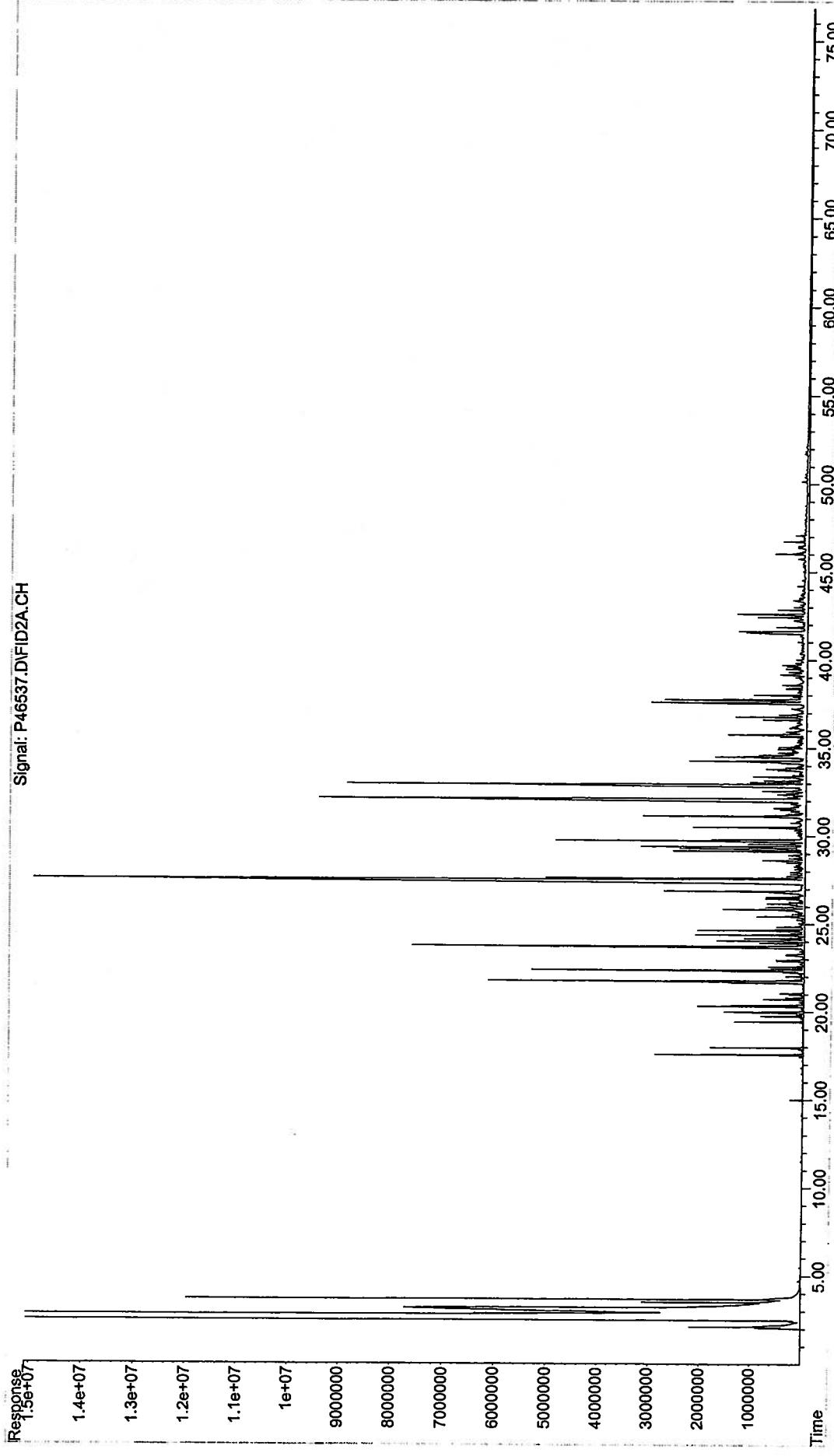
Lab Control Sample Duplicate
SS092806LCSD01



File : Y:\2006 AWHL DATA\Tronox-Columbus\0609121\FID Data\P46535.D
Operator : AC
Acquired : 29 Sep 2006 3:32 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: 0609121-01-AFID
Misc Info : 1X
Vial Number: 54



File : Y:\2006 AWHL DATA\Tronox-Columbus\0609121\FID Data\P46537.D
Operator : AC
Acquired : 29 Sep 2006 5:02 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: 0609121-01D-AFID
Misc Info : 1X
Vial Number: 55



Data Tables

Saturated Hydrocarbon Data

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	PROPS TJ
Lab ID	0609121-01
Matrix	Soil
Reference Method	SHC
Batch ID	SS092806B03
Date Collected	9/27/2006
Date Received	9/28/2006
Date Prepped	9/28/2006
Date Analyzed	9/29/2006
Sample Size (wet)	20.07
% Solid	81.27
File ID	P46535.D
Units	mg/Kg
Final Volume	20
Dilution	1
Reporting Limit	40

Class	Abbrev	Analytes	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	6800	40

Surrogates (% Recovery)

ortho-Terphenyl	74
d50-Tetracosane	77

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPST J	PROPST J
Lab ID	0609121-01	0609121-01D
Matrix	Soil	Soil
Reference Method	SHC	SHC
Batch ID	SS092806B03	SS092806B03
Date Collected	9/27/2006	9/27/2006
Date Received	9/28/2006	9/28/2006
Date Prepped	9/28/2006	9/28/2006
Date Analyzed	9/29/2006	9/29/2006
Sample Size (wet)	20.07	20.17
% Solid	81.27	81.27
File ID	P46535.D	P46537.D
Units	mg/Kg	mg/Kg
Final Volume	20	20
Dilution	1	1
Reporting Limit	40	40

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
SHC	TPH	Total Petroleum Hydrocarbons	6800	40	5800	40	14	30

Surrogates (% Recovery)

ortho-Terphenyl	74	74	0	30
d50-Tetracosane	77	76	1	30

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	Method Blank
Lab ID	SS092806B03
Matrix	Soil
Reference Method	SHC
Batch ID	SS092806B03
Date Collected	N/A
Date Received	N/A
Date Prepped	9/28/2006
Date Analyzed	9/29/2006
Sample Size (wet)	20
% Solid	100
File ID	P46543.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	3.3

Class	Abbrev	Analytes	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	U	3.3

Surrogates (% Recovery)	
ortho-Terphenyl	98
d50-Tetracosane	102

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS092806LCS01
Matrix	Soil
Reference Method	SHC
Batch ID	SS092806B03
Date Collected	N/A
Date Received	N/A
Date Prepped	9/28/2008
Date Analyzed	9/29/2006
Sample Size (wet)	20
% Solid	100
File ID	P46545.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.1

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	
SHC	C9	n-Nonane (C9)	1.4	S	0.10	56	2.5	50	130
SHC	C10	n-Decane (C10)	1.6	S	0.10	66	2.5	50	130
SHC	C12	n-Dodecane (C12)	1.8	S	0.10	73	2.5	50	130
SHC	C14	n-Tetradecane (C14)	1.9	S	0.10	76	2.5	50	130
SHC	C16	n-Hexadecane (C16)	2.1	S	0.10	82	2.5	50	130
SHC	C18	n-Octadecane (C18)	2.0	S	0.10	82	2.5	50	130
SHC	C19	n-Nonadecane (C19)	2.1	S	0.10	83	2.5	50	130
SHC	C20	n-Eicosane (C20)	2.1	S	0.10	83	2.5	50	130
SHC	C22	n-Docosane (C22)	2.1	S	0.10	85	2.5	50	130
SHC	C24	n-Tetracosane (C24)	2.0	S	0.10	82	2.5	50	130
SHC	C26	n-Hexacosane (C26)	2.0	S	0.10	81	2.5	50	130
SHC	C28	n-Octacosane (C28)	2.0	S	0.10	81	2.5	50	130
SHC	C30	n-Triacontane (C30)	2.0	S	0.10	81	2.5	50	130
SHC	C36	n-Hexatriacontane (C36)	2.0	S	0.10	82	2.5	50	130
SHC	TPH	Total Petroleum Hydrocarbons	27		3.3				

Surrogates (% Recovery)	
ortho-Terphenyl	99
d50-Tetracosane	103

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS092806LCS01
Matrix	Soil
Reference Method	SHC
Batch ID	SS092806B03
Date Collected	N/A
Date Received	N/A
Date Prepped	9/28/2006
Date Analyzed	9/30/2006
Sample Size (wet)	20
% Solid	100
File ID	P46547.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.1

Class	Abbrev	Analytes	Result	SSRL	% Rec.	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit	
SHC	C9	n-Nonane (C9)	1.4	S	0.10	57	2.5	50	130	2	30
SHC	C10	n-Decane (C10)	1.6	S	0.10	66	2.5	50	130	0	30
SHC	C12	n-Dodecane (C12)	1.8	S	0.10	72	2.5	50	130	2	30
SHC	C14	n-Tetradecane (C14)	1.9	S	0.10	75	2.5	50	130	2	30
SHC	C16	n-Hexadecane (C16)	2.1	S	0.10	82	2.5	50	130	0	30
SHC	C18	n-Octadecane (C18)	2.0	S	0.10	81	2.5	50	130	0	30
SHC	C19	n-Nonadecane (C19)	2.1	S	0.10	83	2.5	50	130	0	30
SHC	C20	n-Eicosane (C20)	2.1	S	0.10	83	2.5	50	130	0	30
SHC	C22	n-Docosane (C22)	2.1	S	0.10	85	2.5	50	130	0	30
SHC	C24	n-Tetracosane (C24)	2.0	S	0.10	82	2.5	50	130	0	30
SHC	C26	n-Hexacosane (C26)	2.0	S	0.10	81	2.5	50	130	0	30
SHC	C28	n-Octacosane (C28)	2.0	S	0.10	81	2.5	50	130	0	30
SHC	C30	n-Triacontane (C30)	2.0	S	0.10	81	2.5	50	130	0	30
SHC	C36	n-Hexatriacontane (C36)	2.1	S	0.10	83	2.5	50	130	0	30
SHC	TPH	Total Petroleum Hydrocarbons	27		3.3				1	30	

Surrogates (% Recovery)	
ortho-Terphenyl	99
d50-Tetracosane	104

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID Alaska North Slope Crude
Lab ID TS093006AWS01
Matrix Oil
Reference Method SHC
Batch ID N/A
Date Collected N/A
Date Received N/A
Date Prepped N/A
Date Analyzed 9/29/2006
Sample Size (wet) 0.052
% Solid 100
File ID P46531.D
Units mg/Kg
Final Volume 10
Dilution 1
Reporting Limit 190

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	TPH	Total Petroleum Hydrocarbons	600000	6400	96	623913	65	135

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
*: Value outside of QC Limits.
S: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to Interference. (Metals)
**: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

Priority Pollutant PAH Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPSJ
Lab ID	0609121-01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS092806B03
Date Collected	9/27/2006
Date Received	9/28/2008
Date Prepped	9/28/2006
Date Analyzed	9/29/2006
Sample Size (wet)	20.07
% Solid	81.27
File ID	P46542.D
Units	µg/Kg
Final Volume	20
Dilution	10
Reporting Limit	120

Class	Abbrev	Analytes	Result	SSRL
2	N0	Naphthalene	4400	120
3	AY	Acenaphthylene	6900	120
3	AE	Acenaphthene	180000	D 1200
3	F0	Fluorene	250000	D 1200
3	A0	Anthracene	110000	D 1200
3	P0	Phenanthrene	1000000	D 1200
4	FL0	Fluoranthene	560000	D 1200
4	PY0	Pyrene	360000	D 1200
4	BA0	Benz[a]anthracene	110000	120
4	C0	Chrysene/Triphenylene	92000	120
5	BBF	Benzo[b]fluoranthene	37000	120
5	BJKF	Benzo[k]fluoranthene	37000	120
5	BAP	Benzo[a]pyrene	37000	120
6	IND	Indeno[1,2,3-cd]pyrene	14000	120
5	DA	Dibenz[a,h]anthracene	3500	120
6	GHI	Benzo[g,h,i]perylene	10000	120
	TPAH		2811900	

Surrogates (% Recovery)

2-Methylnaphthalene-d10	65
Pyrene-d10	72
Benzo[b]fluoranthene-d12	64

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPST J	PROPST J
Lab ID	0609121-01	0609121-01D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS092806B03	SS092806B03
Date Collected	9/27/2006	9/27/2006
Date Received	9/28/2006	9/28/2006
Date Prepped	9/28/2006	9/28/2006
Date Analyzed	9/29/2006	9/30/2006
Sample Size (wet)	20.07	20.17
% Solid	81.27	81.27
File ID	P46558.D	P46560.D
Units	$\mu\text{g}/\text{Kg}$	$\mu\text{g}/\text{Kg}$
Final Volume	20	20
Dilution	10	10
Reporting Limit	120	120

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	4400	120	3700	120	17	30
3	AY	Acenaphthylene	6900	120	6300	120	9	30
3	AE	Acenaphthene	180000	D 1200	170000	D 1200	5	30
3	F0	Fluorene	250000	D 1200	240000	D 1200	4	30
3	A0	Anthracene	110000	D 1200	100000	D 1200	6	30
3	P0	Phenanthrene	1000000	D 1200	1000000	D 1200	4	30
4	FL0	Fluoranthene	560000	D 1200	540000	D 1200	3	30
4	PY0	Pyrene	360000	D 1200	340000	D 1200	4	30
4	BA0	Benz[a]anthracene	110000	120	94000	120	13	30
4	C0	Chrysene/Triphenylene	92000	120	80000	120	14	30
5	BBF	Benz[b]fluoranthene	37000	120	32000	120	17	30
5	BJKF	Benz[k]fluoranthene	37000	120	34000	120	10	30
5	BAP	Benzo[a]pyrene	37000	120	33000	120	13	30
6	IND	Indeno[1,2,3-cd]pyrene	14000	120	12000	120	12	30
5	DA	Dibenz[a,h]anthracene	3600	120	3200	120	12	30
6	GHI	Benzo[g,h,j]perylene	10000	120	9300	120	13	30
		TPAH	2811900		2697500			

Surrogates (% Recovery)

2-Methylnaphthalene-d10	65	64	2	30
Pyrene-d10	72	71	1	30
Benzo[b]fluoranthene-d12	64	65	2	30

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
*: Value outside of QC Limits.
S: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to Interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to Interference. (Metals)
#: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

Parent and Alkylated PAH Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPST J
Lab ID	0609121-01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS092806803
Date Collected	9/27/2006
Date Received	9/28/2006
Date Prepped	9/28/2006
Date Analyzed	9/29/2006
Sample Size (wet)	20.07
% Solid	81.27
File ID	P46542.D
Units	µg/Kg
Final Volume	20
Dilution	10
Reporting Limit	120

Class	Abbrev	Analytes	Result	SSRL
2	N0	Naphthalene	4400	120
2	N1	C1-Naphthalenes	58000	120
2	N2	C2-Naphthalenes	84000	120
2	N3	C3-Naphthalenes	37000	120
2	N4	C4-Naphthalenes	10000	120
2	B	Biphenyl	22000	120
3	DF	Dibenzofuran	160000 D	1200
3	AY	Acenaphthylene	6900	120
3	AE	Acenaphthene	180000 D	1200
3	F0	Fluorene	250000 D	1200
3	F1	C1-Fluorenes	40000	120
3	F2	C2-Fluorenes	16000	120
3	F3	C3-Fluorenes	8800	120
3	A0	Anthracene	110000 D	1200
3	P0	Phenanthrene	1000000 D	1200
3	PA1	C1-Phenanthrenes/Anthracenes	180000	120
3	PA2	C2-Phenanthrenes/Anthracenes	54000	120
3	PA3	C3-Phenanthrenes/Anthracenes	13000	120
3	PA4	C4-Phenanthrenes/Anthracenes	2800	120
3	DBT0	Dibenzothiophene	80000	120
3	DBT1	C1-Dibenzothiophenes	17000	120
3	DBT2	C2-Dibenzothiophenes	7300	120
3	DBT3	C3-Dibenzothiophenes	3000	120
3	DBT4	C4-Dibenzothiophenes	810	120
4	BF	Benzo(b)fluorene	65000	120
4	FL0	Fluoranthene	560000 D	1200
4	PY0	Pyrene	360000 D	1200
4	FP1	C1-Fluoranthenes/Pyrenes	150000	120
4	FP2	C2-Fluoranthenes/Pyrenes	25000	120
4	FP3	C3-Fluoranthenes/Pyrenes	8100	120
4	FP4	C4-Fluoranthenes/Pyrenes	4100	120
4	NBT0	Naphthobenzothiophenes	27000	120
4	NBT1	C1-Naphthobenzothiophenes	6700	120
4	NBT2	C2-Naphthobenzothiophenes	1900	120
4	NBT3	C3-Naphthobenzothiophenes	910	120
4	NBT4	C4-Naphthobenzothiophenes	310	120
4	BA0	Benz[a]anthracene	110000	120
4	C0	Chrysene/Triphenylene	92000	120
4	BC1	C1-Chrysenes	22000	120
4	BC2	C2-Chrysenes	5800	120
4	BC3	C3-Chrysenes	3300	120
4	BC4	C4-Chrysenes	980	120
5	BBF	Benz[b]fluoranthene	37000	120
5	BJKF	Benz[k]fluoranthene	37000	120
5	BAF	Benzo[a]fluoranthene	8300	120
5	BEP	Benz[e]pyrene	22000	120
5	BAP	Benzo[a]pyrene	37000	120
5	PER	Perylene	9400	120
6	IND	Indeno[1,2,3-cd]pyrene	14000	120
5	DA	Dibenz[a,h]anthracene	3600	120
6	GHI	Benzog[h,i]perylene	10000	120
3	4MDT	4-Methyl dibenzothiophene	5100	120
3	2MDT	2/3-Methyl dibenzothiophene	6200	120
3	1MDT	1-Methyl dibenzothiophene	2200	120
3	3MP	3-Methyl phenanthrene	48000	120
3	2MP	2/4-Methyl phenanthrene	61000	120
3	2MA	2-Methyl anthracene	20000	120
3	9MP	9-Methyl phenanthrene	31000	120
3	1MP	1-Methyl phenanthrene	23000	120
	TPAH		4162920	

Surrogates (% Recovery)

2-Methylnaphthalene-d10	65
Pyrene-d10	72
Benzo[b]fluoranthene-d12	64

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PROPST J	PROPST J
Lab ID	0609121-01	0609121-01D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS092806B03	SS092806B03
Date Collected	9/27/2006	9/27/2006
Date Received	9/28/2006	9/28/2006
Date Prepped	9/28/2006	9/28/2006
Date Analyzed	9/29/2006	9/30/2006
Sample Size (wet)	20.07	20.17
% Solid	81.27	81.27
File ID	P46558.D	P46560.D
Units	µg/Kg	µg/Kg
Final Volume	20	20
Dilution	10	10
Reporting Limit	120	120

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	4400	120	3700	120	17	30
2	N1	C1-Naphthalenes	58000	120	52000	120	12	30
2	N2	C2-Naphthalenes	84000	120	74000	120	13	30
2	N3	C3-Naphthalenes	37000	120	32000	120	14	30
2	N4	C4-Naphthalenes	10000	120	8900	120	12	30
2	B	Biphenyl	22000	120	19000	120	12	30
3	DF	Dibenzofuran	160000	D 1200	150000	D 1200	4	30
3	AY	Acenaphthylene	6900	120	6300	120	9	30
3	AE	Acenaphthrene	180000	D 1200	170000	D 1200	5	30
3	F0	Fluorene	250000	D 1200	240000	D 1200	4	30
3	F1	C1-Fluorenes	40000	120	35000	120	13	30
3	F2	C2-Fluorenes	16000	120	13000	120	17	30
3	F3	C3-Fluorenes	8800	120	7700	120	14	30
3	A0	Anthracene	110000	D 1200	100000	D 1200	6	30
3	P0	Phenanthrene	1000000	D 1200	1000000	D 1200	4	30
3	PA1	C1-Phenanthrenes/Anthracenes	180000	120	160000	120	15	30
3	PA2	C2-Phenanthrenes/Anthracenes	54000	120	47000	120	15	30
3	PA3	C3-Phenanthrenes/Anthracenes	13000	120	11000	120	15	30
3	PA4	C4-Phenanthrenes/Anthracenes	2800	120	2500	120	11	30
3	DBT0	Dibenzothiophene	80000	120	70000	120	14	30
3	DBT1	C1-Dibenzothiophenes	17000	120	15000	120	15	30
3	DBT2	C2-Dibenzothiophenes	7300	120	6400	120	14	30
3	DBT3	C3-Dibenzothiophenes	3000	120	2600	120	17	30
3	DBT4	C4-Dibenzothiophenes	810	120	740	120	8	30
4	BF	Benz(b)fluorene	65000	120	55000	120	17	30
4	FL0	Fluoranthene	560000	D 1200	540000	D 1200	3	30
4	PY0	Pyrene	360000	D 1200	340000	D 1200	4	30
4	FP1	C1-Fluoranthenes/Pyrenes	150000	120	130000	120	15	30
4	FP2	C2-Fluoranthenes/Pyrenes	25000	120	21000	120	16	30
4	FP3	C3-Fluoranthenes/Pyrenes	8100	120	6800	120	18	30
4	FP4	C4-Fluoranthenes/Pyrenes	4100	120	3500	120	15	30
4	NBT0	Naphthobenzothiophenes	27000	120	24000	120	14	30
4	NBT1	C1-Naphthobenzothiophenes	6700	120	5800	120	14	30
4	NBT2	C2-Naphthobenzothiophenes	1900	120	1700	120	13	30
4	NBT3	C3-Naphthobenzothiophenes	910	120	860	120	6	30
4	NBT4	C4-Naphthobenzothiophenes	310	120	300	120	6	30
4	BA0	Benz(a)anthracene	110000	120	94000	120	13	30
4	C0	Chrysene/Triphenylene	92000	120	80000	120	14	30
4	BC1	C1-Chrysenes	22000	120	19000	120	15	30
4	BC2	C2-Chrysenes	5800	120	5000	120	17	30
4	BC3	C3-Chrysenes	3300	120	3100	120	8	30
4	BC4	C4-Chrysenes	990	120	900	120	9	30
5	BBF	Benz(b)fluoranthene	37000	120	32000	120	17	30
5	BJKF	Benz(k)fluoranthene	37000	120	34000	120	10	30
5	BAF	Benz(a)fluoranthene	8300	120	7600	120	8	30
5	BEP	Benz(e)pyrene	22000	120	19000	120	12	30
5	BAP	Benz(a)pyrene	37000	120	33000	120	13	30
5	PER	Perylene	9400	120	8300	120	13	30
6	IND	Indeno[1,2,3-cd]pyrene	14000	120	12000	120	12	30
5	DA	Dibenz(a,h)anthracene	3600	120	3200	120	12	30
6	GHI	Benz(g,h,i)perylene	10000	120	9300	120	13	30
3	4MDT	4-Methyldibenzothiophene	5100	120	4400	120	14	30
3	2MDT	2/3-Methyldibenzothiophene	6200	120	5200	120	17	30
3	1MDT	1-Methyldibenzothiophene	2200	120	1800	120	16	30
3	3MP	3-Methylphenanthrene	48000	120	42000	120	14	30
3	2MP	2/4-Methylphenanthrene	61000	120	52000	120	15	30
3	2MA	2-Methylnaphthalene	20000	120	17000	120	15	30
3	9MP	9-Methylnaphthalene	31000	120	27000	120	14	30
3	1MP	1-Methylnaphthalene	23000	120	19000	120	16	30
	TPAH		4162920		3884600			

Surrogates (% Recovery)					
2-Methylnaphthalene-d10	65	64	2	30	
Pyrene-d10	72	71	1	30	
Benz[b]fluoranthene-d12	64	65	2	30	

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Method Blank
Lab ID	SS092806B03
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS092806B03
Date Collected	N/A
Date Received	N/A
Date Prepped	9/28/2006
Date Analyzed	9/30/2006
Sample Size (wet)	20
% Solid	100
File ID	P46550.D
Units	$\mu\text{g}/\text{Kg}$
Final Volume	2
Dilution	1
Reporting Limit	1

Class	Abbrev	Analytes	Result	SSRL
2	N0	Naphthalene	U	1.0
2	N1	C1-Naphthalenes	U	1.0
2	N2	C2-Naphthalenes	U	1.0
2	N3	C3-Naphthalenes	U	1.0
2	N4	C4-Naphthalenes	U	1.0
2	B	Biphenyl	U	1.0
3	DF	Dibenzofuran	U	1.0
3	AY	Acenaphthylene	0.41	J 1.0
3	AE	Acenaphthene	U	1.0
3	F0	Fluorene	U	1.0
3	F1	C1-Fluorenes	U	1.0
3	F2	C2-Fluorenes	U	1.0
3	F3	C3-Fluorenes	U	1.0
3	A0	Anthracene	U	1.0
3	P0	Phenanthrene	0.25	J 1.0
3	PA1	C1-Phenanthrenes/Anthracenes	U	1.0
3	PA2	C2-Phenanthrenes/Anthracenes	U	1.0
3	PA3	C3-Phenanthrenes/Anthracenes	U	1.0
3	PA4	C4-Phenanthrenes/Anthracenes	U	1.0
3	DBT0	Dibenzothiophene	U	1.0
3	DBT1	C1-Dibenzothiophenes	U	1.0
3	DBT2	C2-Dibenzothiophenes	U	1.0
3	DBT3	C3-Dibenzothiophenes	U	1.0
3	DBT4	C4-Dibenzothiophenes	U	1.0
4	BF	Benz(b)fluorene	U	1.0
4	FL0	Fluoranthene	0.089	J 1.0
4	PY0	Pyrene	U	1.0
4	FP1	C1-Fluoranthenes/Pyrenes	U	1.0
4	FP2	C2-Fluoranthenes/Pyrenes	U	1.0
4	FP3	C3-Fluoranthenes/Pyrenes	U	1.0
4	FP4	C4-Fluoranthenes/Pyrenes	U	1.0
4	NBT0	Naphthobenzothiophenes	U	1.0
4	NBT1	C1-Naphthobenzothiophenes	U	1.0
4	NBT2	C2-Naphthobenzothiophenes	U	1.0
4	NBT3	C3-Naphthobenzothiophenes	U	1.0
4	NBT4	C4-Naphthobenzothiophenes	U	1.0
4	BA0	Benz(a)anthracene	U	1.0
4	C0	Chrysene/Triphenylene	0.13	J 1.0
4	BC1	C1-Chrysenes	U	1.0
4	BC2	C2-Chrysenes	U	1.0
4	BC3	C3-Chrysenes	U	1.0
4	BC4	C4-Chrysenes	U	1.0
5	BBF	Benz[b]fluoranthene	U	1.0
5	BJKF	Benz[k]fluoranthene	U	1.0
5	BAF	Benz[a]fluoranthene	U	1.0
5	BEP	Benz[e]pyrene	U	1.0
5	BAP	Benz[a]pyrene	U	1.0
5	PER	Perylene	U	1.0
6	IND	Indeno[1,2,3-cd]pyrene	U	1.0
5	DA	Dibenzo[a,h]anthracene	U	1.0
6	GHI	Benzog,h,lperylene	U	1.0
3	4MDT	4-Methylbenzothiophene	U	1.0
3	2MDT	2-Methylbenzothiophene	U	1.0
3	1MDT	1-Methylbenzothiophene	U	1.0
3	3MP	3-Methylphenanthrene	U	1.0
3	2MP	2/4-Methylphenanthrene	U	1.0
3	2MA	2-Methylnaphthalene	U	1.0
3	9MP	9-Methylnaphthalene	U	1.0
3	1MP	1-Methylnaphthalene	U	1.0

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 81
 Pyrene-d10 97
 Benzo[b]fluoranthene-d12 88



Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS092806LCS01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS092806B03
Date Collected	N/A
Date Received	N/A
Date Prepped	9/28/2006
Date Analyzed	9/30/2006
Sample Size (wet)	20
% Solid	100
File ID	P46552.D
Units	µg/Kg
Final Volume	2
Dilution	1
Reporting Limit	1

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	40 S 1.0	81	50	50	50	130
2	N1	C1-Naphthalenes	U 1.0					
2	N2	C2-Naphthalenes	U 1.0					
2	N3	C3-Naphthalenes	U 1.0					
2	N4	C4-Naphthalenes	U 1.0					
2	B	Biphenyl	U 1.0					
3	DF	Dibenzofuran	U 1.0					
3	AY	Acenaphthylene	38 S 1.0	76	50	50	50	130
3	AE	Acenaphthene	39 S 1.0	78	50	50	50	130
3	F0	Fluorene	36 S 1.0	73	50	50	50	130
3	F1	C1-Fluorenes	U 1.0					
3	F2	C2-Fluorenes	U 1.0					
3	F3	C3-Fluorenes	U 1.0					
3	A0	Anthracene	37 S 1.0	74	50	50	50	130
3	P0	Phenanthrene	37 S 1.0	73	50	50	50	130
3	PA1	C1-Phenanthrenes/Anthracenes	U 1.0					
3	PA2	C2-Phenanthrenes/Anthracenes	U 1.0					
3	PA3	C3-Phenanthrenes/Anthracenes	U 1.0					
3	PA4	C4-Phenanthrenes/Anthracenes	U 1.0					
3	DBT0	Dibenzothiophene	U 1.0					
3	DBT1	C1-Dibenzothiophenes	U 1.0					
3	DBT2	C2-Dibenzothiophenes	U 1.0					
3	DBT3	C3-Dibenzothiophenes	U 1.0					
3	DBT4	C4-Dibenzothiophenes	U 1.0					
4	BF	Benzo(b)fluorene	U 1.0					
4	FL0	Fluoranthene	37 S 1.0	73	50	50	50	130
4	PY0	Pyrene	40 S 1.0	80	50	50	50	130
4	FP1	C1-Fluoranthenes/Pyrenes	U 1.0					
4	FP2	C2-Fluoranthenes/Pyrenes	U 1.0					
4	FP3	C3-Fluoranthenes/Pyrenes	U 1.0					
4	FP4	C4-Fluoranthenes/Pyrenes	U 1.0					
4	NBT0	Naphthobenzothiophenes	U 1.0					
4	NBT1	C1-Naphthobenzothiophenes	U 1.0					
4	NBT2	C2-Naphthobenzothiophenes	U 1.0					
4	NBT3	C3-Naphthobenzothiophenes	U 1.0					
4	NBT4	C4-Naphthobenzothiophenes	U 1.0					
4	BA0	Benz[a]anthracene	36 S 1.0	72	50	50	50	130
4	C0	Chrysene/Triphenylene	40 S 1.0	80	50	50	50	130
4	BC1	C1-Chrysenes	U 1.0					
4	BC2	C2-Chrysenes	U 1.0					
4	BC3	C3-Chrysenes	U 1.0					
4	BC4	C4-Chrysenes	U 1.0					
5	BBF	Benzo[b]fluoranthene	37 S 1.0	74	50	50	50	130
5	BJKF	Benzo[j]fluoranthene	42 S 1.0	83	50	50	50	130
5	BAF	Benzo[a]fluoranthene	U 1.0					
5	BEP	Benzo[e]pyrene	U 1.0					
5	BAP	Benzo[a]pyrene	38 S 1.0	76	50	50	50	130
5	PER	Perylene	U 1.0					
6	IND	Indeno[1,2,3-cd]pyrene	39 S 1.0	78	50	50	50	130
5	DA	Dibenzo[a,h]anthracene	40 S 1.0	79	50	50	50	130
6	GHI	Benzog[h,i]perylene	38 S 1.0	76	50	50	50	130
3	4MDT	4-Methylbenzothiophene	U 1.0					
3	2MDT	2/3-Methylbenzothiophene	U 1.0					
3	1MDT	1-Methylbenzothiophene	U 1.0					
3	3MP	3-Methylphenanthrene	U 1.0					
3	2MP	2/4-Methylphenanthrene	U 1.0					
3	2MA	2-Methylnaphthalene	U 1.0					
3	9MP	9-Methylphenanthrene	U 1.0					
3	1MP	1-Methylphenanthrene	U 1.0					

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 91
 Pyrene-d10 95
 Benzo[b]fluoranthene-d12 93

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS092806LCSD01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS092806B03
Date Collected	N/A
Date Received	N/A
Date Prepped	9/28/2006
Date Analyzed	9/30/2006
Sample Size (wet)	20
% Solid	100
File ID	P46554.D
Units	µg/Kg
Final Volume	2
Dilution	1
Reporting Limit	1

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
2	N0	Naphthalene	39	S 1.0	77	50	50	130	4	30
2	N1	C1-Naphthalenes		U 1.0						
2	N2	C2-Naphthalenes		U 1.0						
2	N3	C3-Naphthalenes		U 1.0						
2	N4	C4-Naphthalenes		U 1.0						
2	B	Biphenyl		U 1.0						
3	DF	Dibenzofuran		U 1.0						
3	AY	Acenaphthylene	37	S 1.0	75	50	50	130	2	30
3	AE	Acenaphthene	38	S 1.0	76	50	50	130	2	30
3	F0	Fluorene	36	S 1.0	72	50	50	130	2	30
3	F1	C1-Fluorenes		U 1.0						
3	F2	C2-Fluorenes		U 1.0						
3	F3	C3-Fluorenes		U 1.0						
3	A0	Anthracene	37	S 1.0	73	50	50	130	1	30
3	P0	Phenanthrene	36	S 1.0	72	50	50	130	2	30
3	PA1	C1-Phenanthrenes/Anthracenes		U 1.0						
3	PA2	C2-Phenanthrenes/Anthracenes		U 1.0						
3	PA3	C3-Phenanthrenes/Anthracenes		U 1.0						
3	PA4	C4-Phenanthrenes/Anthracenes		U 1.0						
3	DBT0	Dibenzothiophene		U 1.0						
3	DBT1	C1-Dibenzothiophenes		U 1.0						
3	DBT2	C2-Dibenzothiophenes		U 1.0						
3	DBT3	C3-Dibenzothiophenes		U 1.0						
3	DBT4	C4-Dibenzothiophenes		U 1.0						
4	BF	Benzo(b)fluorene		U 1.0						
4	FL0	Fluoranthene	36	S 1.0	71	50	50	130	3	30
4	PY0	Pyrene	39	S 1.0	78	50	50	130	2	30
4	FP1	C1-Fluoranthenes/Pyrenes		U 1.0						
4	FP2	C2-Fluoranthenes/Pyrenes		U 1.0						
4	FP3	C3-Fluoranthenes/Pyrenes		U 1.0						
4	FP4	C4-Fluoranthenes/Pyrenes		U 1.0						
4	NBT0	Naphthobenzothiophenes		U 1.0						
4	NBT1	C1-Naphthobenzothiophenes		U 1.0						
4	NBT2	C2-Naphthobenzothiophenes		U 1.0						
4	NBT3	C3-Naphthobenzothiophenes		U 1.0						
4	NBT4	C4-Naphthobenzothiophenes		U 1.0						
4	BA0	Benz[a]anthracene	36	S 1.0	71	50	50	130	1	30
4	C0	Chrysene/Triphenylene	40	S 1.0	81	50	50	130	0	30
4	BC1	C1-Chrysenes		U 1.0						
4	BC2	C2-Chrysenes		U 1.0						
4	BC3	C3-Chrysenes		U 1.0						
4	BC4	C4-Chrysenes		U 1.0						
5	BBF	Benz[b]fluoranthene	36	S 1.0	72	50	50	130	2	30
5	BJKF	Benz[j]fluoranthene	41	S 1.0	81	50	50	130	2	30
5	BAF	Benz[a]f]luoranthene		U 1.0						
5	BEP	Benz[e]pyrene		U 1.0						
5	BAP	Benz[a]p]yrene	37	S 1.0	74	50	50	130	2	30
5	PER	Perylene		U 1.0						
6	IND	Indeno[1,2,3-cd]pyrene	37	S 1.0	75	50	50	130	4	30
5	DA	Dibenzo[a,h]anthracene	38	S 1.0	77	50	50	130	3	30
6	GHI	Benz[g,h,i]perylene	36	S 1.0	73	50	50	130	3	30
3	4MDT	4-Methyldibenzothiophene		U 1.0						
3	2MDT	2/3-Methyldibenzothiophene		U 1.0						
3	1MDT	1-Methyldibenzothiophene		U 1.0						
3	3MP	3-Methylphenanthrene		U 1.0						
3	2MP	2/4-Methylphenanthrene		U 1.0						
3	2MA	2-Methylnaphthalene		U 1.0						
3	9MP	9-Methylphenanthrene		U 1.0						
3	1MP	1-Methylphenanthrene		U 1.0						

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 88
 Pyrene-d10 95
 Benzo[b]fluoranthene-d12 93

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

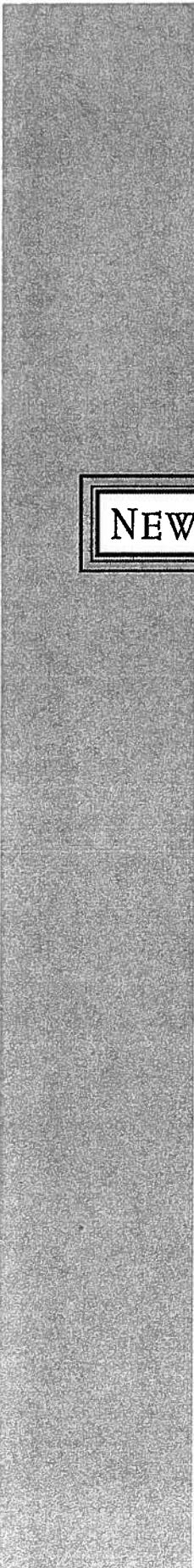
Client ID	Alaska North Slope Crude
Lab ID	SO053106AWS01
Matrix	Oil
Reference Method	Modified 8270C
Batch ID	N/A
Date Collected	N/A
Date Received	N/A
Date Prepped	N/A
Date Analyzed	5/30/2006
Sample Size (wet)	0.051
% Solid	100
File ID	P45492.D
Units	mg/kg
Final Volume	10
Dilution	1
Reporting Limit	2

Class	Abbrev	Analyses	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	690	2.0	103	669.92	65	135
2	N1	C1-Naphthalenes	1500	2.0	103	1432.05	65	135
2	N2	C2-Naphthalenes	1800	2.0	102	1770.37	65	135
2	N3	C3-Naphthalenes	1300	2.0	100	1321.83	65	135
2	N4	C4-Naphthalenes	730	2.0	99	731.64	65	135
2	B	Biphenyl	200	2.0	105	190.38	65	135
3	DF	Dibenzofuran	66	2.0				
3	AY	Acenaphthylene	6.4	2.0				
3	AE	Acenaphthene	20	2.0	139	14.71	65	135
3	F0	Fluorene	80	2.0	103	77.57	65	135
3	F1	C1-Fluorenes	200	2.0	96	203.54	65	135
3	F2	C2-Fluorenes	280	2.0	90	314.43	65	135
3	F3	C3-Fluorenes	270	2.0	92	290.03	65	135
3	A0	Anthracene	U	2.0				
3	P0	Phenanthrene	260	2.0	99	259.89	65	135
3	PA1	C1-Phenanthrenes/Anthracenes	530	2.0	98	545.98	65	135
3	PA2	C2-Phenanthrenes/Anthracenes	600	2.0	102	587.69	65	135
3	PA3	C3-Phenanthrenes/Anthracenes	410	2.0	96	428.71	65	135
3	PA4	C4-Phenanthrenes/Anthracenes	150	2.0	96	159.5	65	135
3	DBT0	Dibenzothiophene	210	2.0	101	210.91	65	135
3	DBT1	C1-Dibenzothiophenes	400	2.0	100	396.93	65	135
3	DBT2	C2-Dibenzothiophenes	520	2.0	97	538.82	65	135
3	DBT3	C3-Dibenzothiophenes	450	2.0	97	464.97	65	135
3	DBT4	C4-Dibenzothiophenes	240	2.0	101	243.14	65	135
4	BF	Benzo(b)fluorlene	U	2.0				
4	FL0	Fluoranthene	3.9	2.0	94	4.14	65	135
4	PY0	Pyrene	13	2.0	105	12.07	65	135
4	FP1	C1-Fluoranthenes/Pyrenes	70	2.0	97	72.24	65	135
4	FP2	C2-Fluoranthenes/Pyrenes	120	2.0	99	120.66	65	135
4	FP3	C3-Fluoranthenes/Pyrenes	130	2.0	100	130.08	65	135
4	FP4	C4-Fluoranthenes/Pyrenes	110	2.0				
4	NBT0	Naphthobenzothiophenes	54	2.0				
4	NBT1	C1-Naphthobenzothiophenes	150	2.0				
4	NBT2	C2-Naphthobenzothiophenes	180	2.0				
4	NBT3	C3-Naphthobenzothiophenes	140	2.0				
4	NBT4	C4-Naphthobenzothiophenes	92	2.0				
4	BA0	Benz[a]anthracene	1.6	J	2.0			
4	C0	Chrysene/Triphenylene	44	2.0	89	49.55	65	135
4	BC1	C1-Chrysenes	80	2.0	96	82.86	65	135
4	BC2	C2-Chrysenes	95	2.0	93	102.78	65	135
4	BC3	C3-Chrysenes	100	2.0	94	107.68	65	135
4	BC4	C4-Chrysenes	59	2.0	94	62.56	65	135
5	BBF	Benzo[b]fluoranthene	5.8	2.0	100	5.79	65	135
5	BJKF	Benzo[k]fluoranthene	U	2.0				
5	BAF	Benzo[a]fluoranthene	0.99	J	2.0			
5	BEP	Benzo[e]pyrene	11	2.0	91	12.05	65	135
5	BAP	Benzo[a]pyrene	1.5	J	2.0			
5	PER	Perylene	1.2	J	2.0			
6	IND	Indeno[1,2,3-cd]pyrene	0.59	J	2.0			
5	DA	Dibenz[a,h]anthracene	0.83	J	2.0	88	0.94	65
6	GHI	Benzo[g,h,i]perylene	3.3	2.0	96	3.47	65	135
3	4MDT	4-Methylbenzothiophene	200	2.0				
3	2MDT	2/3-Methylbenzothiophene	140	2.0				
3	1MDT	1-Methylbenzothiophene	60	2.0				
3	3MP	3-Methylphenanthrene	110	2.0				
3	2MP	2/4-Methylphenanthrene	120	2.0				
3	2MA	2-Methylnaphthalene	3.3	2.0				
3	9MP	9-Methylphenanthrene	170	2.0				
3	1MP	1-Methylphenanthrene	120	2.0				

NEWFIELDS

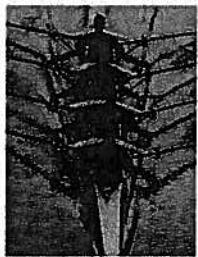
List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
*: Value outside of QC Limits.
\$: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to Interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to interference. (Metals)
#: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Projct DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)



NEWFIELDS

new INSIGHT | new DIRECTION | new DECISION



Tronox-Columbus
September 2006 Investigation
Data Deliverable #4

Chain of Custody



Analysis Request / Environmental Services Chain of Custody

For Lancaster Laboratories use only
Acct. # _____ Group# _____ Sample # _____

COC # 0140304

06/12/08

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: ERM		2 Sample ID:		3 Date Collected:		4 Laboratory:		5 Preservation Codes		6 Preservative Codes		7 Turnaround Time Requested (TAT) (please circle):		8 Data Package Options (please circle if required)			
Project Name#: Senior, Colleen PWSID: NIS		P.O.#: 0059372		Quote #: _____		Name of state where samples were collected: MS								Normal		Rush	
Project Manager: Jon Hamilton		Sampler: Deepu Deethan												Date		Date	
														Time		Time	
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														DCEPU DEETHAN		DCEPU DEETHAN	
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														12:14 18:15		12:14 18:15	
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														Loyola		Loyola	
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														12:14 18:15		12:14 18:15	
														Received by:		Received by:	
														Loyola		Loyola	
														Date		Date	
														Time		Time	
														12:14 18:15		12:14 18:15	
														Received by:		Received by:	
														Loyola		Loyola	
</																	

Sample Receipt Checklist

Page 1 of 1

Client: <u>NEWFIE</u>	Receipt Date: <u>12/15/06</u>
Project: <u>Troox - Columbus</u>	Log-in Date:
ETR #: <u>0612081</u>	Inspection by: <u>W</u> Login by: <u>W</u>

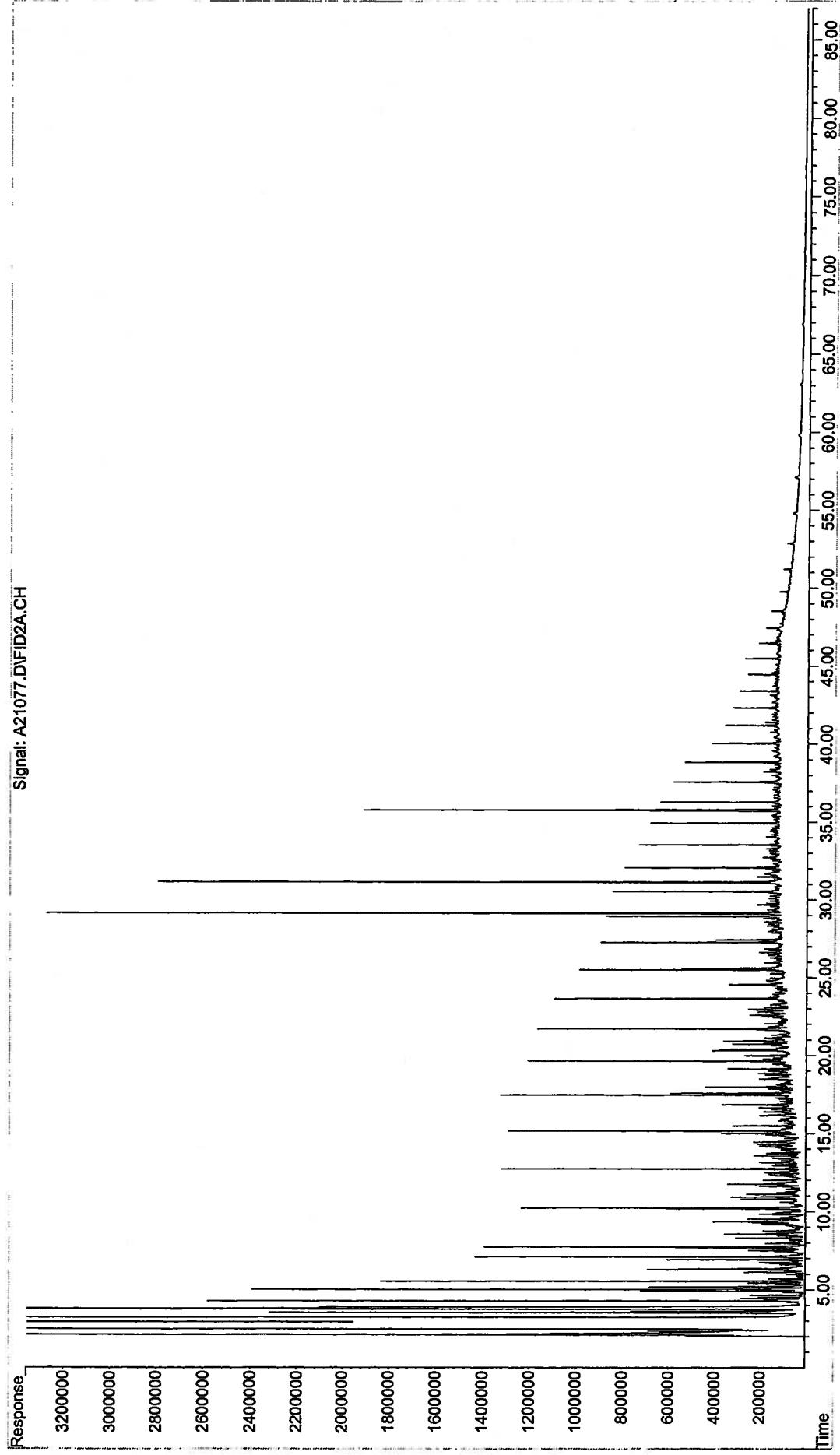
ALL SECTIONS BELOW MUST BE COMPLETED

Comments / Notes

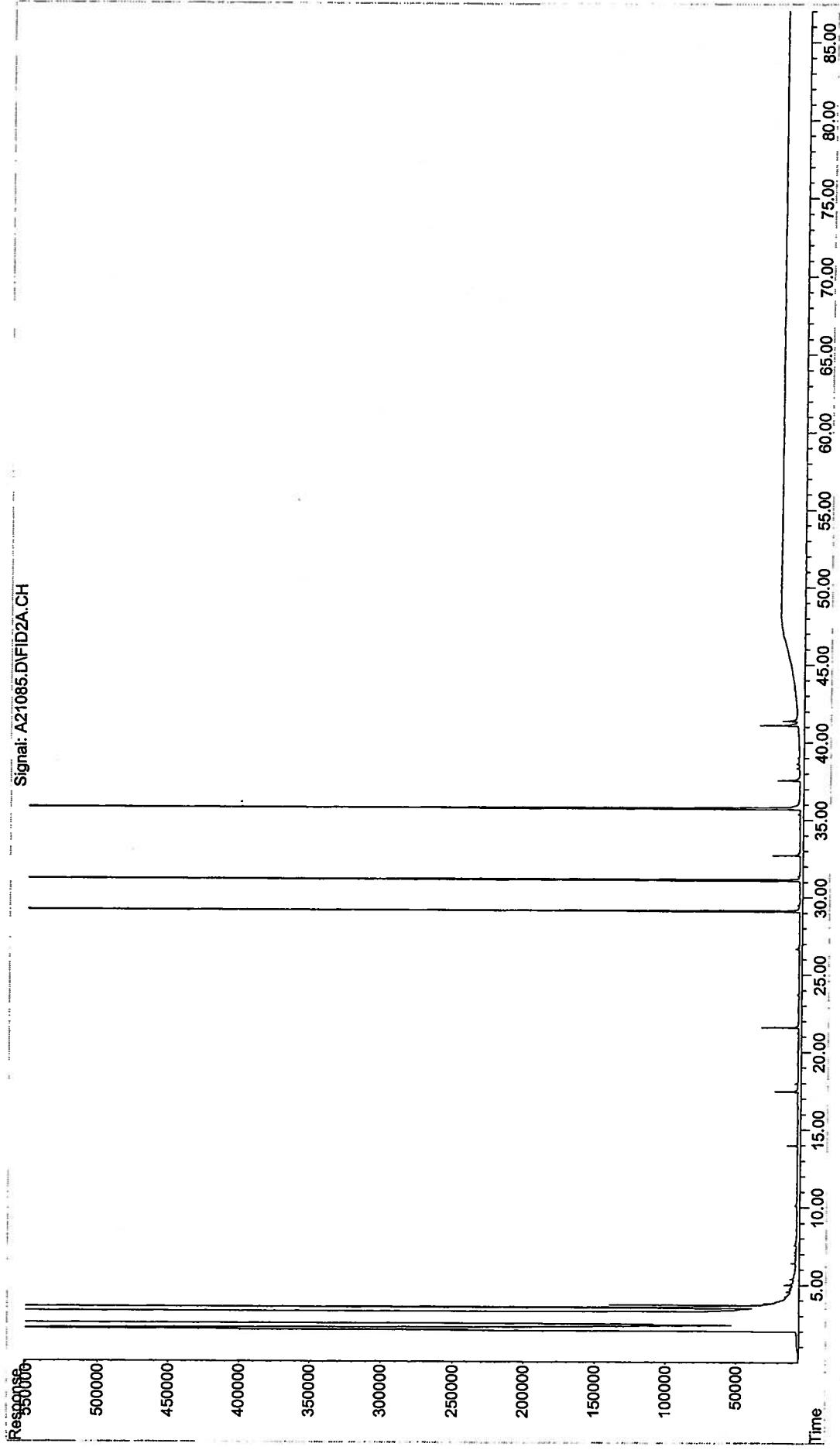
Were samples shipped? <input checked="" type="checkbox"/> Yes, FedEx / UPS / Other: _____ <input type="checkbox"/> No, WHG Courier pick-up / Hand delivered	Sample storage refrigerator #: <u>D1</u>
Is bill of lading retained? <input checked="" type="checkbox"/> Yes, Tracking #: <u>ATTACHED</u> <input type="checkbox"/> No, Unavailable / NA	Sample storage freezer #: _____
Number of coolers received for this project delivery: <u>1</u>	Cooler 2: _____ Cooler 3: _____
Indicate cooler temperature upon opening (if multiple coolers, record <u>all</u> temps): Note: If <u>all</u> coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note <u>all</u> samples received <u>above</u> 6°C.	Cooler 4: _____ Cooler 5: _____
Cooler 1: Temperature(s) taken from: <u>3°</u> IR Gun, _____ Temp. Blank, / NA	Cooler 6: _____ Cooler 7: _____
Were samples received on ice? <input checked="" type="checkbox"/> Yes / No	More: _____
Chain-of-Custody present? <input checked="" type="checkbox"/> Yes / No Complete? <input checked="" type="checkbox"/> Yes / No	
Custody seals present on Cooler? Yes / <input checked="" type="checkbox"/> No on Bottles? Yes / <input checked="" type="checkbox"/> No Intact? Yes / No / <input checked="" type="checkbox"/> NA	
<i>Note: Affix custody seals to back of this page.</i>	
Were sample containers intact? <input checked="" type="checkbox"/> Yes / No	If No, list samples: →
Did VOA/VPH waters contain headspace (>5mm)? Yes / No / <input checked="" type="checkbox"/> NA	If Yes, list samples: →
Were 5035 VOA soils, or VPH soils, <u>covered</u> with MeOH? Yes / No / <input checked="" type="checkbox"/> NA	If No, list samples: →
Was a sufficient amount of sample received for each test indicated on the COC? <input checked="" type="checkbox"/> Yes / No	If No, list samples: →
<i>If chemical preservation is appropriate -</i>	
Were samples field preserved? <input checked="" type="checkbox"/> Yes / No / <input checked="" type="checkbox"/> NA	Chemical preservation OK for ALL samples?
<input type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=S ₂ O ₈ <input type="checkbox"/> H=NaOH <input type="checkbox"/> N=NHO ₃ , <input type="checkbox"/> Other: _____ <input type="checkbox"/> U=Unknown	
Preservation (pH) verified at lab for <u>EVERY</u> bottle? (<u>Note:</u> VOA / VPH / Sulfide)	
YES: <2 or >12 (CN) or NO <input checked="" type="checkbox"/> NA	
If No, why?: _____	
Were samples received within hold time? <input checked="" type="checkbox"/> Yes / No	If No, list samples: →
Discrepancy between samples rec'd & COC? Yes / <input checked="" type="checkbox"/> No	If Yes, list samples: →
Was the Project Manager notified of any other problems? Yes / No / <input checked="" type="checkbox"/> NA	
Project Manager Acknowledgement: <u>NJL</u>	Date: <u>12/15/06</u>
<i>Please use back for any additional notes!</i>	

FID Chromatograms

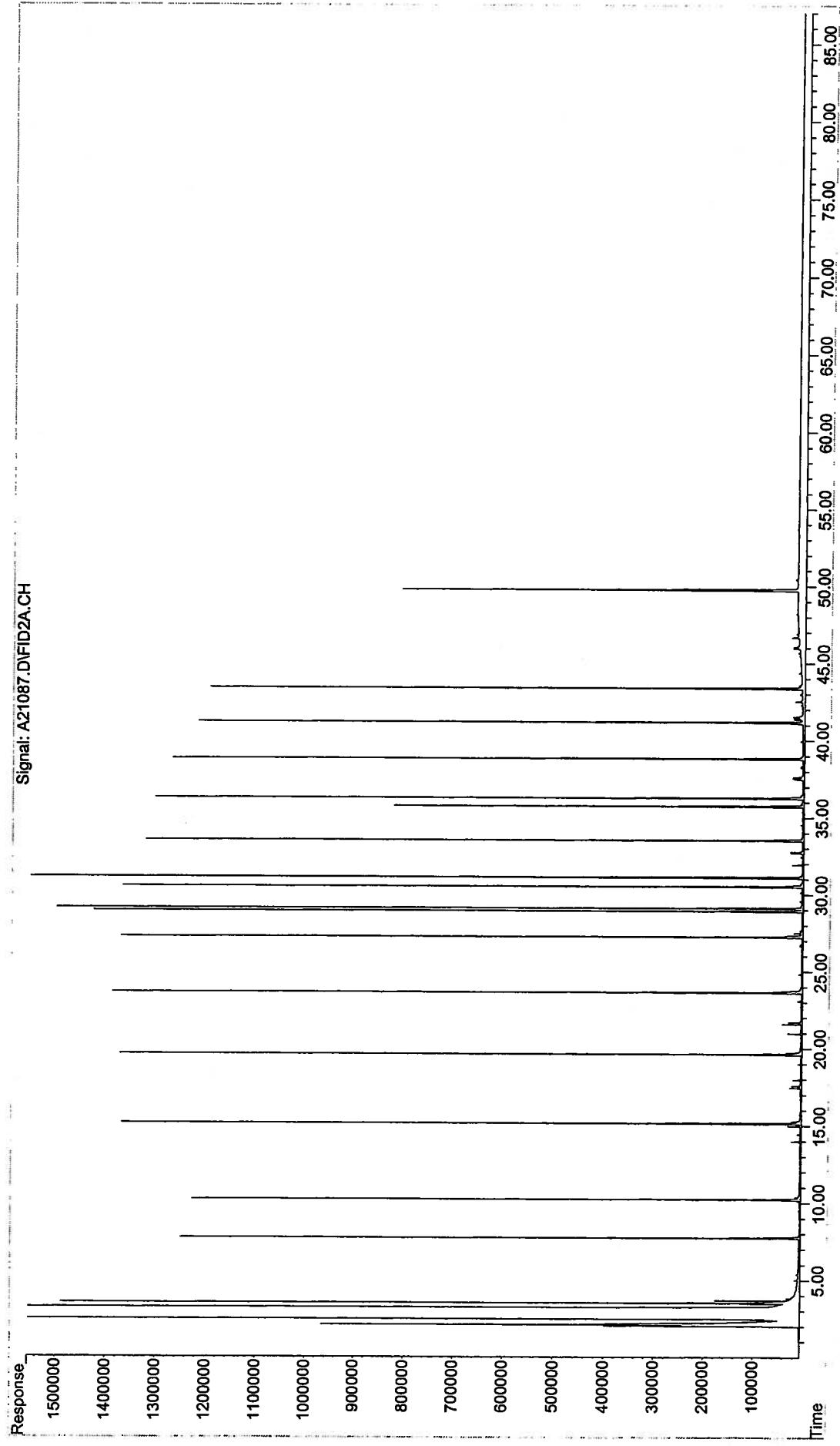
File : Y:\2006 AWHL DATA\Tronox-Columbus\0612081\FID Prelim\A21077.D
Operator : AC
Acquired : 18 Dec 2006 7:10 pm using AcqMethod FRNC2B.M
Instrument : PAHINST2
Sample Name: ANS2121801-AFID
Misc Info : ANS LO
Vial Number: 52



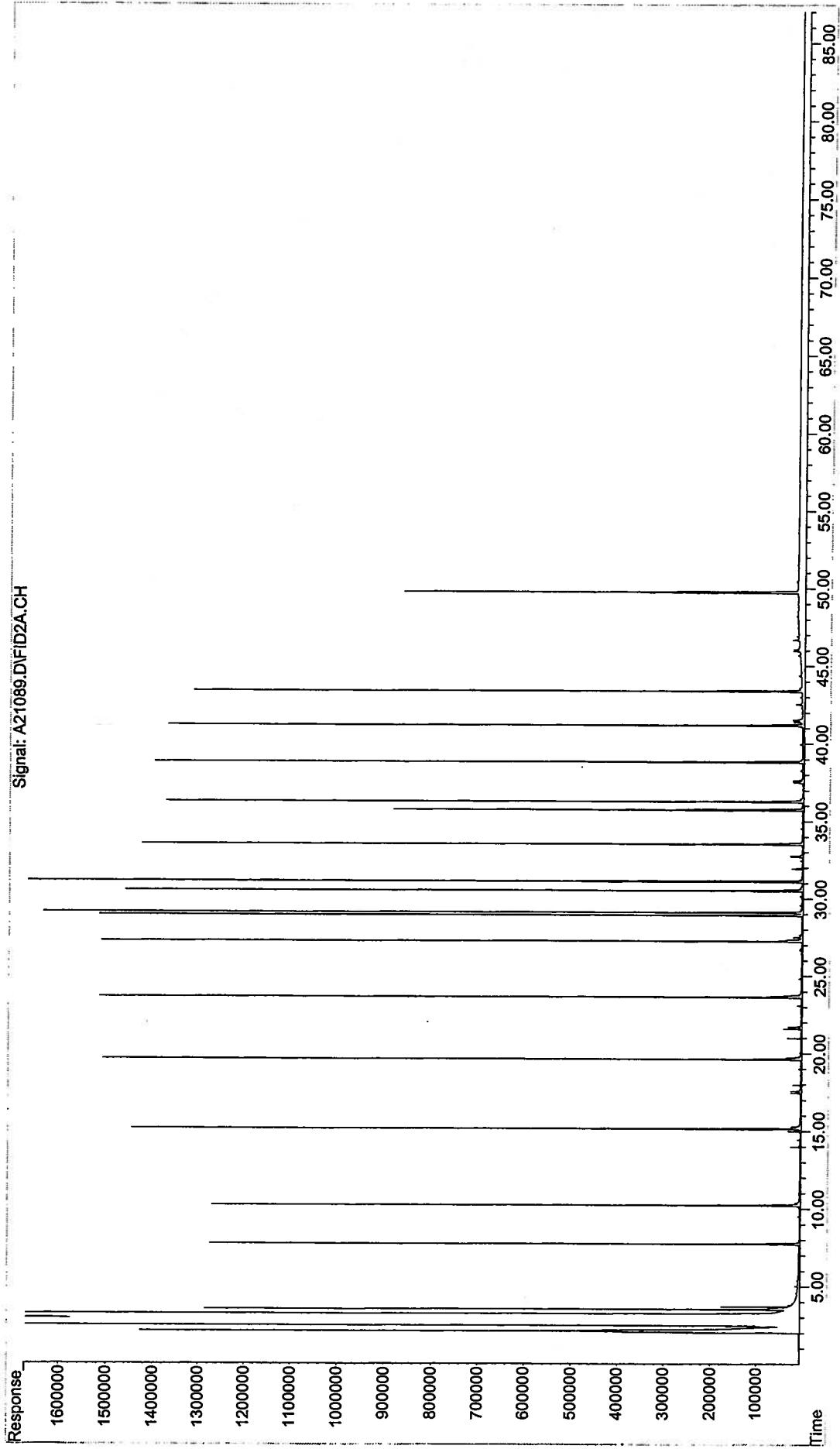
File : Y:\2006 AWHL DATA\Tronox-Columbus\0612081\FID Prelim\A21085.D
Operator : AC
Acquired : 19 Dec 2006 2:53 am using AcqMethod FRNC2B.M
Instrument : PAHINST2
Sample Name: SS121506B01-AFID
Misc Info : 1X ETR0612081
Vial Number: 56



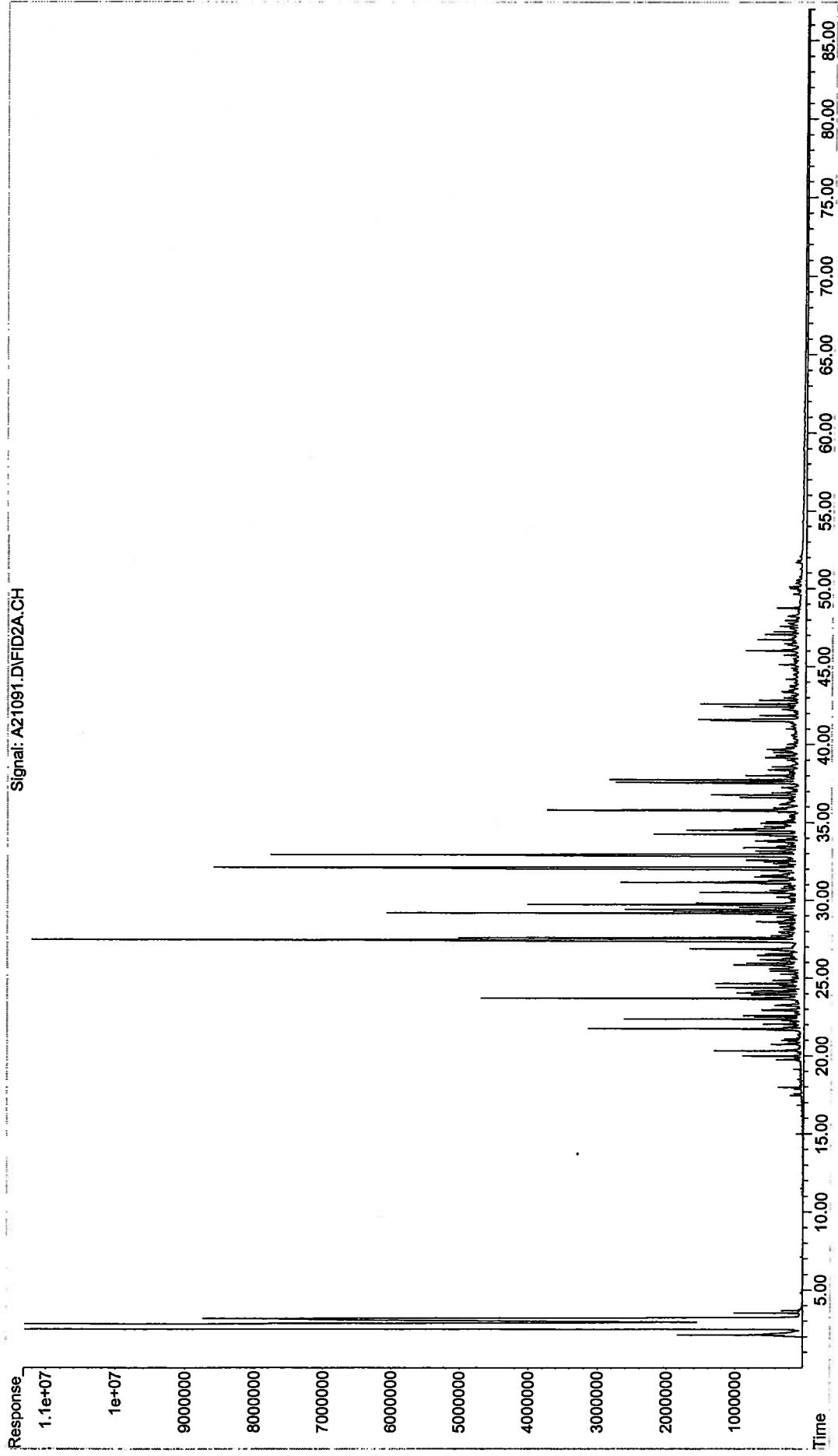
File : Y:\2006 AWHL DATA\Tronox-Columbus\0612081\FID Prelim\A21087.D
Operator : AC
Acquired : 19 Dec 2006 4:34 am using AcqMethod FRNC2B.M
Instrument : PAHINST2
Sample Name: SS121506LCS01-AFID
Misc Info : 1X ETR0612081
Vial Number: 57



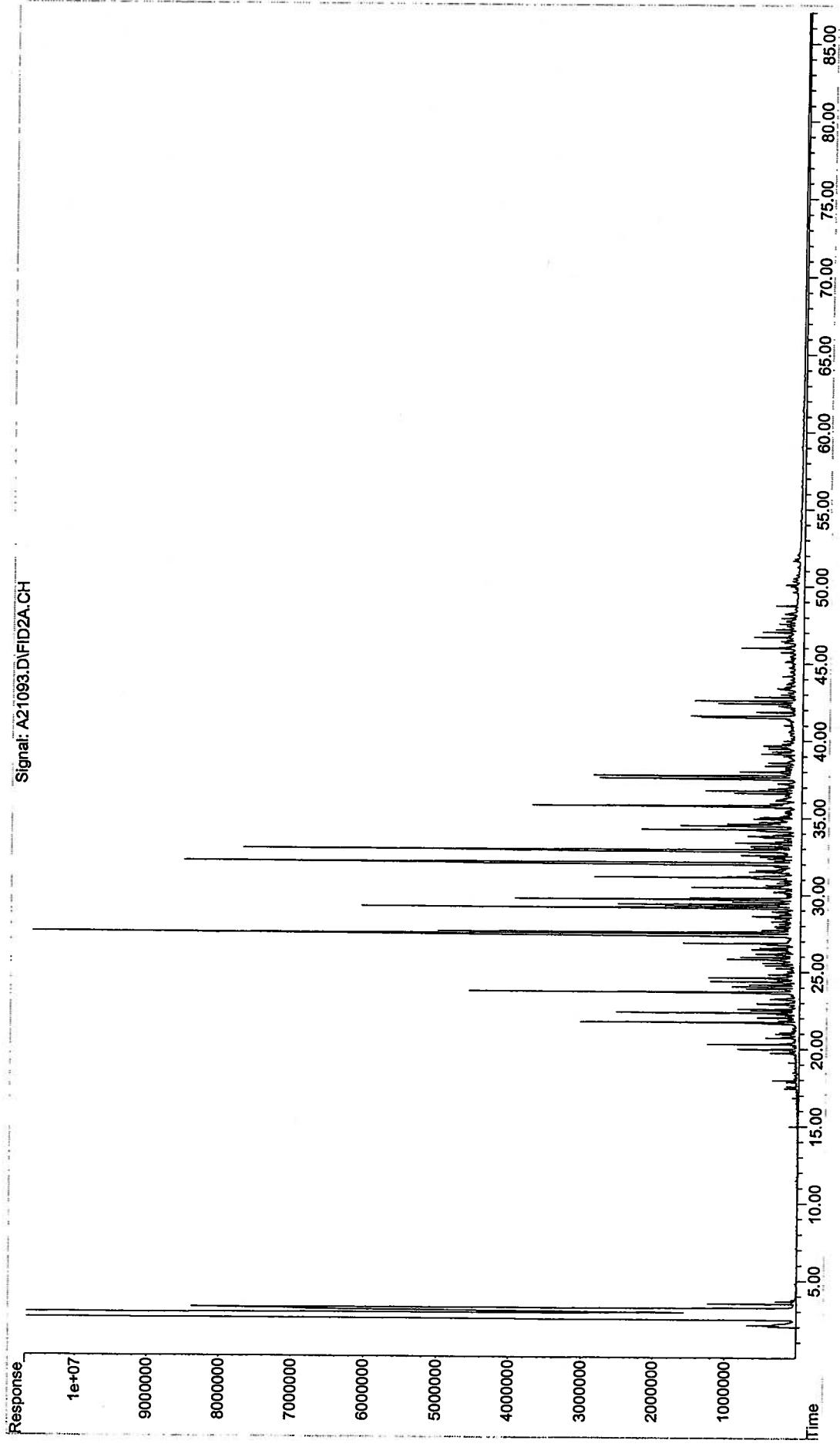
File : Y:\2006 AWHL DATA\Tronox-Columbus\0612081\FID Prelim\A21089.D
Operator : AC
Acquired : 19 Dec 2006 6:14 am using AcqMethod FRNC2B.M
Instrument : PAHINST2
Sample Name: SS121506LCSD01-AFID
Misc Info : 1X ETR0612081
Vial Number: 58



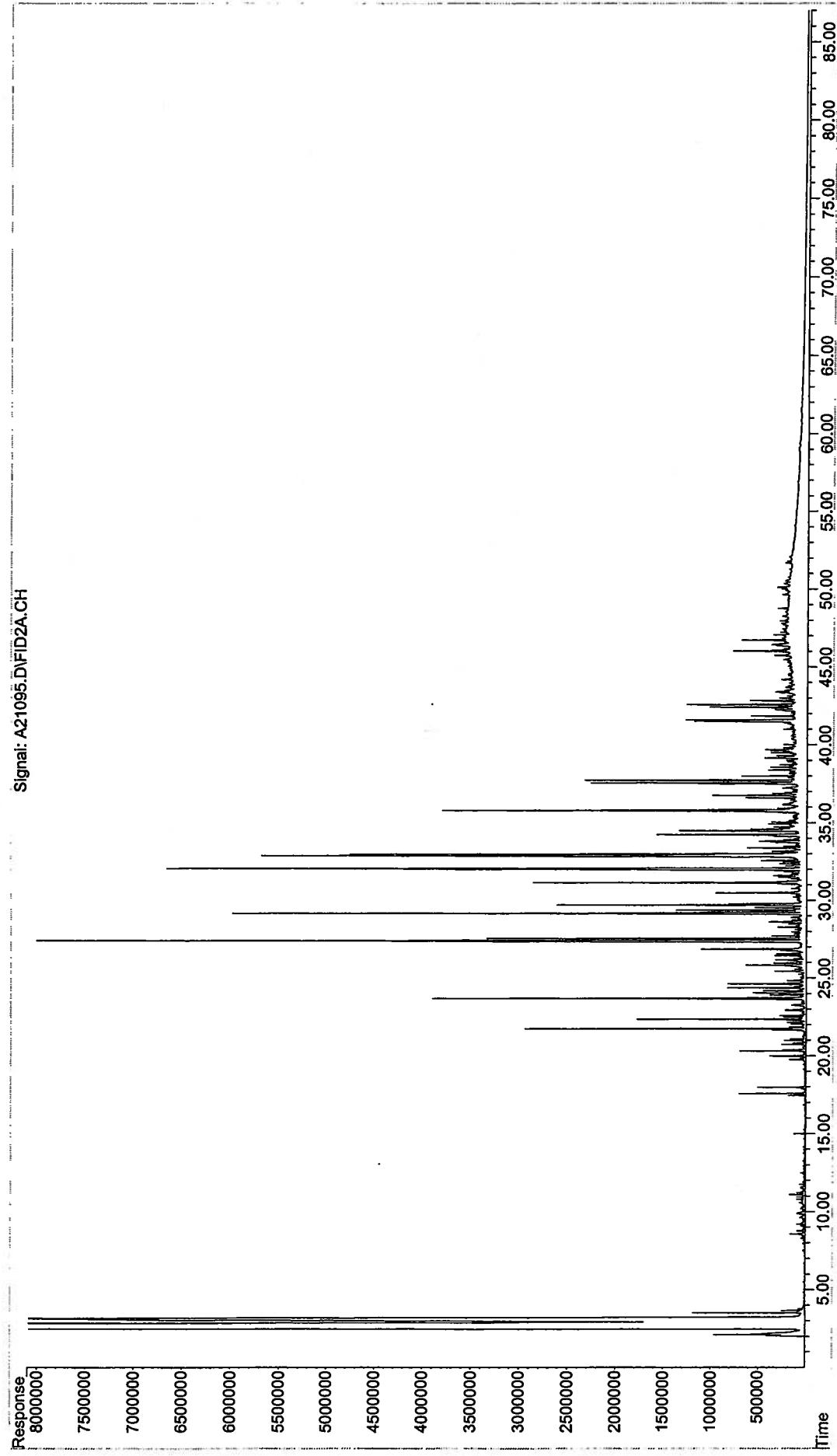
File : Y:\2006 AWHL DATA\Tronox-Columbus\0612081\FID Prelim\A21091.D
Operator : AC
Acquired : 19 Dec 2006 7:54 am using AcqMethod FRNC2B.M
Instrument : PAHINST2
Sample Name: 0612081-01-AFID
Misc Info : 1X
Vial Number: 59



File : Y:\2006 AWHL DATA\Tronox-Columbus\0612081\FID Prelim\A21093.D
Operator : AC
Acquired : 19 Dec 2006 9:47 am using AcqMethod FRNC2B.M
Instrument : PAHINST2
Sample Name: 0612081-01D-AFID
Misc Info : 1X
Vial Number: 60



File : Y:\2006 AWHL DATA\Tronox-Columbus\0612081\FID Prelim\A21095.D
Operator : AC
Acquired : 19 Dec 2006 11:30 am using AcqMethod FRNC2B.M
Instrument : PAHINST2
Sample Name: 0612081-02-AFID
Misc Info : 1X
Vial Number: 61



Data Tables

Saturated Hydrocarbon Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-1	FPS-2		
Lab ID	0612081-01	0612081-02		
Matrix	Soil	Soil		
Reference Method	SHC	SHC		
Batch ID	SS121506B01	SS121506B01		
Date Collected	12/14/2006	12/14/2006		
Date Received	12/15/2006	12/15/2006		
Date Prepped	12/15/2006	12/15/2006		
Date Analyzed	12/19/2006	12/19/2006		
Sample Size (wet)	10.27	10.28		
% Solid	76.6	77.11		
File ID	A21091.D	A21095.D		
Units	mg/Kg	mg/Kg		
Final Volume	8.33	8.33		
Dilution	1	1		
Reporting Limit	35	35		
Class Abbrev Analytes	Result	SSRL	Result	SSRL
SHC TPH Total Petroleum Hydrocarbons	5900	35	4600	35

Surrogates (% Recovery)		
ortho-Terphenyl	106	104
d50-Tetracosane	107	108

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-1	FPS-1
Lab ID	0612081-01	0612081-01D
Matrix	Soil	Soil
Reference Method	SHC	SHC
Batch ID	SS121506B01	SS121506B01
Date Collected	12/14/2006	12/14/2006
Date Received	12/15/2006	12/15/2006
Date Prepped	12/15/2006	12/15/2006
Date Analyzed	12/19/2006	12/19/2006
Sample Size (wet)	10.27	10.13
% Soln	76.6	76.6
File ID	A21091.D	A21093.D
Units	mg/Kg	mg/Kg
Final Volume	8.33	8.33
Dilution	1	1
Reporting Limit	35	35

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
SHC	TPH	Total Petroleum Hydrocarbons	5900	35	5500	35	7	30

Surrogates (% Recovery)		
ortho-Terphenyl	106	101
d50-Tetracosane	107	101
		5 30
		6 30

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	Method Blank
Lab ID	SS121506B01
Matrix	Soil
Reference Method	SHC
Batch ID	SS121506B01
Date Collected	N/A
Date Received	N/A
Date Prepped	12/15/2006
Date Analyzed	12/19/2006
Sample Size (wet)	30
% Solid	100
File ID	A21085.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	2.2

Class	Abbrev	Analytes	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	U 2.2	

Surrogates (% Recovery)	
ortho-Terphenyl	98
d50-Tetracosane	95

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS121506LC01
Matrix	Soil
Reference Method	SHC
Batch ID	SS121508B01
Date Collected	N/A
Date Received	N/A
Date Prepped	12/15/2006
Date Analyzed	12/19/2006
Sample Size (wet)	30
% Solid	100
File ID	A21087.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.087

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	C9	n-Nonane (C9)	1.2 S	0.067	75	1.6	50	130
SHC	C10	n-Decane (C10)	1.4 S	0.067	82	1.6	50	130
SHC	C12	n-Dodecane (C12)	1.5 S	0.067	88	1.6	50	130
SHC	C14	n-Tetradecane (C14)	1.5 S	0.067	88	1.6	50	130
SHC	C16	n-Hexadecane (C16)	1.5 S	0.067	91	1.6	50	130
SHC	C18	n-Octadecane (C18)	1.6 S	0.067	93	1.6	50	130
SHC	C19	n-Nonadecane (C19)	1.6 S	0.067	95	1.6	50	130
SHC	C20	n-Eicosane (C20)	1.5 S	0.067	92	1.6	50	130
SHC	C22	n-Docosane (C22)	1.6 S	0.067	97	1.6	50	130
SHC	C24	n-Tetracosane (C24)	1.5 S	0.067	92	1.6	50	130
SHC	C26	n-Hexacosane (C26)	1.5 S	0.067	91	1.6	50	130
SHC	C28	n-Octacosane (C28)	1.5 S	0.067	89	1.6	50	130
SHC	C30	n-Triacontane (C30)	1.5 S	0.067	89	1.6	50	130
SHC	C36	n-Hexatriacontane (C36)	1.5 S	0.067	89	1.6	50	130
SHC	TPH	Total Petroleum Hydrocarbons	19	2.2				

Surrogates (% Recovery)	
ortho-Terphenyl	93
d50-Tetracosane	91

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS121506LCS01
Matrix	Soil
Reference Method	SHC
Batch ID	SS121506B01
Date Collected	N/A
Date Received	N/A
Date Prepped	12/15/2006
Date Analyzed	12/19/2006
Sample Size (wet)	30
% Solid	100
File ID	A21089.D
Units	mg/kg
Final Volume	2
Dilution	1
Reporting Limit	0.067

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit	
SHC	C9	n-Nonane (C9)	1.3	S	0.067	76	1.6	50	130	1	30
SHC	C10	n-Decane (C10)	1.4	S	0.067	85	1.6	50	130	4	30
SHC	C12	n-Dodecane (C12)	1.6	S	0.067	93	1.6	50	130	6	30
SHC	C14	n-Tetradecane (C14)	1.6	S	0.067	95	1.6	50	t30	8	30
SHC	C16	n-Hexadecane (C16)	1.6	S	0.067	99	1.6	50	t30	8	30
SHC	C18	n-Octadecane (C18)	1.7	S	0.067	100	1.6	50	130	7	30
SHC	C19	n-Nonadecane (C19)	1.7	S	0.067	102	1.6	50	130	7	30
SHC	C20	n-Eicosane (C20)	1.6	S	0.067	99	1.6	50	130	7	30
SHC	C22	n-Docosane (C22)	1.7	S	0.067	104	1.6	50	130	7	30
SHC	C24	n-Tetracosane (C24)	1.6	S	0.067	99	1.6	50	130	7	30
SHC	C26	n-Hexacosane (C26)	1.6	S	0.067	98	1.6	50	130	7	30
SHC	C28	n-Octacosane (C28)	1.6	S	0.067	95	1.6	50	130	7	30
SHC	C30	n-Triacontane (C30)	1.6	S	0.067	95	1.6	50	130	7	30
SHC	C36	n-Hexatriacontane (C36)	1.6	S	0.067	95	1.6	50	130	7	30
SHC	TPH	Total Petroleum Hydrocarbons	19			2.2					

Surrogates (% Recovery)
 ortho-Terphenyl
 d50-Tetracosane

99

96

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID Alaska North Slope Crude
Lab ID TS122006AWS01
Matrix Oil
Reference Method SHC
Batch ID N/A
Date Collected N/A
Date Received N/A
Date Prepped N/A
Date Analyzed 12/18/2006
Sample Size (wet) 0.052
% Solid 100
File ID A21077.D
Units mg/Kg
Final Volume 10
Dilution 1
Reporting Limit 190

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	TPH	Total Petroleum Hydrocarbons	580000	6400	93	623913	65	135

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
*: Value outside of QC Limits.
§: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit
G: Matrix interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to Interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to Interference. (Metals)
■: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

Priority Pollutant PAH Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-1	FPS-2
Lab ID	0612081-01	0612081-02
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS121506B01	SS121506B01
Date Collected	12/14/2006	12/14/2006
Date Received	12/15/2006	12/15/2006
Date Prepped	12/15/2006	12/15/2006
Date Analyzed	12/19/2006	12/19/2006
Sample Size (wet)	10.27	10.28
% Solid	76.6	77.11
File ID	A21088.D	A21092.D
Units	µg/Kg	µg/Kg
Final Volume	8.33	8.33
Dilution	1	1
Reporting Limit	11	10

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	N0	Naphthalene	1400	11	1600	10
3	AY	Acenaphthylene	5400	11	4400	10
3	AE	Acenaphthene	49000	D 1100	44000	D 1000
3	F0	Fluorene	86000	D 1100	65000	D 1000
3	A0	Anthracene	110000	D 1100	64000	D 1000
3	P0	Phenanthrene	440000	D 1100	240000	D 1000
4	FL0	Fluoranthene	370000	D 1100	230000	D 1000
4	PY0	Pyrene	240000	D 1100	150000	D 1000
4	BA0	Benz[a]anthracene	71000	D 1100	46000	D 1000
4	CO	Chrysene/Triphenylene	74000	D 1100	49000	D 1000
5	BBF	Benzo[b]fluoranthene	38000	D 1100	28000	D 1000
5	BJKF	Benzo[k]fluoranthene	35000	D 1100	23000	D 1000
5	BAP	Benzo[a]pyrene	32000	D 1100	22000	D 1000
6	IND	Indeno[1,2,3-cd]pyrene	20000	D 1100	13000	D 1000
5	DA	Dibenz[a,h]anthracene	6500	11	4500	10
6	GHI	Benzof[g,h,i]perylene	14000	D 1100	10000	10
		TPAH	1592300		994500	

Surrogates (% Recovery)		
2-Methylnaphthalene-d10	106	105
Pyrene-d10	120	106
Benzo[b]fluoranthene-d12	125	121

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-1	FPS-1
Lab ID	0612081-01	0612081-01D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS121506B01	SS121506B01
Date Collected	12/14/2006	12/14/2006
Date Received	12/15/2006	12/15/2006
Date Prepped	12/15/2006	12/15/2006
Date Analyzed	12/19/2006	12/19/2006
Sample Size (wet)	10.27	10.13
% Solid	76.6	76.6
File ID	A21088.D	A21090.D
Units	$\mu\text{g}/\text{Kg}$	$\mu\text{g}/\text{Kg}$
Final Volume	8.33	8.33
Dilution	1	1
Reporting Limit	11	11

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	1400	11	1600	11	18	30
3	AY	Acenaphthylene	5400	11	5000	11	7	30
3	AE	Acenaphthene	49000 D	1100	44000 D	1100	9	30
3	F0	Fluorene	86000 D	1100	80000 D	1100	7	30
3	A0	Anthracene	110000 D	1100	110000 D	1100	2	30
3	P0	Phenanthrene	440000 D	1100	410000 D	1100	7	30
4	FL0	Fluoranthene	370000 D	1100	350000 D	1100	6	30
4	PY0	Pyrene	240000 D	1100	230000 D	1100	7	30
4	BA0	Benz[a]anthracene	71000 D	1100	67000 D	1100	5	30
4	C0	Chrysene/Triphenylene	74000 D	1100	70000 D	1100	5	30
5	BBF	Benzo[b]fluoranthene	38000 D	1100	35000 D	1100	9	30
5	BJKF	Benzo[k]fluoranthene	35000 D	1100	33000 D	1100	7	30
5	BAP	Benzo[a]pyrene	32000 D	1100	29000 D	1100	9	30
6	IND	Indeno[1,2,3-cd]pyrene	20000 D	1100	18000 D	1100	9	30
5	DA	Dibenz[a,h]anthracene	6500	11	6200	11	4	30
6	GHI	Benzog,h,iperylene	14000 D	1100	12000 D	1100	9	30
		TPAH	1592300		1500800			

Surrogates (% Recovery)

2-Methylnaphthalene-d10	106	101	5	30
Pyrene-d10	120	111	8	30
Benzo[b]fluoranthene-d12	125	118	6	30

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
*: Value outside of QC Limits.
S: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting lim
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to interference, (Metals)
**: Duplicate outside control limits.
P: Spike compound, (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL, (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply, (Metals)

Parent and Alkylated PAH Data



Project Name: Tronox-Columbus
 Project Number:

		FPS-1	FPS-2			
Client ID						
Lab ID	0612081-01	0612081-02				
Matrix	Soli	Soli				
Reference Method	Modified 8270C	Modified 8270C				
Batch ID	SS121506B01	SS121506B01				
Date Collected	12/14/2006	12/14/2006				
Date Received	12/15/2006	12/15/2006				
Date Prepped	12/15/2006	12/15/2006				
Date Analyzed	12/19/2006	12/19/2006				
Sample Size (wt)	10.27	10.28				
% Solid	76.6	77.11				
File ID	A21088.D	A21092.D				
Units	µg/Kg	µg/Kg				
Final Volume	8.33	8.33				
Dilution	1	1				
Reporting Limit	11	10				
Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	N0	Naphthalene	1400	11	1600	10
2	N1	C1-Naphthalenes	4700	11	11000	10
2	N2	C2-Naphthalenes	29000	D 1100	16000	10
2	N3	C3-Naphthalenes	36000	11	11000	10
2	N4	C4-Naphthalenes	18000	11	4000	10
2	B	Biphenyl	260	11	230	10
3	DF	Dibenzofuran	42000	D 1100	25000	D 1000
3	AY	Acenaphthylene	5400	11	4400	10
3	AE	Acenaphthene	49000	D 1100	44000	D 1000
3	F0	Fluorene	86000	D 1100	65000	D 1000
3	F1	C1-Fluorenes	22000	11	12000	10
3	F2	C2-Fluorenes	15000	11	6300	10
3	F3	C3-Fluorenes	13000	11	4300	10
3	A0	Anthracene	110000	D 1100	64000	D 1000
3	P0	Phenanthrene	440000	D 1100	240000	D 1000
3	PA1	C1-Phenanthrenes/Anthracenes	110000	D 1100	49000	D 1000
3	PA2	C2-Phenanthrenes/Anthracenes	52000	11	20000	10
3	PA3	C3-Phenanthrenes/Anthracenes	19000	11	8100	10
3	PA4	C4-Phenanthrenes/Anthracenes	5600	11	1600	10
3	DBT0	Dibenzothiophene	28000	D 1100	17000	D 1000
3	DBT1	C1-Dibenzothiophenes	18000	11	5800	10
3	DBT2	C2-Dibenzothiophenes	21000	11	3600	10
3	DBT3	C3-Dibenzothiophenes	15000	11	2200	10
3	DBT4	C4-Dibenzothiophenes	6400	11	1200	10
4	BF	Benz[b]fluorlene	34000	D 1100	20000	D 1000
4	FL0	Fluoranthene	370000	D 1100	230000	D 1000
4	PY0	Pyrene	240000	D 1100	150000	D 1000
4	FP1	C1-Fluoranthenes/Pyrenes	110000	D 1100	60000	D 1000
4	FP2	C2-Fluoranthenes/Pyrenes	26000	11	15000	10
4	FP3	C3-Fluoranthenes/Pyrenes	11000	11	6100	10
4	FP4	C4-Fluoranthenes/Pyrenes	5300	11	3000	10
4	NBT0	Naphthobenzothiophenes	22000	D 1100	14000	10
4	NBT1	C1-Naphthobenzothiophenes	9500	11	4600	10
4	NBT2	C2-Naphthobenzothiophenes	4200	11	1900	10
4	NBT3	C3-Naphthobenzothiophenes	1800	11	1100	10
4	NBT4	C4-Naphthobenzothiophenes	570	11	410	10
4	BA0	Benz[a]anthracene	71000	D 1100	46000	D 1000
4	C0	Chrysene/Triphenylene	74000	D 1100	49000	D 1000
4	BC1	C1-Chrysenes	22000	11	14000	10
4	BC2	C2-Chrysenes	7800	11	4800	10
4	BC3	C3-Chrysenes	4900	11	3000	10
4	BC4	C4-Chrysenes	1700	11	1000	10
5	BBF	Benz[b]fluoranthene	38000	D 1100	28000	D 1000
5	BJKF	Benzo[k]fluoranthene	35000	D 1100	23000	D 1000
5	BAF	Benzo[a]fluoranthene	7800	11	5600	10
5	BEP	Benz[e]pyrene	24000	D 1100	16000	D 1000
5	BAP	Benzo[a]pyrene	32000	D 1100	22000	D 1000
5	PER	Perylene	9400	11	6700	10
6	IND	Indeno[1,2,3-cd]pyrene	20000	D 1100	13000	D 1000
5	DA	Dibenzo[a,h]anthracene	6500	11	4500	10
6	GHI	Benzog,h,f]perylene	14000	D 1100	10000	10
3	4MDT	4-Methyl dibenzothiophene	5900	11	1800	10
3	2MDT	2/3-Methyl dibenzothiophene	7700	11	2500	10
3	1MDT	1-Methyl dibenzothiophene	2000	11	640	10
3	3MP	3-Methylphenanthrene	27000	D 1100	12000	D 1000
3	2MP	2/4-Methylphenanthrene	35000	D 1100	15000	D 1000
3	2MA	2-Methylnaphthalene	11000	D 1100	7000	10
3	9MP	9-Methylnaphthalene	18000	D 1100	9500	10
3	1MP	1-Methylnaphthalene	14000	D 1100	6500	10
		TPAH	2469730		1422980	
		Surrogates (% Recovery)				
		2-Methylnaphthalene-d10	106		105	
		Pyrene-d10	120		106	
		Benzo[b]fluoranthene-d12	125		121	

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-1	FPS-1
Lab ID	0612081-01	0612081-01D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS121506B01	SS121506B01
Date Collected	12/14/2006	12/14/2006
Date Received	12/15/2006	12/15/2006
Date Prepped	12/15/2006	12/15/2006
Date Analyzed	12/19/2006	12/19/2006
Sample Size (wet)	10.27	10.13
% Solid	76.6	76.6
File ID	A21088.D	A21090.D
Units	µg/Kg	µg/Kg
Final Volume	8.33	8.33
Dilution	1	1
Reporting Limit	11	11

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	1400	11	1600	11	18	30
2	N1	C1-Naphthalenes	4700	11	4500	11	3	30
2	N2	C2-Naphthalenes	29000	D 1100	27000	D 1100	9	30
2	N3	C3-Naphthalenes	36000	11	32000	11	11	30
2	N4	C4-Naphthalenes	18000	11	16000	11	11	30
2	B	Biphenyl	250	11	300	11	16	30
3	DF	Dibenzofuran	42000	D 1100	38000	D 1100	11	30
3	AY	Acenaphthylene	5400	11	5000	11	7	30
3	AE	Acenaphthene	49000	D 1100	44000	D 1100	9	30
3	F0	Fluorene	86000	D 1100	80000	D 1100	7	30
3	F1	C1-Fluorenes	22000	11	20000	11	10	30
3	F2	C2-Fluorenes	15000	11	14000	11	8	30
3	F3	C3-Fluorenes	13000	11	12000	11	10	30
3	A0	Anthracene	110000	D 1100	110000	D 1100	2	30
3	P0	Phenanthrene	440000	D 1100	410000	D 1100	7	30
3	PA1	C1-Phenanthrenes/Anthracenes	110000	D 1100	98000	D 1100	8	30
3	PA2	C2-Phenanthrenes/Anthracenes	52000	11	48000	11	9	30
3	PA3	C3-Phenanthrenes/Anthracenes	19000	11	17000	11	9	30
3	PA4	C4-Phenanthrenes/Anthracenes	5600	11	4800	11	15	30
3	DBT0	Dibenzothiophene	28000	D 1100	26000	D 1100	7	30
3	DBT1	C1-Dibenzothiophenes	18000	11	18000	11	10	30
3	DBT2	C2-Dibenzothiophenes	21000	11	19000	11	12	30
3	DBT3	C3-Dibenzothiophenes	15000	11	13000	11	13	30
3	DBT4	C4-Dibenzothiophenes	6400	11	5600	11	13	30
4	BF	Benz(b)fluorene	34000	D 1100	36000	D 1100	5	30
4	FL0	Fluoranthene	370000	D 1100	350000	D 1100	6	30
4	PY0	Pyrene	240000	D 1100	230000	D 1100	7	30
4	FP1	C1-Fluoranthenes/Pyrenes	110000	D 1100	98000	D 1100	8	30
4	FP2	C2-Fluoranthenes/Pyrenes	26000	11	24000	11	8	30
4	FP3	C3-Fluoranthenes/Pyrenes	11000	11	10000	11	12	30
4	FP4	C4-Fluoranthenes/Pyrenes	5300	11	4800	11	10	30
4	NBT0	Naphthobenzothiophenes	22000	D 1100	20000	D 1100	8	30
4	NBT1	C1-Naphthobenzothiophenes	9500	11	8600	11	10	30
4	NBT2	C2-Naphthobenzothiophenes	4200	11	3800	11	10	30
4	NBT3	C3-Naphthobenzothiophenes	1800	11	1800	11	6	30
4	NBT4	C4-Naphthobenzothiophenes	570	11	510	11	10	30
4	BA0	Benz[a]anthracene	71000	D 1100	67000	D 1100	5	30
4	C0	Chrysene/Triphenylene	74000	D 1100	70000	D 1100	5	30
4	BC1	C1-Chrysenes	22000	11	20000	11	5	30
4	BC2	C2-Chrysenes	7900	11	7800	11	4	30
4	BC3	C3-Chrysenes	4900	11	4700	11	4	30
4	BC4	C4-Chrysenes	1700	11	1500	11	11	30
5	BBF	Benz[b]fluoranthene	38000	D 1100	35000	D 1100	9	30
5	BJKF	Benzoj[k]fluoranthene	35000	D 1100	33000	D 1100	7	30
5	BAF	Benzo[a]fluoranthene	7600	11	7000	11	9	30
5	BEP	Benzo[e]pyrene	24000	D 1100	22000	D 1100	9	30
5	BAP	Benzo[a]pyrene	32000	D 1100	29000	D 1100	9	30
5	PER	Perylene	9400	11	8400	11	10	30
6	IND	Indeno[1,2,3-cd]pyrene	20000	D 1100	18000	D 1100	9	30
5	DA	Dibenzo[a,h]anthracene	6500	11	6200	11	4	30
6	GHI	Benzog[h,i]perylene	14000	D 1100	12000	D 1100	9	30
3	4MDT	4-Methyl dibenzothiophene	5900	11	5300	11	11	30
3	2MDT	2/3-Methyl dibenzothiophene	7700	11	6900	11	11	30
3	1MDT	1-Methyl dibenzothiophene	2000	11	1800	11	10	30
3	3MP	3-Methyl phenanthrene	27000	D 1100	25000	D 1100	7	30
3	2MP	2/4-Methyl phenanthrene	35000	D 1100	32000	D 1100	8	30
3	2MA	2-Methylnaphthalene	11000	D 1100	10000	D 1100	10	30
3	9MP	9-Methylphenanthrene	18000	D 1100	16000	D 1100	7	30
3	1MP	1-Methylnaphthalene	14000	D 1100	13000	D 1100	3	30
	TPAH		2469730		2300710			

Surrogates (% Recovery)					
2-Methylnaphthalene-d10	106	101	5	30	
Pyrene-d10	120	111	8	30	
Benz[b]fluoranthene-d12	125	118	6	30	

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Method Blank
Lab ID	SS121506B01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS121506B01
Date Collected	N/A
Date Received	N/A
Date Prepped	12/15/2006
Date Analyzed	12/18/2006
Sample Size (wet)	30
% Solid	t00
File ID	A21082.D
Units	$\mu\text{g}/\text{kg}$
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL
2	N0	Naphthalene	0.13 J	0.67
2	N1	C1-Naphthalenes	0.043 J	0.67
2	N2	C2-Naphthalenes	U	0.67
2	N3	C3-Naphthalenes	U	0.67
2	N4	C4-Naphthalenes	U	0.67
2	B	Biphenyl	0.36 J	0.67
3	DF	Dibenzofuran	U	0.67
3	AY	Acenaphthylene	0.16 J	0.67
3	AE	Acenaphthene	U	0.67
3	F0	Fluorene	U	0.67
3	F1	C1-Fluorenes	U	0.67
3	F2	C2-Fluorenes	U	0.67
3	F3	C3-Fluorenes	U	0.67
3	A0	Anthracene	U	0.67
3	P0	Phenanthrene	0.21 J	0.67
3	PA1	C1-Phenanthrenes/Anthracenes	U	0.67
3	PA2	C2-Phenanthrenes/Anthracenes	U	0.67
3	PA3	C3-Phenanthrenes/Anthracenes	U	0.67
3	PA4	C4-Phenanthrenes/Anthracenes	U	0.67
3	DBT0	Dibenzothiophene	U	0.67
3	DBT1	C1-Dibenzothiophenes	U	0.67
3	DBT2	C2-Dibenzothiophenes	U	0.67
3	DBT3	C3-Dibenzothiophenes	U	0.67
3	DBT4	C4-Dibenzothiophenes	U	0.67
4	BF	Benzo(b)fluorene	U	0.67
4	FL0	Fluoranthene	0.21 J	0.67
4	PY0	Pyrene	0.15 J	0.67
4	FP1	C1-Fluoranthenes/Pyrenes	U	0.67
4	FP2	C2-Fluoranthenes/Pyrenes	U	0.67
4	FP3	C3-Fluoranthenes/Pyrenes	U	0.67
4	FP4	C4-Fluoranthenes/Pyrenes	U	0.67
4	NBT0	Naphthobenzothiophenes	U	0.67
4	NBT1	C1-Naphthobenzothiophenes	U	0.67
4	NBT2	C2-Naphthobenzothiophenes	U	0.67
4	NBT3	C3-Naphthobenzothiophenes	U	0.67
4	NBT4	C4-Naphthobenzothiophenes	U	0.67
4	BA0	Benz[a]anthracene	0.080 J	0.67
4	C0	Chrysene/Triphenylene	0.11 J	0.67
4	BC1	C1-Chrysenes	U	0.67
4	BC2	C2-Chrysenes	U	0.67
4	BC3	C3-Chrysenes	U	0.67
4	BC4	C4-Chrysenes	U	0.67
5	BBF	Benzo[b]fluoranthene	U	0.67
5	BJKF	Benzo[k]fluoranthene	U	0.67
5	BAF	Benzo[a]fluoranthene	U	0.67
5	BEP	Benzo[e]pyrene	U	0.67
5	BAP	Benzo[a]pyrene	U	0.67
5	PER	Perylene	U	0.67
6	IND	Indeno[1,2,3-cd]pyrene	U	0.67
5	DA	Dibenzo[<i>a,h</i>]anthracene	U	0.67
6	GHI	Benzog[<i>h,i,j</i>]perylene	U	0.67
3	4MDT	4-Methyl dibenzothiophene	U	0.67
3	2MDT	2/3-Methyl dibenzothiophene	U	0.67
3	1MDT	1-Methyl dibenzothiophene	U	0.67
3	3MP	3-Methyl phenanthrene	U	0.67
3	2MP	2/4-Methyl phenanthrene	U	0.67
3	2MA	2-Methylnaphthalene	U	0.67
3	9MP	9-Methylnaphthalene	U	0.67
3	1MP	1-Methylnaphthalene	U	0.67

Surrogates (% Recovery)	
2-Methylnaphthalene-d10	4.0 §
Pyrene-d10	4.0 §
Benz[b]fluoranthene-d12	5.0 §

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS121506LCS01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS121506B01
Date Collected	N/A
Date Received	N/A
Date Prepped	12/15/2006
Date Analyzed	12/19/2006
Sample Size (wet)	30
% Solid	100
File ID	A21084.D
Units	$\mu\text{g}/\text{Kg}$
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	26 S 0.67	77	33	50	50	130
2	N1	C1-Naphthalenes	U 0.67					
2	N2	C2-Naphthalenes	U 0.67					
2	N3	C3-Naphthalenes	U 0.67					
2	N4	C4-Naphthalenes	U 0.67					
2	B	Biphenyl	U 0.67					
3	DF	Dibenzofuran	U 0.67					
3	AY	Acenaphthylene	27 S 0.67	80	33	50	50	130
3	AE	Acenaphthene	27 S 0.67	61	33	50	50	130
3	F0	Fluorene	27 S 0.67	80	33	50	50	130
3	F1	C1-Fluorenes	U 0.67					
3	F2	C2-Fluorenes	U 0.67					
3	F3	C3-Fluorenes	U 0.67					
3	A0	Anthracene	28 S 0.67	85	33	50	50	130
3	P0	Phenanthrene	26 S 0.67	78	33	50	50	130
3	PA1	C1-Phenanthrenes/Anthracenes	U 0.67					
3	PA2	C2-Phenanthrenes/Anthracenes	U 0.67					
3	PA3	C3-Phenanthrenes/Anthracenes	U 0.67					
3	PA4	C4-Phenanthrenes/Anthracenes	U 0.67					
3	DBT0	Dibenzothiophene	U 0.67					
3	DBT1	C1-Dibenzothiophenes	U 0.67					
3	DBT2	C2-Dibenzothiophenes	U 0.67					
3	DBT3	C3-Dibenzothiophenes	U 0.67					
3	DBT4	C4-Dibenzothiophenes	U 0.67					
4	BF	Benzo(b)fluorene	U 0.67					
4	FL0	Fluoranthene	26 S 0.67	78	33	50	50	130
4	PY0	Pyrene	27 S 0.67	82	33	50	50	130
4	FP1	C1-Fluoranthenes/Pyrenes	U 0.67					
4	FP2	C2-Fluoranthenes/Pyrenes	U 0.67					
4	FP3	C3-Fluoranthenes/Pyrenes	U 0.67					
4	FP4	C4-Fluoranthenes/Pyrenes	U 0.67					
4	NBT0	Naphthobenzothiophenes	U 0.67					
4	NBT1	C1-Naphthobenzothiophenes	U 0.67					
4	NBT2	C2-Naphthobenzothiophenes	U 0.67					
4	NBT3	C3-Naphthobenzothiophenes	U 0.67					
4	NBT4	C4-Naphthobenzothiophenes	U 0.67					
4	BA0	Benz[a]anthracene	26 S 0.67	78	33	50	50	130
4	C0	Chrysene/Triphenylene	27 S 0.67	82	33	50	50	130
4	BC1	C1-Chrysenes	U 0.67					
4	BC2	C2-Chrysenes	U 0.67					
4	BC3	C3-Chrysenes	U 0.67					
4	BC4	C4-Chrysenes	U 0.67					
5	BBF	Benz[b]fluoranthene	27 S 0.67	82	33	50	50	130
5	BJKF	Benzo[k]fluoranthene	31 S 0.67	92	33	50	50	130
5	BAF	Benzo[a]fluoranthene	U 0.67					
5	BEP	Benz[e]pyrene	U 0.67					
5	BAP	Benz[a]pyrene	28 S 0.67	84	33	50	50	130
5	PER	Perylene	U 0.67					
6	IND	Indeno[1,2,3-cd]pyrene	32 S 0.67	97	33	50	50	130
5	DA	Dibenzo[a,h]anthracene	33 S 0.67	100	33	50	50	130
6	GHI	Benzo[g,h,i]perylene	30 S 0.67	90	33	50	50	130
3	4MDT	4-Methylbenzothiophene	U 0.67					
3	2MDT	2,3-Methylbenzothiophene	U 0.67					
3	1MDT	1-Methylbenzothiophene	U 0.67					
3	3MP	3-Methylphenanthrene	U 0.67					
3	2MP	2,4-Methylphenanthrene	U 0.67					
3	2MA	2-Methylnaphthalene	U 0.67					
3	9MP	9-Methylnaphthalene	U 0.67					
3	1MP	1-Methylnaphthalene	U 0.67					

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 86
 Pyrene-d10 83
 Benzo[b]fluoranthene-d12 98

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS121506LCSD01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS121506B01
Date Collected	N/A
Date Received	N/A
Date Prepped	12/15/2006
Date Analyzed	12/19/2006
Sample Size (wet)	30
% Solid	100
File ID	A21086.D
Units	$\mu\text{g}/\text{Kg}$
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit	
2	N0	Naphthalene	26	S	0.67	79	33	50	130	2	30
2	N1	C1-Naphthalenes		U	0.67						
2	N2	C2-Naphthalenes		U	0.67						
2	N3	C3-Naphthalenes		U	0.67						
2	N4	C4-Naphthalenes		U	0.67						
2	B	Biphenyl		U	0.67						
3	DF	Dibenzofuran		U	0.67						
3	AY	Acenaphthylene	28	S	0.67	85	33	50	130	7	30
3	AE	Acenaphthene	29	S	0.67	88	33	50	130	8	30
3	F0	Fluorene	29	S	0.67	87	33	50	130	9	30
3	F1	C1-Fluorenes		U	0.67						
3	F2	C2-Fluorenes		U	0.67						
3	F3	C3-Fluorenes		U	0.67						
3	A0	Anthracene	31	S	0.67	93	33	50	130	9	30
3	P0	Phenanthrene	28	S	0.67	86	33	50	130	9	30
3	PA1	C1-Phenanthrenes/Anthracenes		U	0.67						
3	PA2	C2-Phenanthrenes/Anthracenes		U	0.67						
3	PA3	C3-Phenanthrenes/Anthracenes		U	0.67						
3	PA4	C4-Phenanthrenes/Anthracenes		U	0.67						
3	DBT0	Dibenzothiophene		U	0.67						
3	DBT1	C1-Dibenzothiophenes		U	0.67						
3	DBT2	C2-Dibenzothiophenes		U	0.67						
3	DBT3	C3-Dibenzothiophenes		U	0.67						
3	DBT4	C4-Dibenzothiophenes		U	0.67						
4	BF	Benz[b]fluorene		U	0.67						
4	FL0	Fluoranthene	28	S	0.67	85	33	50	130	8	30
4	PY0	Pyrene	29	S	0.67	87	33	50	130	6	30
4	FP1	C1-Fluoranthenes/Pyrenes		U	0.67						
4	FP2	C2-Fluoranthenes/Pyrenes		U	0.67						
4	FP3	C3-Fluoranthenes/Pyrenes		U	0.67						
4	FP4	C4-Fluoranthenes/Pyrenes		U	0.67						
4	NBT0	Naphthobenzothiophenes		U	0.67						
4	NBT1	C1-Naphthobenzothiophenes		U	0.67						
4	NBT2	C2-Naphthobenzothiophenes		U	0.67						
4	NBT3	C3-Naphthobenzothiophenes		U	0.67						
4	NBT4	C4-Naphthobenzothiophenes		U	0.67						
4	BA0	Benz[a]anthracene	28	S	0.67	83	33	50	130	6	30
4	C0	Chrysene/Triphenylene	30	S	0.67	89	33	50	130	8	30
4	BC1	C1-Chrysenes		U	0.67						
4	BC2	C2-Chrysenes		U	0.67						
4	BC3	C3-Chrysenes		U	0.67						
4	BC4	C4-Chrysenes		U	0.67						
5	BBF	Benz[b]fluoranthene	29	S	0.67	88	33	50	130	7	30
5	BJKF	Benz[k]fluoranthene	33	S	0.67	99	33	50	130	7	30
5	BAF	Benz[a]fluoranthene		U	0.67						
5	BEP	Benz[e]pyrene		U	0.67						
5	BAP	Benz[a]pyrene	30	S	0.67	90	33	50	130	7	30
5	PER	Perylene		U	0.67						
6	IND	Indeno[1,2,3-cd]pyrene	34	S	0.67	101	33	50	130	4	30
5	DA	Dibenz[a,h]anthracene	34	S	0.67	103	33	50	130	3	30
6	GHI	Benz[g,h,i]perylene	32	S	0.67	95	33	50	130	6	30
3	4MDT	4-Methylbibenzothiophene		U	0.67						
3	2MDT	2/3-Methylbibenzothiophene		U	0.67						
3	1MDT	1-Methylbibenzothiophene		U	0.67						
3	3MP	3-Methylphenanthrene		U	0.67						
3	2MP	2/4-Methylphenanthrene		U	0.67						
3	2MA	2-Methylnaphthalene		U	0.67						
3	9MP	9-Methylnaphthalene		U	0.67						
3	1MP	1-Methylnaphthalene		U	0.67						

Surrogates (% Recovery)
 2-Methylnaphthalene-d10
 Pyrene-d10
 Benzo[b]fluoranthene-d12

90
 88
 104

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

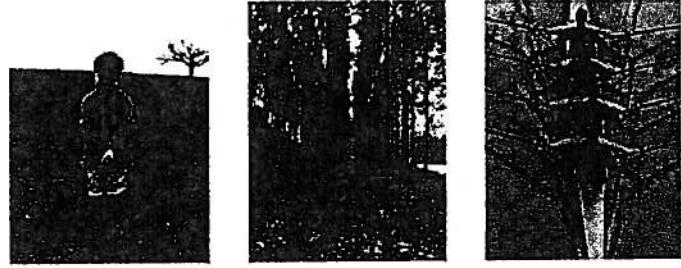
Client ID	Alaska North Slope Crude
Lab ID	SS102106AWS01
Matrix	Oil
Reference Method	Modified 8270C
Batch ID	N/A
Date Collected	N/A
Date Received	N/A
Date Prepped	N/A
Date Analyzed	10/20/2006
Sample Size (wet)	0.052
% Solid	100
File ID	A20369.D
Units	mg/Kg
Final Volume	10
Dilution	1
Reporting Limit	1.9

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	670	1.9	101	669.92	65	135
2	N1	C1-Naphthalenes	1400	1.9	97	1432.05	65	135
2	N2	C2-Naphthalenes	1700	1.9	98	1770.37	65	135
2	N3	C3-Naphthalenes	1300	1.9	98	1321.83	65	135
2	N4	C4-Naphthalenes	710	1.9	97	731.64	65	135
2	B	Biphenyl	210	1.9	109	190.36	65	135
3	DF	Dibenzofuran	68	1.9				
3	AY	Acenaphthylene	6.5	1.9				
3	AE	Acenaphthene	17	1.9	115	14.71	65	135
3	F0	Fluorene	82	1.9	106	77.57	65	135
3	F1	C1-Fluorenes	210	1.9	104	203.54	65	135
3	F2	C2-Fluorenes	310	1.9	100	314.43	65	135
3	F3	C3-Fluorenes	300	1.9	105	290.03	65	135
3	A0	Anthracene	U	1.9	0			
3	P0	Phenanthrene	260	1.9	101	259.89	65	135
3	PA1	C1-Phenanthrenes/Anthracenes	550	1.9	100	545.98	65	135
3	PA2	C2-Phenanthrenes/Anthracenes	610	1.9	103	587.69	65	135
3	PA3	C3-Phenanthrenes/Anthracenes	420	1.9	98	428.71	65	135
3	PA4	C4-Phenanthrenes/Anthracenes	150	1.9	95	159.5	65	135
3	DBT0	Dibenzothiophene	220	1.9	103	210.91	65	135
3	DBT1	C1-Dibenzothiophenes	400	1.9	101	396.93	65	135
3	DBT2	C2-Dibenzothiophenes	540	1.9	99	538.82	65	135
3	DBT3	C3-Dibenzothiophenes	460	1.9	98	464.97	65	135
3	DBT4	C4-Dibenzothiophenes	250	1.9	104	243.14	65	135
4	BF	Benzofluorene	U	1.9				
4	FL0	Fluoranthene	4.6	1.9	111	4.14	65	135
4	PY0	Pyrene	12	1.9	102	12.07	65	135
4	FP1	C1-Fluoranthenes/Pyrenes	72	1.9	100	72.24	65	135
4	FP2	C2-Fluoranthenes/Pyrenes	120	1.9	96	120.66	65	135
4	FP3	C3-Fluoranthenes/Pyrenes	140	1.9	110	130.08	65	135
4	FP4	C4-Fluoranthenes/Pyrenes	120	1.9				
4	NBT0	Naphthobenzothiophenes	57	1.9				
4	NBT1	C1-Naphthobenzothiophenes	150	1.9				
4	NBT2	C2-Naphthobenzothiophenes	200	1.9				
4	NBT3	C3-Naphthobenzothiophenes	140	1.9				
4	NBT4	C4-Naphthobenzothiophenes	90	1.9				
4	BA0	Benz[a]anthracene	1.5 J	1.9				
4	C0	Chrysene/Triphenylene	47	1.9	94	49.55	65	135
4	BC1	C1-Chrysenes	78	1.9	94	82.86	65	135
4	BC2	C2-Chrysenes	97	1.9	94	102.78	65	135
4	BC3	C3-Chrysenes	100	1.9	94	107.68	65	135
4	BC4	C4-Chrysenes	58	1.9	92	62.56	65	135
5	BBF	Benz[b]fluoranthene	5.8	1.9	101	5.79	65	135
5	BJKF	Benz[k]fluoranthene	U	1.9	0			
5	BAF	Benz[a]fluoranthene	U	1.9				
5	BEP	Benz[e]pyrene	12	1.9	103	12.05	65	135
5	BAP	Benz[a]pyrene	1.6 J	1.9				
5	PER	Perylene	1.4 J	1.9				
6	IND	Indeno[1,2,3-cd]pyrene	0.65 J	1.9				
5	DA	Dibenzo[a,h]anthracene	0.77 J	1.9	82	0.94	65	135
6	GHI	Benz[g,h,i]perylene	3.4	1.9	99	3.47	65	135
3	4MDT	4-Methylbenzothiophene	200	1.9				
3	2MDT	2/3-Methylbenzothiophene	140	1.9				
3	1MDT	1-Methylbenzothiophene	60	1.9				
3	3MP	3-Methylphenanthrene	110	1.9				
3	2MP	2/4-Methylphenanthrene	120	1.9				
3	2MA	2-Methylnaphthalene	3.2	1.9				
3	9MP	9-Methylnaphthalene	180	1.9				
3	1MP	1-Methylnaphthalene	130	1.9				

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
*: Value outside of QC Limits.
S: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting lim
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to Interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to interference. (Metals)
D: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)



NEWFIELDS

new INSIGHT | new DIRECTION | new DECISION

Tronox-Columbus
September 2006 Investigation
Data Deliverable #5

Chain of Custody

Sample Receipt Checklist

Page 1 of 1

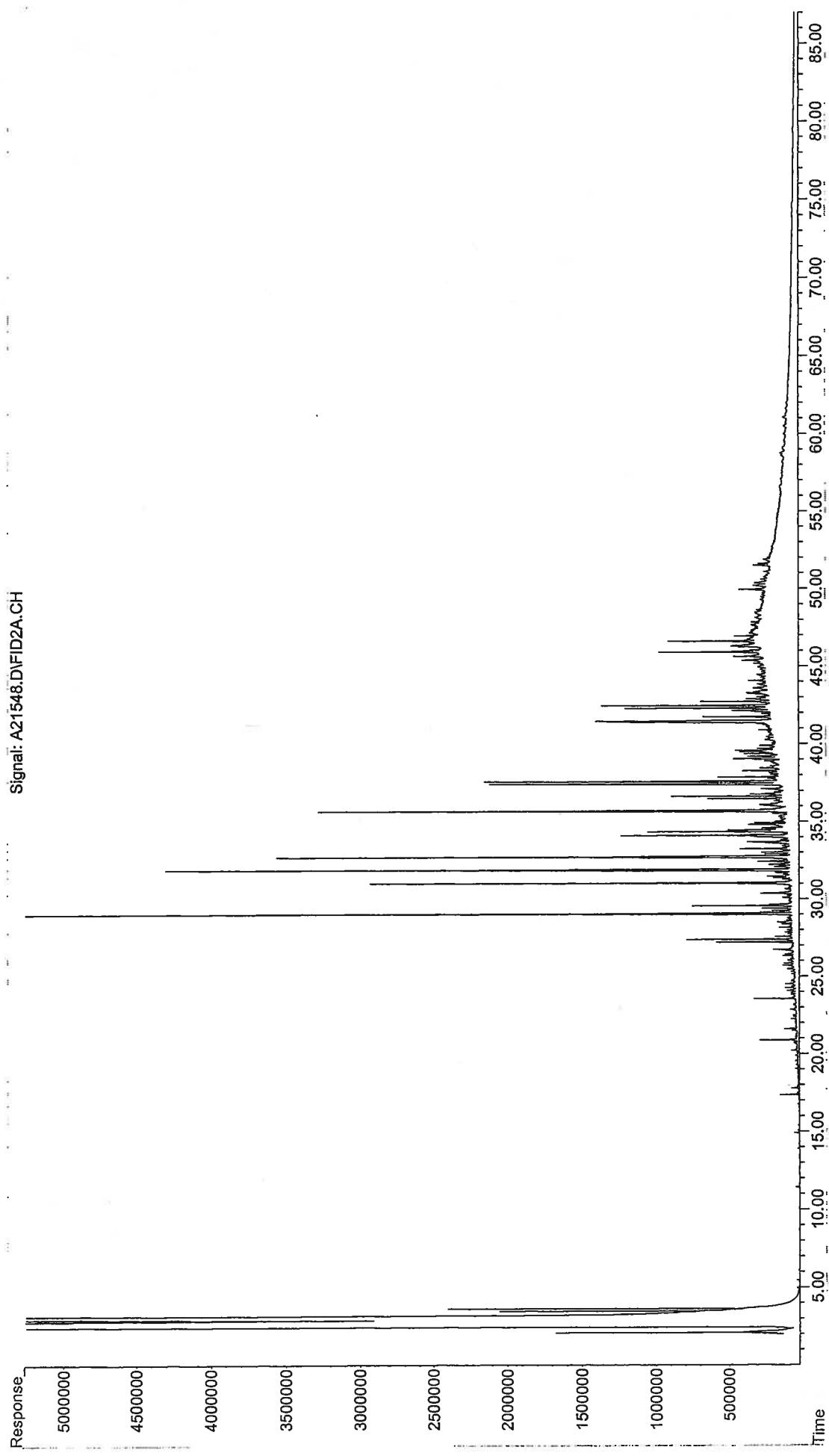
Client: NEW FIE	Receipt Date: 1/23/07
Project: Tronox - Columbus	Log-in Date: 1/23/07
ETR #: 0701073	Inspection by: UR Login by: M

ALL SECTIONS BELOW MUST BE COMPLETED

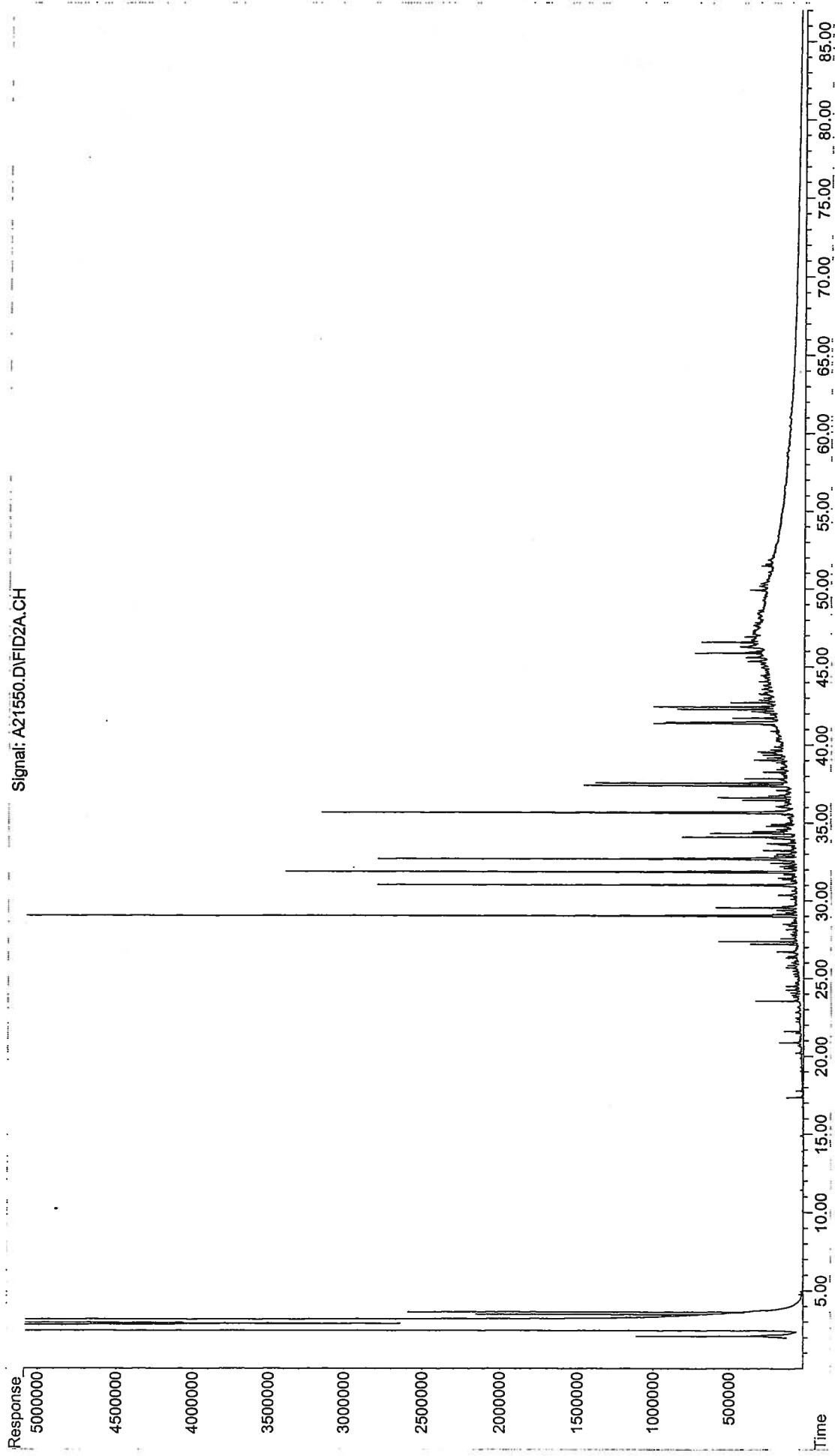
Comments / Notes	
Were samples shipped? Yes, FedEx / UPS / Other: _____ No, WHG Courier pick-up / Hand delivered	Sample storage refrigerator #: D2
Is bill of lading retained? Yes, Tracking #: Attached No, Unavailable / NA	Sample storage freezer #: _____
Number of coolers received for this project delivery: 1	Cooler 2: _____ Cooler 3: _____
Indicate cooler temperature upon opening (if multiple coolers, record <u>all</u> temps): Note: If <u>all</u> coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note <u>all</u> samples received <i>above</i> 6°C.	Cooler 4: _____ Cooler 5: _____
Cooler 1: Temperature(s) taken from: 4 IR Gun, Temp. Blank, / NA	Cooler 6: _____ Cooler 7: _____
Were samples received on ice? Yes / No	More: _____
Chain-of-Custody present? Complete?	Yes / No Yes / No
Custody seals present on Cooler? on Bottles? Intact?	Yes / No Yes / No Yes / No / NA
<i>Note: Affix custody seals to back of this page.</i>	
Were sample containers intact? Yes / No	If No, list samples: →
Did VOA/VPH waters contain headspace (>5mm)? Yes / No / NA . If Yes, list samples: →	
Were 5035 VOA soils, or VPH soils, <i>covered</i> with MeOH? Yes / No / NA If No, list samples: →	
Was a sufficient amount of sample received for each test indicated on the COC? Yes / No If No, list samples: →	
<i>If chemical preservation is appropriate -</i> Were samples field preserved? Yes / No / NA	
<input type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=H ₂ SO ₄ <input type="checkbox"/> H=NaOH <input type="checkbox"/> N=HNO ₃ , <input type="checkbox"/> Other: _____ <input type="checkbox"/> U= Unknown	
Chemical preservation OK for ALL samples? Yes / No / N/A	
Preservation (pH) verified at lab for <i>EVERY</i> bottle? (Not: VOA / VPH / Sulfide) YES: <2 or >12 (CN) or NO NA	
If No, why?: _____	
Were samples received within hold time? Yes / No If No, list samples: →	
Discrepancy between samples rec'd & COC? Yes / No If Yes, list samples: →	
Is the Project Manager notified of any other problems? Yes / No / NA	
Project Manager Acknowledgement: (Signature) Date: 1/23/07	
<i>Please use back for any additional notes!</i>	

FID Chromatograms

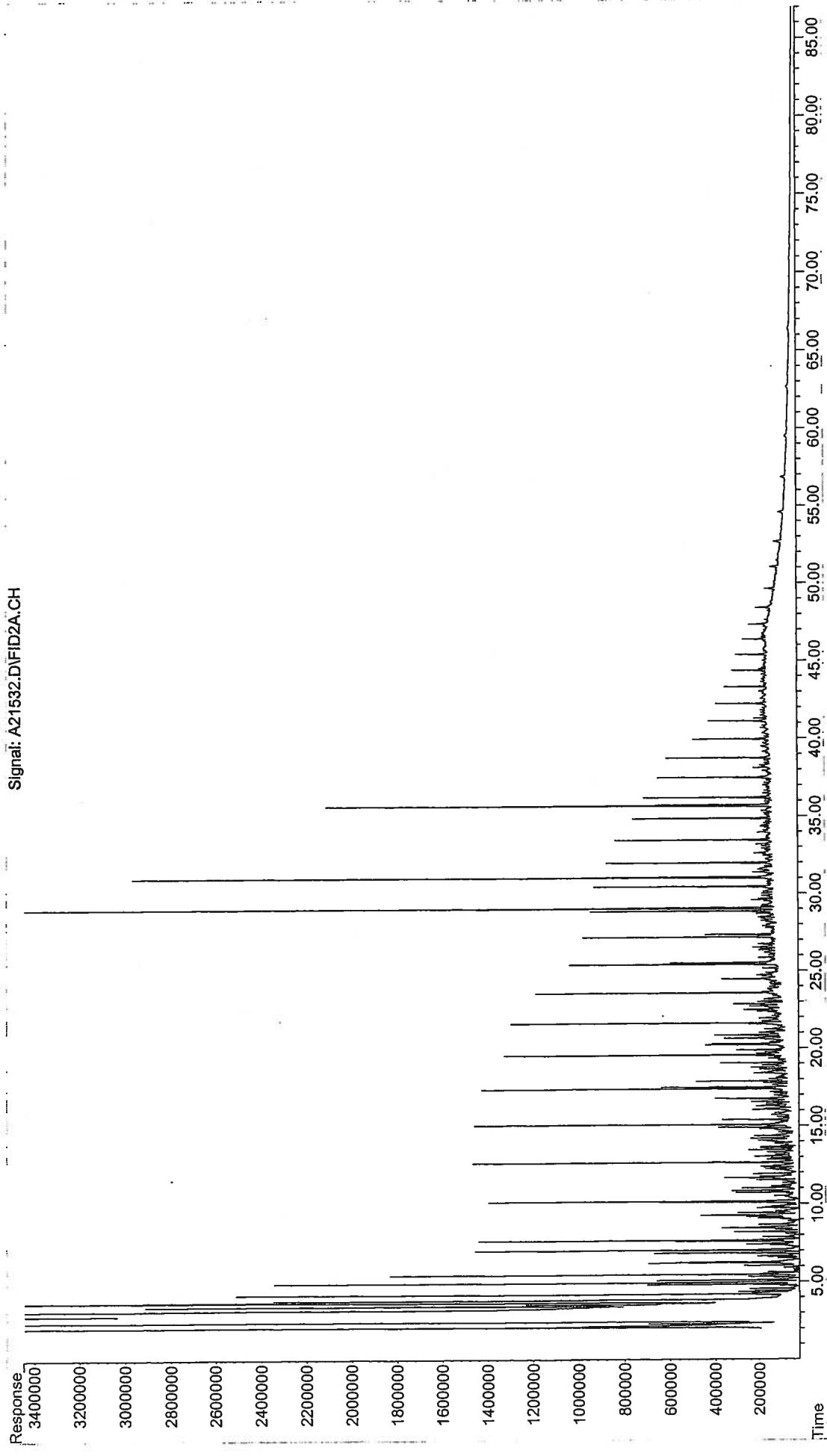
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Operator : AC
Acquired : 25 Jan 2007 11:02 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: 0701073-01-afid
Misc Info :
Vial Number: 59



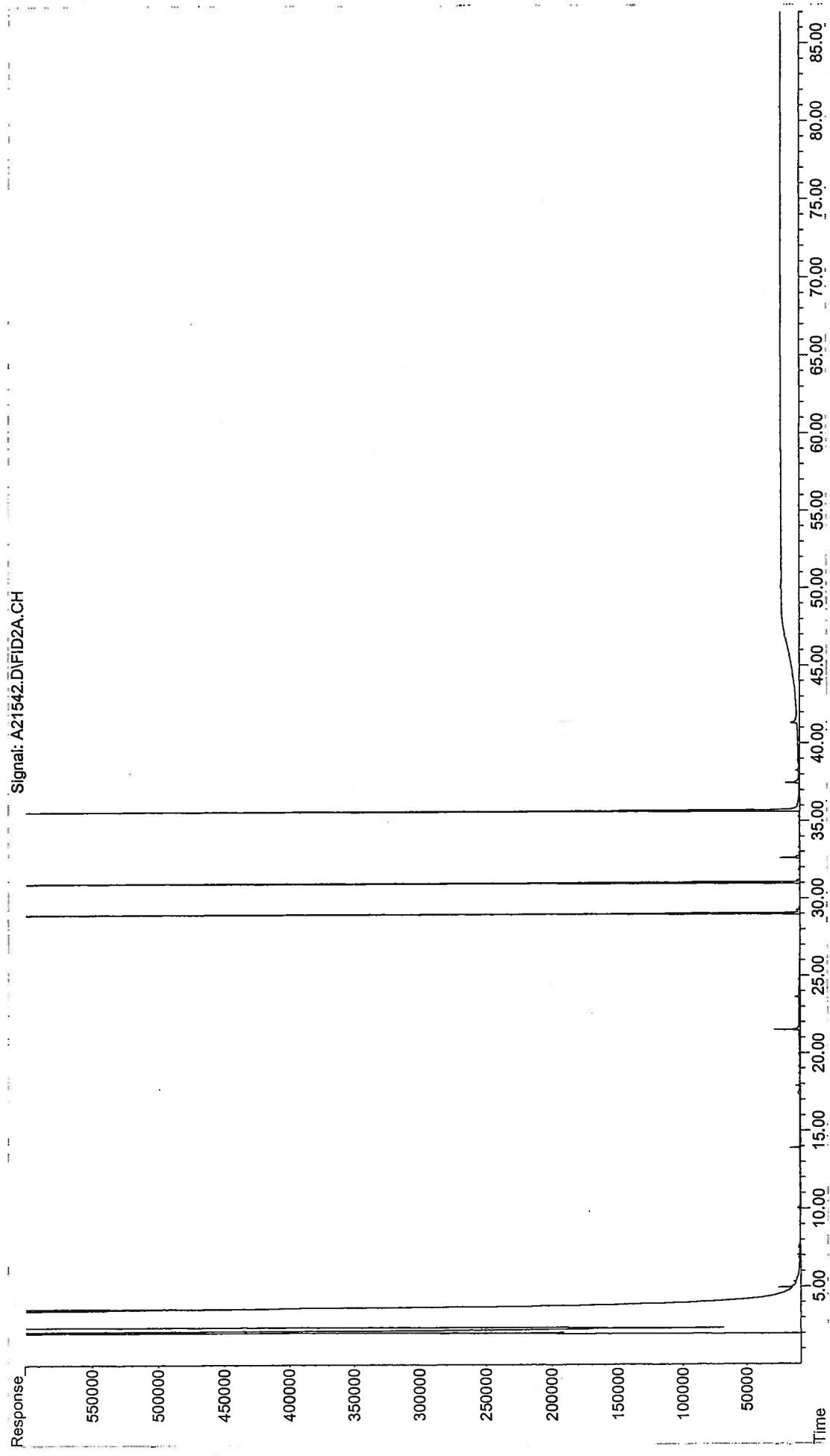
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Operator : AC
Acquired : 25 Jan 2007 12:48 pm using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: 0701073-01d-afid
Misc Info : 1X
Vial Number: 60



File : Y:\2007\ANHL\DATA\Tronox Columbus\0701073\FID\A21532.D
Operator : AC
Acquired : 24 Jan 2007 7:13 pm using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: TS012407AWS02
Misc Info : 1X
Vial Number: 53

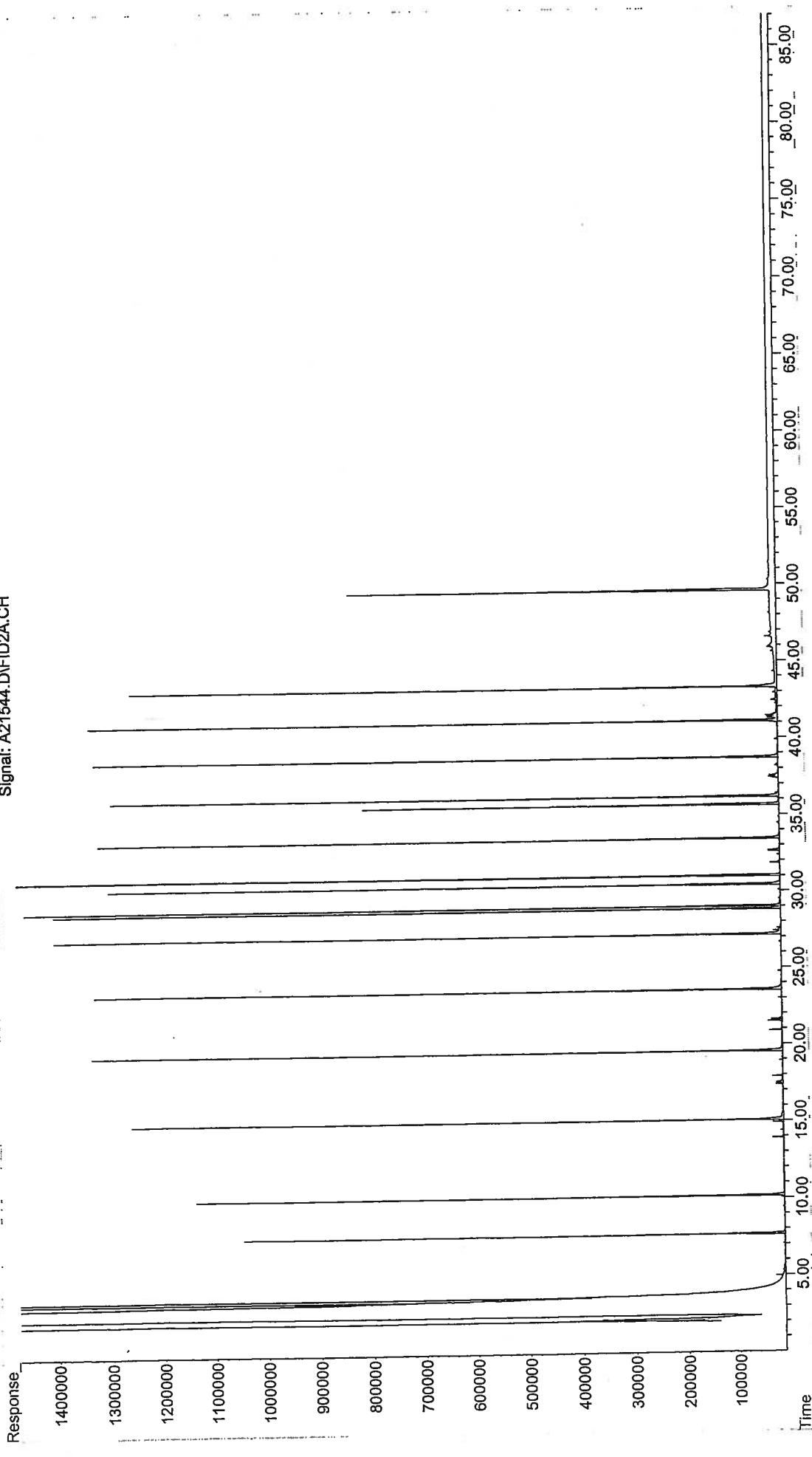


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Operator : AC
Acquired : 25 Jan 2007 5:11 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: SS012307B11-afid
Misc Info : 1X ETR0701073
Vial Number: 56



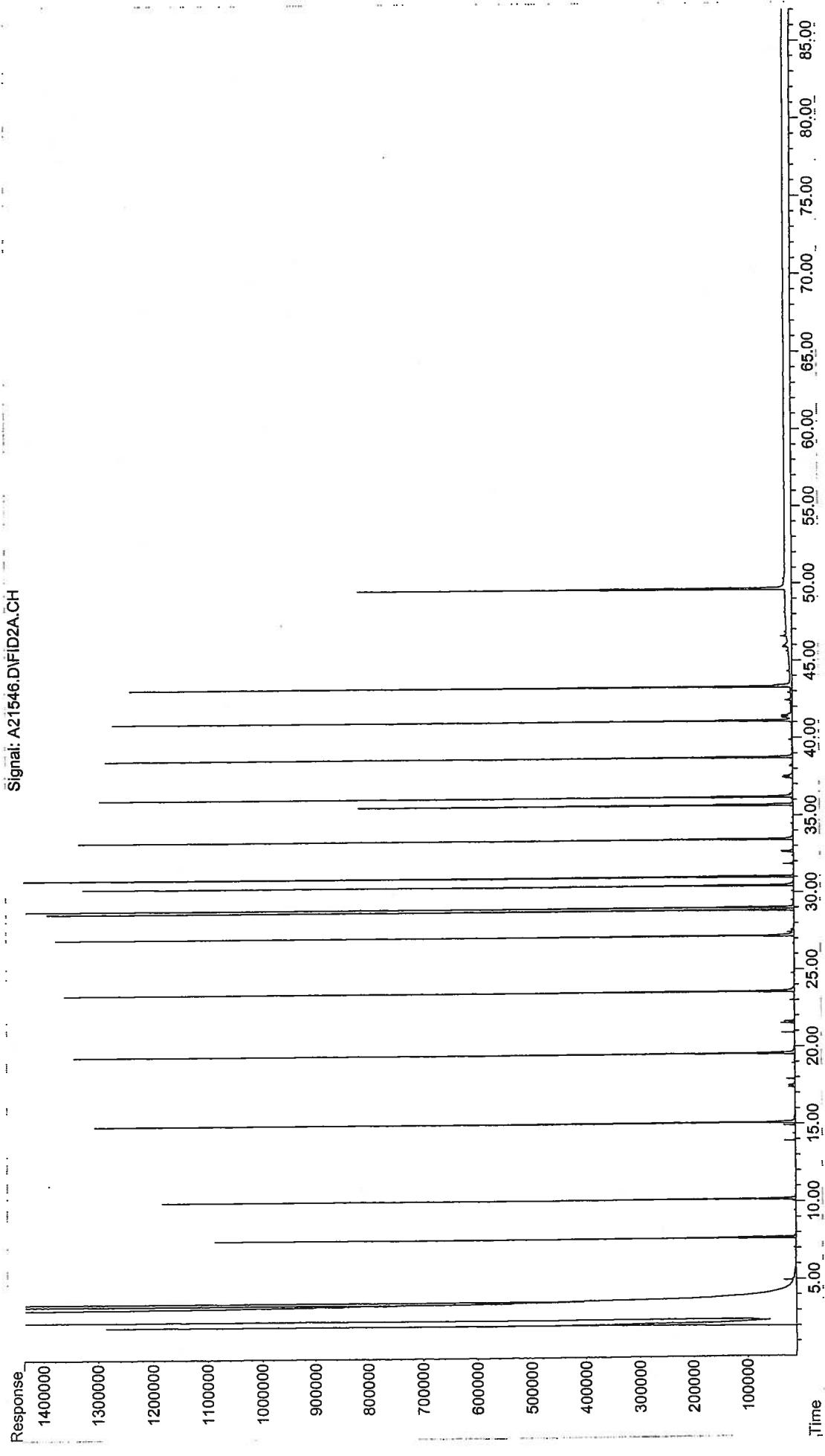
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Operator : AC
Acquired : 25 Jan 2007 7:08 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name : SS012307LCS07-afid
Misc Info : 1X ETR0701073
Vial Number : 57

Laboratory Control Sample
SS012307LCS07



File : Y:\2007 AWHL DATA\Tronox Columbus\0701073\FID\A21546.D
Operator : AC
Acquired : 25 Jan 2007 9:15 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: SS012307LCSD07-afid
Misc Info : 1X ETR0701073
Vial Number: 58

Laboratory Control Sample Dup
SS012307LCSD07



Data Tables

Saturated Hydrocarbon Data

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	FPS-3
Lab ID	0701073-01
Matrix	Soil
Reference Method	SHC
Batch ID	SS012307B11
Date Collected	1/20/2007
Date Received	1/23/2007
Date Prepped	1/23/2007
Date Analyzed	1/25/2007
Sample Size (wet)	20.51
% Solid	82.82
File ID	A21548.D
Units	mg/Kg
Final Volume	9.09
Dilution	1
Reporting Limit	18

Class	Abbrev	Analytes	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	1900	18

Surrogates (% Recovery)
ortho-Terphenyl 88
d50-Tetracosane 94

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-3	FPS-3
Lab ID	0701073-01	0701073-01D
Matrix	Soil	Soil
Reference Method	SHC	SHC
Batch ID	SS012307B11	SS012307B11
Date Collected	1/20/2007	1/20/2007
Date Received	1/23/2007	1/23/2007
Date Prepped	1/23/2007	1/23/2007
Date Analyzed	1/25/2007	1/25/2007
Sample Size (wet)	20.51	20.69
% Solid	82.82	82.82
File ID	A21548.D	A21550.D
Units	mg/Kg	mg/Kg
Final Volume	9.09	9.09
Dilution	1	1
Reporting Limit	18	18

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
SHC	TPH	Total Petroleum Hydrocarbons	1900	18	1800	18	2	30

Surrogates (% Recovery)				
ortho-Terphenyl	88	90	2	30
d50-Tetracosane	94	95	1	30

NEWFIELDS

Project Name: Tronox-Columbus

Project Number:

Client ID	Method Blank
Lab ID	SS012307B11
Matrix	Soil
Reference Method	SHC
Batch ID	SS012307B11
Date Collected	N/A
Date Received	N/A
Date Prepped	1/23/2007
Date Analyzed	1/25/2007
Sample Size (wet)	30
% Solid	100
File ID	A21542.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	2.2

Class	Abbrev	Analytes	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	U 2.2	

Surrogates (% Recovery)	
ortho-Terphenyl	88
d50-Tetracosane	92

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS012307LCS07
Matrix	Soil
Reference Method	SHC
Batch ID	SS012307B11
Date Collected	N/A
Date Received	N/A
Date Prepped	1/23/2007
Date Analyzed	1/25/2007
Sample Size (wet)	30
% Solid	100
File ID	A21544.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.067

Class	Abbrev	Analytics	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	C9	n-Nonane (C9)	1.2 S	0.067	69	1.6	50	130
SHC	C10	n-Decane (C10)	1.3 S	0.067	79	1.6	50	130
SHC	C12	n-Dodecane (C12)	1.4 S	0.067	85	1.6	50	130
SHC	C14	n-Tetradecane (C14)	1.5 S	0.067	90	1.6	50	130
SHC	C16	n-Hexadecane (C16)	1.6 S	0.067	99	1.6	50	130
SHC	C18	n-Octadecane (C18)	1.7 S	0.067	100	1.6	50	130
SHC	C19	n-Nonadecane (C19)	1.6 S	0.067	99	1.6	50	130
SHC	C20	n-Eicosane (C20)	1.7 S	0.067	100	1.6	50	130
SHC	C22	n-Docosane (C22)	1.7 S	0.067	103	1.6	50	130
SHC	C24	n-Tetracosane (C24)	1.6 S	0.067	99	1.6	50	130
SHC	C26	n-Hexacosane (C26)	1.6 S	0.067	99	1.6	50	130
SHC	C28	n-Octacosane (C28)	1.6 S	0.067	97	1.6	50	130
SHC	C30	n-Triacontane (C30)	1.6 S	0.067	94	1.6	50	130
SHC	C36	n-Hexatriacontane (C36)	1.6 S	0.067	97	1.6	50	130
SHC	TPH	Total Petroleum Hydrocarbons	19		2.2			

Surrogates (% Recovery)
 ortho-Terphenyl 93
 d50-Tetracosane 95

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS012307LCSD07
Matrix	Soil
Reference Method	SHC
Batch ID	SS012307B11
Date Collected	N/A
Date Received	N/A
Date Prepped	1/23/2007
Date Analyzed	1/25/2007
Sample Size (wet)	30
% Solid	100
File ID	A21546.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.067

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
SHC	C9	n-Nonane (C9)	1.2 S	0.067	72	1.6	50	130	5	30
SHC	C10	n-Decane (C10)	1.4 S	0.067	82	1.6	50	130	4	30
SHC	C12	n-Dodecane (C12)	1.4 S	0.067	85	1.6	50	130	1	30
SHC	C14	n-Tetradecane (C14)	1.5 S	0.067	89	1.6	50	130	1	30
SHC	C16	n-Hexadecane (C16)	1.6 S	0.067	97	1.6	50	130	2	30
SHC	C18	n-Octadecane (C18)	1.6 S	0.067	96	1.6	50	130	4	30
SHC	C19	n-Nonadecane (C19)	1.6 S	0.067	96	1.6	50	130	3	30
SHC	C20	n-Eicosane (C20)	1.6 S	0.067	97	1.6	50	130	3	30
SHC	C22	n-Docosane (C22)	1.7 S	0.067	100	1.6	50	130	3	30
SHC	C24	n-Tetracosane (C24)	1.6 S	0.067	96	1.6	50	130	3	30
SHC	C26	n-Hexacosane (C26)	1.6 S	0.067	96	1.6	50	130	3	30
SHC	C28	n-Octacosane (C28)	1.6 S	0.067	94	1.6	50	130	3	30
SHC	C30	n-Triacontane (C30)	1.5 S	0.067	91	1.6	50	130	3	30
SHC	C36	n-Hexatriacontane (C36)	1.6 S	0.067	94	1.6	50	130	3	30
SHC	TPH	Total Petroleum Hydrocarbons	18		2.2					

Surrogates (% Recovery)	
ortho-Terphenyl	90
d50-Tetracosane	92

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID Alaska North Slope Crude
Lab ID TS012407AWS02
Matrix Oil
Reference Method SHC
Batch ID N/A
Date Collected N/A
Date Received N/A
Date Prepped N/A
Date Analyzed 1/24/2007
Sample Size (wet) 0.052
% Solid 100
File ID A21532.D
Units mg/Kg
Final Volume 10
Dilution 1
Reporting Limit 190

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	TPH	Total Petroleum Hydrocarbons	640000	6400	103	623913	65	135

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
*: Value outside of QC Limits.
S: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to Interference. (Metals)
a: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

Priority Pollutant PAH Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	PPS-3
Lab ID	0701073-01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS012307B11
Date Collected	1/20/2007
Date Received	1/23/2007
Date Prepped	1/23/2007
Date Analyzed	1/24/2007
Sample Size (wet)	20.51
% Solid	82.82
File ID	A21535.D
Units	$\mu\text{g/Kg}$
Final Volume	9.09
Dilution	1
Reporting Limit	5.4

Class	Abbrev	Analytes	Result	SSRL
2	N0	Naphthalene	320	5.4
3	AY	Acenaphthylene	2200	5.4
3	AE	Acenaphthene	530	5.4
3	F0	Fluorene	2000	5.4
3	A0	Anthracene	6500 D	130
3	P0	Phenanthrene	3400	5.4
4	FL0	Fluoranthene	52000 D	130
4	PY0	Pyrene	38000 D	130
4	BA0	Benz[a]anthracene	21000 D	130
4	C0	Chrysene/Triphenylene	23000 D	130
5	BBF	Benz[b]fluoranthene	14000 D	130
5	BJKF	Benz[k]fluoranthene	13000 D	130
5	BAP	Benz[a]pyrene	12000 D	130
6	IND	Indeno[1,2,3-cd]pyrene	7400 D	130
5	DA	Dibenz[a,h]anthracene	2100	5.4
6	GHI	Benz[g,h,i]perylene	5400 D	130
		TPAH	202850	

Surrogates (% Recovery)	
2-Methylnaphthalene-d10	82
Pyrene-d10	78
Benzo[b]fluoranthene-d12	97

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-3	FPS-3
Lab ID	0701073-01	0701073-01D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS012307B11	SS012307B11
Date Collected	1/20/2007	1/20/2007
Date Received	1/23/2007	1/23/2007
Date Prepped	1/23/2007	1/23/2007
Date Analyzed	1/24/2007	1/24/2007
Sample Size (wet)	20.51	20.69
% Solid	82.82	82.82
File ID	A21535.D	A21533.D
Units	$\mu\text{g}/\text{Kg}$	$\mu\text{g}/\text{Kg}$
Final Volume	9.09	9.09
Dilution	1	1
Reporting Limit	5.4	5.3

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	NO	Naphthalene	320	5.4	160	5.3	65	30
3	AY	Acenaphthylene	2200	5.4	1300	5.3	57	30
3	AE	Acenaphthene	530	5.4	820	5.3	43	30
3	F0	Fluorene	2000	5.4	2300	5.3	14	30
3	A0	Anthracene	6500	D 130	4500	D 5.3	36	30
3	P0	Phenanthrene	3400	5.4	2500	5.3	30	30
4	FL0	Fluoranthene	52000	D 130	36000	D 130	36	30
4	PY0	Pyrene	38000	D 130	27000	D 130	34	30
4	BA0	Benz[a]anthracene	21000	D 130	14000	D 130	45	30
4	C0	Chrysene/Triphenylene	23000	D 130	13000	D 130	55	30
5	BBF	Benz[b]fluoranthene	14000	D 130	8700	D 130	48	30
5	BJKF	Benz[j]fluoranthene	13000	D 130	8000	D 130	49	30
5	BAP	Benz[a]pyrene	12000	D 130	7300	D 130	47	30
6	IND	Indeno[1,2,3-cd]pyrene	7400	D 130	4500	D 5.3	47	30
5	DA	Dibenz[a,h]anthracene	2100	5.4	1400	5.3	37	30
6	GHI	Benzog,h,iperylene	5400	D 130	3200	D 5.3	50	30
		TPAH	202850		134680			

Surrogates (% Recovery)				
2-Methylnaphthalene-d10	82	79	4	30
Pyrene-d10	78	101	26	30
Benzo[b]fluoranthene-d12	97	109	12	30

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
*: Value outside of QC Limits.
S: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to Interference. (Metals)
#: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

Parent and Alkylated PAH Data



Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-3
Lab ID	0701073-01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS012307B11
Date Collected	1/20/2007
Date Received	1/23/2007
Date Prepped	1/23/2007
Date Analyzed	1/24/2007
Sample Size (wet)	20.51
% Solid	82.82
File ID	A21535.D
Units	µg/Kg
Final Volume	9.09
Dilution	1
Reporting Limit	5.4

Class	Abbrev	Analytes	Result	SSRL
2	N0	Naphthalene	320	5.4
2	N1	C1-Naphthalenes	170 G	5.4
2	N2	C2-Naphthalenes	390	5.4
2	N3	C3-Naphthalenes	800	5.4
2	N4	C4-Naphthalenes	820	5.4
2	B	Biphenyl	50	5.4
3	DF	Dibenzofuran	330	5.4
3	AY	Acenaphthylene	2200	5.4
3	AE	Acenaphthene	530	5.4
3	F0	Fluorene	2000	5.4
3	F1	C1-Fluorenes	900	5.4
3	F2	C2-Fluorenes	1200	5.4
3	F3	C3-Fluorenes	1200	5.4
3	A0	Anthracene	6500 D	130
3	P0	Phenanthrene	3400	5.4
3	PA1	C1-Phenanthrenes/Anthracenes	5000	5.4
3	PA2	C2-Phenanthrenes/Anthracenes	4100	5.4
3	PA3	C3-Phenanthrenes/Anthracenes	2100	5.4
3	PA4	C4-Phenanthrenes/Anthracenes	680	5.4
3	DBT0	Dibenzothiophene	1100	5.4
3	DBT1	C1-Dibenzothiophenes	880	5.4
3	DBT2	C2-Dibenzothiophenes	1100	5.4
3	DBT3	C3-Dibenzothiophenes	920	5.4
3	DBT4	C4-Dibenzothiophenes	450	5.4
4	BF	Benzo(b)fluorene	9300 D	130
4	FL0	Fluoranthene	52000 D	130
4	PY0	Pyrene	38000 D	130
4	FP1	C1-Fluoranthenes/Pyrenes	23000 D	130
4	FP2	C2-Fluoranthenes/Pyrenes	5800	5.4
4	FP3	C3-Fluoranthenes/Pyrenes	2300	5.4
4	FP4	C4-Fluoranthenes/Pyrenes	1400	5.4
4	NBT0	Naphthobenzothiophenes	5600	5.4
4	NBT1	C1-Naphthobenzothiophenes	1800	5.4
4	NBT2	C2-Naphthobenzothiophenes	830	5.4
4	NBT3	C3-Naphthobenzothiophenes	550	5.4
4	NBT4	C4-Naphthobenzothiophenes	280	5.4
4	BA0	Benz[a]anthracene	21000 D	130
4	C0	Chrysene/Triphenylene	23000 D	130
4	BC1	C1-Chrysenes	6400	5.4
4	BC2	C2-Chrysenes	2200	5.4
4	BC3	C3-Chrysenes	1800	5.4
4	BC4	C4-Chrysenes	630	5.4
5	BBF	Benzo[b]fluoranthene	14000 D	130
5	BJKF	Benzo[j]fluoranthene	13000 D	130
5	BAF	Benzo[a]fluoranthene	2900	5.4
5	BEP	Benzo[e]pyrene	9000 D	130
5	BAP	Benzo[a]pyrene	12000 D	130
5	PER	Perlylene	3300	5.4
6	IND	Indeno[1,2,3-cd]pyrene	7400 D	130
5	DA	Dibenz[a,h]anthracene	2100	5.4
5	GHI	Benzol[n,h,i]perylene	5400 D	130
3	4MDT	4-Methyl dibenzothiophene	340	5.4
3	2MDT	2/3-Methyl dibenzothiophene	380	5.4
3	1MDT	1-Methyl dibenzothiophene	64	5.4
3	3MP	3-Methylphenanthrene	1100	5.4
3	2MP	2/4-Methylphenanthrene	700	5.4
3	2MA	2-Methylnaphthalene	1300	5.4
3	9MP	9-Methylnaphthalene	1100	5.4
3	1MP	1-Methylnaphthalene	660	5.4

TPAH 307774

Surrogates (% Recovery)	
2-Methylnaphthalene-d10	82
Pyrene-d10	78
Benzo[b]fluoranthene-d12	97

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-3	FPS-3
Lab ID	0701073-01	0701073-01D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS012307B11	SS012307B11
Date Collected	1/20/2007	1/20/2007
Date Received	1/23/2007	1/23/2007
Date Prepped	1/23/2007	1/23/2007
Date Analyzed	1/24/2007	1/24/2007
Sample Size (wet)	20.51	20.69
% Solid	82.82	82.82
File ID	A21535.D	A21533.D
Units	µg/Kg	µg/Kg
Final Volume	9.09	9.09
Dilution	1	1
Reporting Limit	5.4	5.3

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	320	5.4	160	5.3	65	30
2	N1	C1-Naphthalenes	170	G 5.4	120 G	5.3	33	30
2	N2	C2-Naphthalenes	390	5.4	370	5.3	7	30
2	N3	C3-Naphthalenes	800	5.4	970	5.3	20	30
2	N4	C4-Naphthalenes	820	5.4	1100	5.3	33	30
2	B	Biphenyl	50	5.4	34	5.3	38	30
3	DF	Dibenzofuran	330	5.4	250	5.3	28	30
3	AY	Acenaphthylene	2200	5.4	1300	5.3	57	30
3	AE	Acenaphthene	530	5.4	820	5.3	43	30
3	F0	Fluorene	2000	5.4	2300	5.3	14	30
3	F1	C1-Fluorenes	900	5.4	1100	5.3	20	30
3	F2	C2-Fluorenes	1200	5.4	1500	5.3	23	30
3	F3	C3-Fluorenes	1200	5.4	1400	5.3	8	30
3	A0	Anthracene	6500	D 130	4500 D	5.3	36	30
3	P0	Phenanthrene	3400	5.4	2500	5.3	30	30
3	PA1	C1-Phenanthrenes/Anthracenes	5000	5.4	4400	5.3	13	30
3	PA2	C2-Phenanthrenes/Anthracenes	4100	5.4	4100	5.3	1	30
3	PA3	C3-Phenanthrenes/Anthracenes	2100	5.4	2100	5.3	0	30
3	PA4	C4-Phenanthrenes/Anthracenes	680	5.4	680	5.3	1	30
3	DBT0	Dibenzothiophene	1100	5.4	1300	5.3	19	30
3	DBT1	C1-Dibenzothiophenes	880	5.4	970	5.3	10	30
3	DBT2	C2-Dibenzothiophenes	1100	5.4	1200	5.3	7	30
3	DBT3	C3-Dibenzothiophenes	920	5.4	910	5.3	2	30
3	DBT4	C4-Dibenzothiophenes	450	5.4	420	5.3	7	30
4	BF	Benz{o}fluorene	9300	D 130	5200 D	130	57	30
4	FL0	Fluoranthene	52000	D 130	36000 D	130	36	30
4	PY0	Pyrene	38000	D 130	27000 D	130	34	30
4	FP1	C1-Fluoranthenes/Pyrenes	23000	D 130	14000 D	130	46	30
4	FP2	C2-Fluoranthenes/Pyrenes	5800	5.4	5100	5.3	12	30
4	FP3	C3-Fluoranthenes/Pyrenes	2300	5.4	2000	5.3	12	30
4	FP4	C4-Fluoranthenes/Pyrenes	1400	5.4	1300	5.3	7	30
4	NBT0	Naphthobenzothiophenes	5600	5.4	4600	5.3	19	30
4	NBT1	C1-Naphthobenzothiophenes	1800	5.4	1600	5.3	11	30
4	NBT2	C2-Naphthobenzothiophenes	830	5.4	900	5.3	8	30
4	NBT3	C3-Naphthobenzothiophenes	550	5.4	790	5.3	35	30
4	NBT4	C4-Naphthobenzothiophenes	280	5.4	610	5.3	73	30
4	BA0	Benz[a]anthracene	21000	D 130	14000 D	130	45	30
4	C0	Chrysene/Triphenylene	23000	D 130	13000 D	130	55	30
4	BC1	C1-Chrysenes	6400	5.4	4500	5.3	35	30
4	BC2	C2-Chrysenes	2200	5.4	1800	5.3	21	30
4	BC3	C3-Chrysenes	1800	5.4	1400	5.3	26	30
4	BC4	C4-Chrysenes	630	5.4	540	5.3	14	30
5	BBF	Benz{o}fluoranthene	14000	D 130	8700 D	130	48	30
5	BJKF	Benz{o}jfluoranthene	13000	D 130	8000 D	130	49	30
5	BAF	Benz{o}afluoranthene	2900	5.4	2000	5.3	34	30
5	BEP	Benz{o}elpyrene	9000	D 130	5400 D	130	49	30
5	BAP	Benz{o}a]pyrene	12000	D 130	7300 D	130	47	30
5	PER	Perylene	3300	5.4	2300	5.3	36	30
6	IND	Indeno[1,2,3-cd]pyrene	7400	D 130	4500 D	5.3	47	30
5	DA	Dibenzo[a,h]anthracene	2100	5.4	1400	5.3	37	30
6	GH!	Benz{o}g,h,]perylene	5400	D 130	3200 D	5.3	50	30
3	4MDT	4-Methyldibenzothiophene	340	5.4	380	5.3	12	30
3	2MDT	2/3-Methyldibenzothiophene	380	5.4	430	5.3	10	30
3	1MDT	1-Methyldibenzothiophene	64	5.4	70	5.3	9	30
3	3MP	3-Methylphenanthrene	1100	5.4	1100	5.3	2	30
3	2MP	2/4-Methylphenanthrene	700	5.4	530	5.3	28	30
3	2MA	2-Methylnaphthalene	1300	5.4	1000	5.3	21	30
3	9MP	9-Methylphenanthrene	1100	5.4	1100	5.3	1	30
3	1MP	1-Methylnaphthalene	660	5.4	510	5.3	25	30
	TPAH		307774		216764			

Surrogates (% Recovery)					
2-Methylnaphthalene-d10	82	79	4	30	
Pyrene-d10	78	101	26	30	
Benzo[b]fluoranthene-d12	97	109	12	30	

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Method Blank
Lab ID	SS012307B11
Matrix	Soli
Reference Method	Modified 8270C
Batch ID	SS012307B11
Date Collected	N/A
Date Received	N/A
Date Prepped	1/23/2007
Date Analyzed	1/25/2007
Sample Size (wet)	30
% Solid	100
File ID	A21545.D
Units	µg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL
2	N0	Naphthalene	0.061	J 0.67
2	N1	C1-Naphthalenes		U 0.67
2	N2	C2-Naphthalenes		U 0.67
2	N3	C3-Naphthalenes		U 0.67
2	N4	C4-Naphthalenes		U 0.67
2	B	Biphenyl		U 0.67
3	DF	Dibenzofuran		U 0.67
3	AY	Acenaphthylene	0.15	J 0.67
3	AE	Acenaphthene		U 0.67
3	F0	Fluorene		U 0.67
3	F1	C1-Fluorenes		U 0.67
3	F2	C2-Fluorenes		U 0.67
3	F3	C3-Fluorenes		U 0.67
3	A0	Anthracene	0.065	J 0.67
3	P0	Phenanthrene	0.13	J 0.67
3	PA1	C1-Phenanthrenes/Anthracenes		U 0.67
3	PA2	C2-Phenanthrenes/Anthracenes		U 0.67
3	PA3	C3-Phenanthrenes/Anthracenes		U 0.67
3	PA4	C4-Phenanthrenes/Anthracenes		U 0.67
3	DBT0	Dibenzothiophene	0.045	J 0.67
3	DBT1	C1-Dibenzothiophenes	0.18	J 0.67
3	DBT2	C2-Dibenzothiophenes		U 0.67
3	DBT3	C3-Dibenzothiophenes		U 0.67
3	DBT4	C4-Dibenzothiophenes		U 0.67
4	BF	Benzo(b)fluorene		U 0.67
4	FL0	Fluoranthene	0.11	J 0.67
4	PY0	Pyrene	0.12	J 0.67
4	FP1	C1-Fluoranthenes/Pyrenes		U 0.67
4	FP2	C2-Fluoranthenes/Pyrenes		U 0.67
4	FP3	C3-Fluoranthenes/Pyrenes		U 0.67
4	FP4	C4-Fluoranthenes/Pyrenes		U 0.67
4	NBT0	Naphthobenzothiophenes		U 0.67
4	NBT1	C1-Naphthobenzothiophenes		U 0.67
4	NBT2	C2-Naphthobenzothiophenes		U 0.67
4	NBT3	C3-Naphthobenzothiophenes		U 0.67
4	NBT4	C4-Naphthobenzothiophenes		U 0.67
4	BA0	Benz[a]anthracene		U 0.67
4	C0	Chrysene/Triphenylene	0.041	J 0.67
4	BC1	C1-Chrysenes		U 0.67
4	BC2	C2-Chrysenes		U 0.67
4	BC3	C3-Chrysenes		U 0.67
4	BC4	C4-Chrysenes		U 0.67
5	BBF	Benzo[b]fluoranthene		U 0.67
5	BJKF	Benzo[k]fluoranthene		U 0.67
5	BAF	Benzo[a]fluoranthene		U 0.67
5	BEP	Benzo[e]pyrene		U 0.67
5	BAP	Benzo[a]pyrene		U 0.67
5	PER	Perylene		U 0.67
6	IND	Indeno[1,2,3-cd]pyrene		U 0.67
5	DA	Dibenz[a,h]anthracene		U 0.67
5	GHI	Benzol[g,h,i]perylene	0.067	J 0.67
3	4MDT	4-Methyl dibenzothiophene		U 0.67
3	2MDT	2/3-Methyl dibenzothiophene		U 0.67
3	1MDT	1-Methyl dibenzothiophene	0.093	J 0.67
3	3MP	3-Methylphenanthrene		U 0.67
3	2MP	2/4-Methylphenanthrene		U 0.67
3	2MA	2-Methylnaphthalene		U 0.67
3	9MP	9-Methylphenanthrene		U 0.67
3	1MP	1-Methylphenanthrene		U 0.67

Surrogates (% Recovery)	
2-Methylnaphthalene-d10	53
Pyrene-d10	87
Benzol[b]fluoranthene-d12	101

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS012307LCS07
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS012307B11
Date Collected	N/A
Date Received	N/A
Date Prepped	1/23/2007
Date Analyzed	1/25/2007
Sample Size (wet)	30
% Solid	100
File ID	A21547.D
Units	$\mu\text{g}/\text{Kg}$
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	28 S	0.67	83	33	50	130
2	N1	C1-Naphthalenes		U	0.67			
2	N2	C2-Naphthalenes		U	0.67			
2	N3	C3-Naphthalenes		U	0.67			
2	N4	C4-Naphthalenes		U	0.67			
2	B	Biphenyl		U	0.67			
3	DF	Dibenzofuran		U	0.67			
3	AY	Acenaphthylene	30 S	0.67	90	33	50	130
3	AE	Acenaphthene	29 S	0.67	88	33	50	130
3	F0	Fluorene	29 S	0.67	88	33	50	130
3	F1	C1-Fluorenes		U	0.67			
3	F2	C2-Fluorenes		U	0.67			
3	F3	C3-Fluorenes		U	0.67			
3	A0	Anthracene	33 S	0.67	98	33	50	130
3	P0	Phenanthrene	30 S	0.67	89	33	50	130
3	PA1	C1-Phenanthrenes/Anthracenes		U	0.67			
3	PA2	C2-Phenanthrenes/Anthracenes		U	0.67			
3	PA3	C3-Phenanthrenes/Anthracenes		U	0.67			
3	PA4	C4-Phenanthrenes/Anthracenes		U	0.67			
3	DBT0	Dibenzothiophene		U	0.67			
3	DBT1	C1-Dibenzothiophenes		U	0.67			
3	DBT2	C2-Dibenzothiophenes		U	0.67			
3	DBT3	C3-Dibenzothiophenes		U	0.67			
3	DBT4	C4-Dibenzothiophenes		U	0.67			
4	BF	Benzo(b)fluorene		U	0.67			
4	FL0	Fluoranthene	30 S	0.67	91	33	50	130
4	PY0	Pyrene	32 S	0.67	97	33	50	130
4	FP1	C1-Fluoranthenes/Pyrenes		U	0.67			
4	FP2	C2-Fluoranthenes/Pyrenes		U	0.67			
4	FP3	C3-Fluoranthenes/Pyrenes		U	0.67			
4	FP4	C4-Fluoranthenes/Pyrenes		U	0.67			
4	NBT0	Naphthobenzothiophenes		U	0.67			
4	NBT1	C1-Naphthobenzothiophenes		U	0.67			
4	NBT2	C2-Naphthobenzothiophenes		U	0.67			
4	NBT3	C3-Naphthobenzothiophenes		U	0.67			
4	NBT4	C4-Naphthobenzothiophenes		U	0.67			
4	BA0	Benz[a]anthracene	32 S	0.67	96	33	50	130
4	C0	Chrysene/Triphenylene	30 S	0.67	89	33	50	130
4	BC1	C1-Chrysenes		U	0.67			
4	BC2	C2-Chrysenes		U	0.67			
4	BC3	C3-Chrysenes		U	0.67			
4	BC4	C4-Chrysenes		U	0.67			
5	BBF	Benzo[b]fluoranthene	31 S	0.67	94	33	50	130
5	BJKF	Benzo[k]fluoranthene	30 S	0.67	91	33	50	130
5	BAF	Benzo[a]fluoranthene		U	0.67			
5	BEP	Benzo[e]pyrene		U	0.67			
5	BAP	Benzo[a]pyrene	32 S	0.67	97	33	50	130
5	PER	Perylene		U	0.67			
6	IND	Indeno[1,2,3-cd]pyrene	32 S	0.67	96	33	50	130
5	DA	Dibenz[a,h]anthracene	35 S	0.67	104	33	50	130
6	GHI	Benz[g,h,i]perylene	30 S	0.67	89	33	50	130

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 89
 Pyrene-d10 93
 Benzo[b]fluoranthene-d12 99

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS012307LCSD07
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS012307B11
Date Collected	N/A
Date Received	N/A
Date Prepped	1/23/2007
Date Analyzed	1/25/2007
Sample Size (wet)	30
% Solid	100
File ID	A21549.D
Units	$\mu\text{g}/\text{Kg}$
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
2	N0	Naphthalene	28	S 0.67	85	33	50	130	3	30
2	N1	C1-Naphthalenes		U 0.67						
2	N2	C2-Naphthalenes		U 0.67						
2	N3	C3-Naphthalenes		U 0.67						
2	N4	C4-Naphthalenes		U 0.67						
2	B	Biphenyl		U 0.67						
3	DF	Dibenzofuran		U 0.67						
3	AY	Acenaphthylene	30	S 0.67	91	33	50	130	1	30
3	AE	Acenaphthene	29	S 0.67	88	33	50	130	0	30
3	F0	Fluorene	29	S 0.67	87	33	50	130	1	30
3	F1	C1-Fluorenes		U 0.67						
3	F2	C2-Fluorenes		U 0.67						
3	F3	C3-Fluorenes		U 0.67						
3	A0	Anthracene	33	S 0.67	98	33	50	130	0	30
3	P0	Phenanthrene	30	S 0.67	89	33	50	130	0	30
3	PA1	C1-Phenanthrenes/Anthracenes		U 0.67						
3	PA2	C2-Phenanthrenes/Anthracenes		U 0.67						
3	PA3	C3-Phenanthrenes/Anthracenes		U 0.67						
3	PA4	C4-Phenanthrenes/Anthracenes		U 0.67						
3	DBT0	Dibenzothiophene		U 0.67						
3	DBT1	C1-Dibenzothiophenes		U 0.67						
3	DBT2	C2-Dibenzothiophenes		U 0.67						
3	DBT3	C3-Dibenzothiophenes		U 0.67						
3	DBT4	C4-Dibenzothiophenes		U 0.67						
4	BF	Benzo(b)fluorene		U 0.67						
4	FL0	Fluoranthene	30	S 0.67	89	33	50	130	2	30
4	PY0	Pyrene	32	S 0.67	95	33	50	130	2	30
4	FP1	C1-Fluoranthenes/Pyrenes		U 0.67						
4	FP2	C2-Fluoranthenes/Pyrenes		U 0.67						
4	FP3	C3-Fluoranthenes/Pyrenes		U 0.67						
4	FP4	C4-Fluoranthenes/Pyrenes		U 0.67						
4	NBT0	Naphthobenzothiophenes		U 0.67						
4	NBT1	C1-Naphthobenzothiophenes		U 0.67						
4	NBT2	C2-Naphthobenzothiophenes		U 0.67						
4	NBT3	C3-Naphthobenzothiophenes		U 0.67						
4	NBT4	C4-Naphthobenzothiophenes		U 0.67						
4	BA0	Benz[a]anthracene	31	S 0.67	94	33	50	130	2	30
4	C0	Chrysene/Triphenylene	30	S 0.67	89	33	50	130	0	30
4	BC1	C1-Chrysenes		U 0.67						
4	BC2	C2-Chrysenes		U 0.67						
4	BC3	C3-Chrysenes		U 0.67						
4	BC4	C4-Chrysenes		U 0.67						
5	BBF	Benzo[b]fluoranthene	31	S 0.67	93	33	50	130	1	30
5	BJKF	Benzo[k]fluoranthene	30	S 0.67	89	33	50	130	3	30
5	BAF	Benzo[a]fluoranthene		U 0.67						
5	BEP	Benzo[e]pyrene		U 0.67						
5	BAP	Benzo[a]pyrene	32	S 0.67	95	33	50	130	2	30
5	PER	Perylene		U 0.67						
6	IND	Indeno[1,2,3-cd]pyrene	32	S 0.67	95	33	50	130	2	30
5	DA	Dibenz[a,h]anthracene	34	S 0.67	102	33	50	130	2	30
6	GHI	Benzo[g,h,i]perylene	29	S 0.67	88	33	50	130	2	30

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 88
 Pyrene-d10 89
 Benzo[b]fluoranthene-d12 95

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Alaska North Slope Crude
Lab ID	SS012407AWS01
Matrix	Oil
Reference Method	Modified 8270C
Batch ID	N/A
Date Collected	N/A
Date Received	N/A
Date Prepped	N/A
Date Analyzed	1/23/2007
Sample Size (wet)	0.052
% Solid	100
File ID	A21502.D
Units	mg/Kg
Final Volume	10
Dilution	1
Reporting Limit	1.9

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	
2	N0	Naphthalene	660	1.9	98	669.92	65	135	
2	N1	C1-Naphthalenes	1400	1.9	101	1432.05	65	135	
2	N2	C2-Naphthalenes	1800	1.9	102	1770.37	65	135	
2	N3	C3-Naphthalenes	1400	1.9	108	1321.83	65	135	
2	N4	C4-Naphthalenes	750	1.9	102	731.64	65	135	
2	B	Biphenyl	220	1.9	113	190.36	65	135	
3	DF	Dibenzofuran	69	1.9					
3	AY	Acenaphthylene	9.7	1.9					
3	AE	Acenaphthene	19	1.9	127	14.71	65	135	
3	F0	Fluorene	88	1.9	113	77.57	65	135	
3	F1	C1-Fluorenes	200	1.9	100	203.54	65	135	
3	F2	C2-Fluorenes	330	1.9	104	314.43	65	135	
3	F3	C3-Fluorenes	310	1.9	107	290.03	65	135	
3	A0	Anthracene	U	1.9					
3	P0	Phenanthrene	270	1.9	102	259.89	65	135	
3	PA1	C1-Phenanthrenes/Anthracenes	570	1.9	105	545.98	65	135	
3	PA2	C2-Phenanthrenes/Anthracenes	630	1.9	106	587.69	65	135	
3	PA3	C3-Phenanthrenes/Anthracenes	440	1.9	102	428.71	65	135	
3	PA4	C4-Phenanthrenes/Anthracenes	160	1.9	100	159.5	65	135	
3	DBT0	Dibenzothiophene	220	1.9	105	210.91	65	135	
3	DBT1	C1-Dibenzothiophenes	450	1.9	113	396.93	65	135	
3	DBT2	C2-Dibenzothiophenes	560	1.9	104	538.82	65	135	
3	DBT3	C3-Dibenzothiophenes	510	1.9	110	464.97	65	135	
3	DBT4	C4-Dibenzothiophenes	270	1.9	109	243.14	65	135	
4	BF	Benz[b]fluorene	U	1.9					
4	FL0	Fluoranthene	4.7	1.9	113	4.14	65	135	
4	PY0	Pyrene	13	1.9	106	12.07	65	135	
4	FP1	C1-Fluoranthenes/Pyrenes	75	1.9	104	72.24	65	135	
4	FP2	C2-Fluoranthenes/Pyrenes	120	1.9	102	120.66	65	135	
4	FP3	C3-Fluoranthenes/Pyrenes	140	1.9	111	130.08	65	135	
4	FP4	C4-Fluoranthenes/Pyrenes	130	1.9					
4	NBT0	Naphthobenzothiophenes	60	1.9					
4	NBT1	C1-Naphthobenzothiophenes	150	1.9					
4	NBT2	C2-Naphthobenzothiophenes	200	1.9					
4	NBT3	C3-Naphthobenzothiophenes	150	1.9					
4	NBT4	C4-Naphthobenzothiophenes	100	1.9					
4	BA0	Benz[a]anthracene	1.7	J	1.9				
4	C0	Chrysene/Triphenylene	48	1.9	96	49.55	65	135	
4	BC1	C1-Chrysenes	82	1.9	99	82.86	65	135	
4	BC2	C2-Chrysenes	110	1.9	107	102.78	65	135	
4	BC3	C3-Chrysenes	110	1.9	103	107.68	65	135	
4	BC4	C4-Chrysenes	68	1.9	108	62.56	65	135	
5	BBF	Benz[b]fluoranthene	5.9	1.9	102	5.79	65	135	
5	BJKF	Benz[k]fluoranthene	U	1.9					
5	BAF	Benz[a]fluoranthene	U	1.9					
5	BEP	Benz[e]pyrene	12	1.9	100	12.05	65	135	
5	BAP	Benz[a]pyrene	1.7	J	1.9				
5	PER	Perylene	1.4	J	1.9				
6	IND	Indeno[1,2,3-cd]pyrene	1.2	J	1.9				
5	DA	Dibenzo[a,h]anthracene	1.1	J	1.9	115	0.94	65	135
6	GHI	Benz[g,h,i]perylene	3.8	1.9	109	3.47	65	135	
3	4MDT	4-Methyl dibenzothiophene	220	1.9					
3	2MDT	2,3-Methyl dibenzothiophene	160	1.9					
3	1MDT	1-Methyl dibenzothiophene	65	1.9					
3	3MP	3-Methyl phenanthrene	120	1.9					
3	2MP	2,4-Methyl phenanthrene	130	1.9					
3	2MA	2-Methyl anthracene	3.9	1.9					
3	9MP	9-Methyl phenanthrene	180	1.9					
3	1MP	1-Methyl phenanthrene	130	1.9					

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
*: Value outside of QC Limits.
S: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to interference. (Metals)
*: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)



new INSIGHT | new DIRECTION | new DECISION

**Tronox-Columbus
September 2006 Investigation
Data Deliverable #6**

Chain of Custody

Sample Receipt Checklist

Page 1 of _____

Client:	NEWFS		Receipt Date:	2/6/07	
Project:	Tromox Columbus		Log-in Date:		
ETR #:			Inspection by:	W	Login by:

ALL SECTIONS BELOW MUST BE COMPLETED

Comments / Notes					
Were samples shipped? <input checked="" type="radio"/> Yes, FedEx <input type="radio"/> UPS / Other: _____ <input type="radio"/> No, WHG Courier pick-up / Hand delivered			Sample storage refrigerator #: _____		
Is bill of lading retained? <input checked="" type="radio"/> Yes, Tracking #: ATTACHED <input type="radio"/> No, Unavailable / NA			Sample storage freezer #: _____		
Number of coolers received for this project delivery: 1			Cooler 2: _____ Cooler 3: _____		
Indicate cooler temperature upon opening (if multiple coolers, record all temps): <u>Note:</u> If all coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note all samples received above 6°C.			Cooler 4: _____ Cooler 5: _____		
Cooler 1: Temperature(s) taken from: <u>30</u> IR Gun, <u>2</u> Temp. Blank, / NA			Cooler 6: _____ Cooler 7: _____		
Were samples received on ice? <input checked="" type="radio"/> Yes / <input type="radio"/> No			More: _____		
Chain-of-Custody present? Complete? <input checked="" type="radio"/> Yes / <input type="radio"/> No			<u>No DATE REUNPACKED ON COC</u>		
Custody seals present on Cooler? on Bottles? <input checked="" type="radio"/> Yes / <input type="radio"/> No			<u>Label</u> <u>Cap</u> FPS-4 Z/5/07 1630 STA 1775 US Z/5/07 1635		
Intact? <input checked="" type="radio"/> Yes / <input type="radio"/> No / NA					
<u>Note:</u> Affix custody seals to back of this page.					
Were sample containers intact? <input checked="" type="radio"/> Yes / <input type="radio"/> No			If No, list samples: →		
Did VOA/VPH waters contain headspace (>5mm)? Yes / <input type="radio"/> No NA			If Yes, list samples: →		
Were 5035 VOA soils, or VPH soils, covered with MeOH? Yes / <input type="radio"/> No / <input checked="" type="radio"/> NA			If No, list samples: →		
Was a sufficient amount of sample received for each test indicated on the COC? <input checked="" type="radio"/> Yes / <input type="radio"/> No			If No, list samples: →		
<u>If chemical preservation is appropriate -</u>					
Were samples field preserved? <input type="radio"/> Yes / <input type="radio"/> No / <input checked="" type="radio"/> NA			Chemical preservation OK for ALL samples?		
<input type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=H ₂ SO ₄ <input type="checkbox"/> H=NaOH <input type="checkbox"/> N=NHO ₃ , <input type="checkbox"/> Other: _____ <input type="checkbox"/> U=Unknown			<input type="radio"/> Yes / <input type="radio"/> No / <input checked="" type="radio"/> N/A		
Preservation (pH) verified at lab for EVERY bottle? (<u>Note:</u> VOA / VPH / Sulfide)					
YES: <2 or >12 (CN) or NO <input type="radio"/> NA					
If No, why?: _____					
Were samples received within hold time? <input checked="" type="radio"/> Yes / <input type="radio"/> No			If No, list samples: →		
Discrepancy between samples rec'd & COC? <input checked="" type="radio"/> Yes / <input type="radio"/> No			If Yes, list samples: →		
Was the Project Manager notified of any other problems? Yes / <input type="radio"/> No / NA					
Project Manager Acknowledgement:			Date: _____		
<i>Please use back for any additional notes!</i>					

Sample Receipt Checklist

Page 1 of 1

Client: NEWPIE	Receipt Date: 2/7/07
Project: Tronox - Columbus	Log-in Date:
ETR #:	Inspection by: W Login by:

ALL SECTIONS BELOW MUST BE COMPLETED

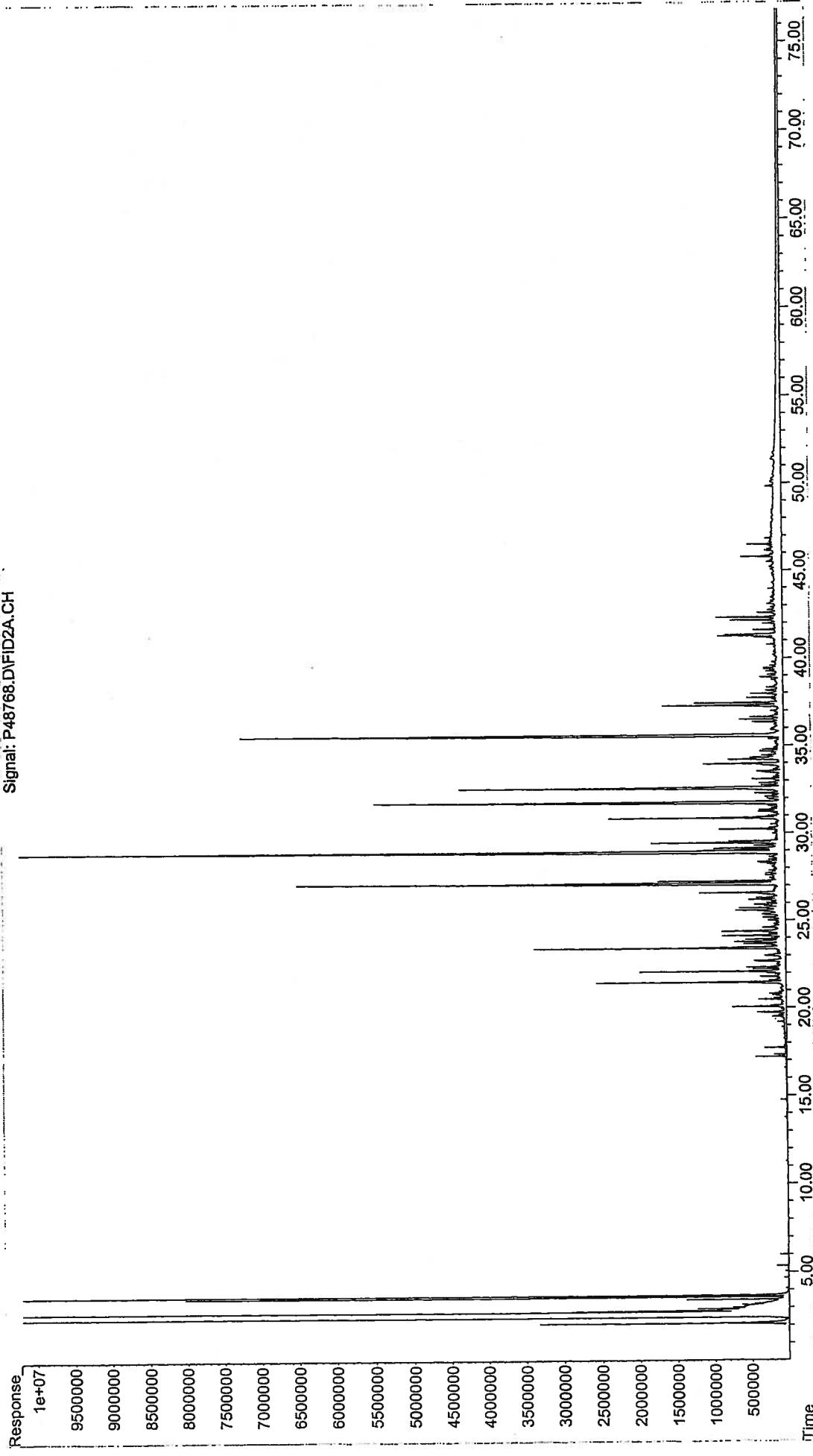
Comments / Notes

Were samples shipped? Yes, FedEx / UPS / Other: _____ No, WHG Courier pick-up / Hand delivered	Sample storage refrigerator #: _____
Is bill of lading retained? Yes, Tracking #: Attached No, Unavailable / NA	Sample storage freezer #: _____
Number of coolers received for this project delivery: 1	Cooler 2: _____ Cooler 3: _____
Indicate cooler temperature upon opening (if multiple coolers, record <u>all</u> temps): <u>Note:</u> If <u>all</u> coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note <u>all</u> samples received <u>above</u> 6°C.	Cooler 4: _____ Cooler 5: _____
Cooler 1: 40 IR Gun, 35 Temp. Blank, / NA Temperature(s) taken from: 40 IR Gun, 35 Temp. Blank, / NA	Cooler 6: _____ Cooler 7: _____
Were samples received on ice? Yes / No	More: _____
Chain-of-Custody present? Complete? Yes / No	
Custody seals present on Cooler? on Bottles? Yes / No Intact? Yes / No / NA	
<u>Note:</u> Affix custody seals to back of this page.	
Were sample containers intact? Yes / No If No, list samples: →	
Did VOA/VPH waters contain headspace (>5mm)? Yes / No / NA If Yes, list samples: →	
Were 5035 VOA soils, or VPH soils, covered with MeOH? Yes / No / NA If No, list samples: →	
Was a sufficient amount of sample received for each test indicated on the COC? Yes / No If No, list samples: →	Chemical preservation OK for ALL samples?
<i>If chemical preservation is appropriate -</i> Were samples field preserved? Yes / No / NA	Yes / No / N/A
<input type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=H ₂ SO ₄ <input type="checkbox"/> H=NaOH <input type="checkbox"/> N=HNO ₃ , <input type="checkbox"/> Other: _____ <input type="checkbox"/> U=Unknown	If No, list samples below:
Preservation (pH) verified at lab for EVERY bottle? (Not: VOA / VPH / Sulfide) YES: <2 or >12 (CN) or NO NA	
If No, why?:	
Were samples received within hold time? Yes / No If No, list samples: →	
Discrepancy between samples rec'd & COC ? Yes / No If Yes, list samples: →	
Was the Project Manager notified of any other problems? Yes / No / NA	
Project Manager Acknowledgement:	Date: _____
<i>Please use back for any additional notes!</i>	

FID Chromatograms

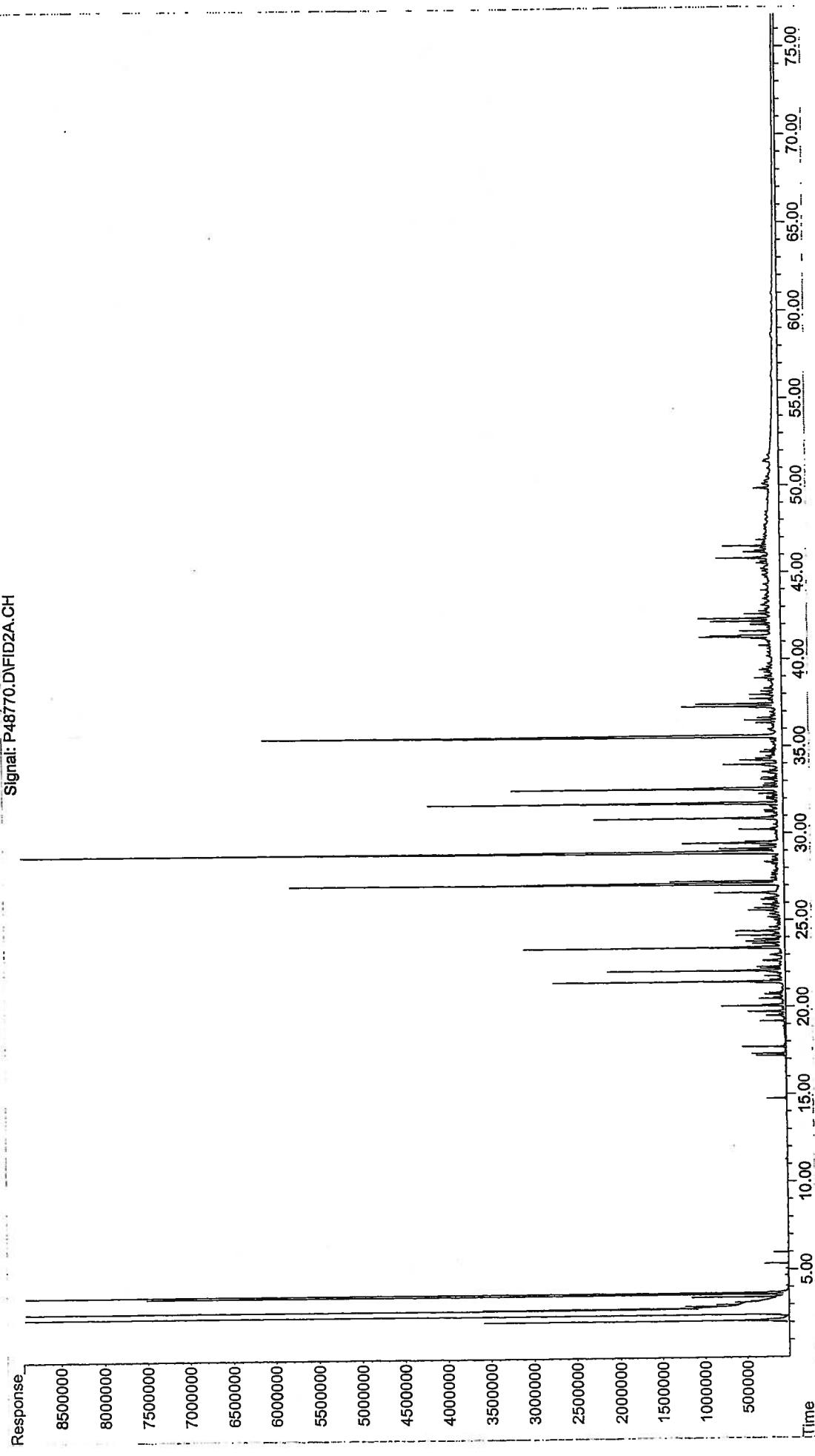
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Operator : AC
Acquired : 11 Feb 2007 11:06 am using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: 0702022-01-afid
Misc Info : 1x
Vial Number: 93

STA 2+00 US
0702022-01

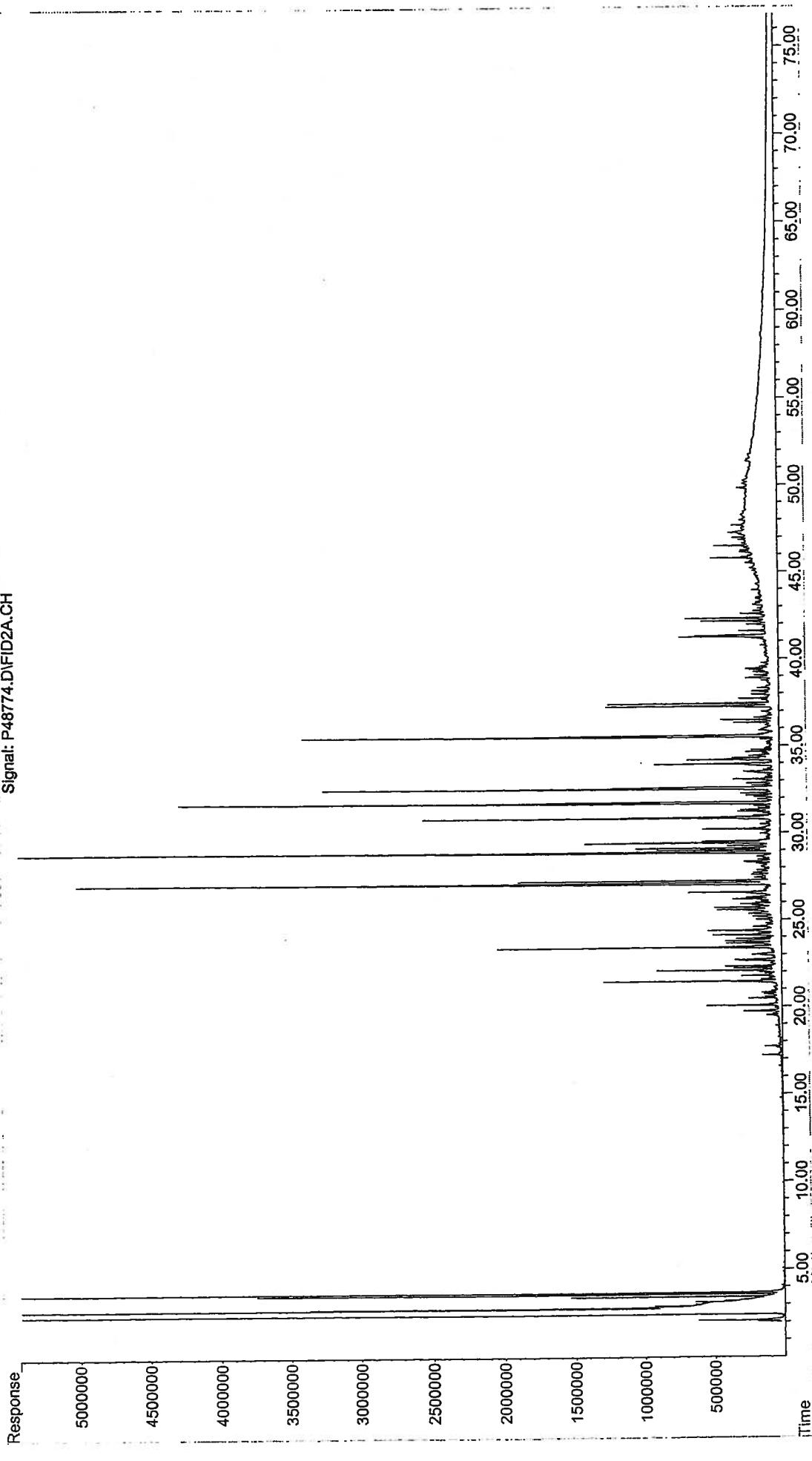


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Sample Name: 0702022-02-afid
Misc Info : 1x
Vial Number: 94

STA 2+25 US
0702022-02

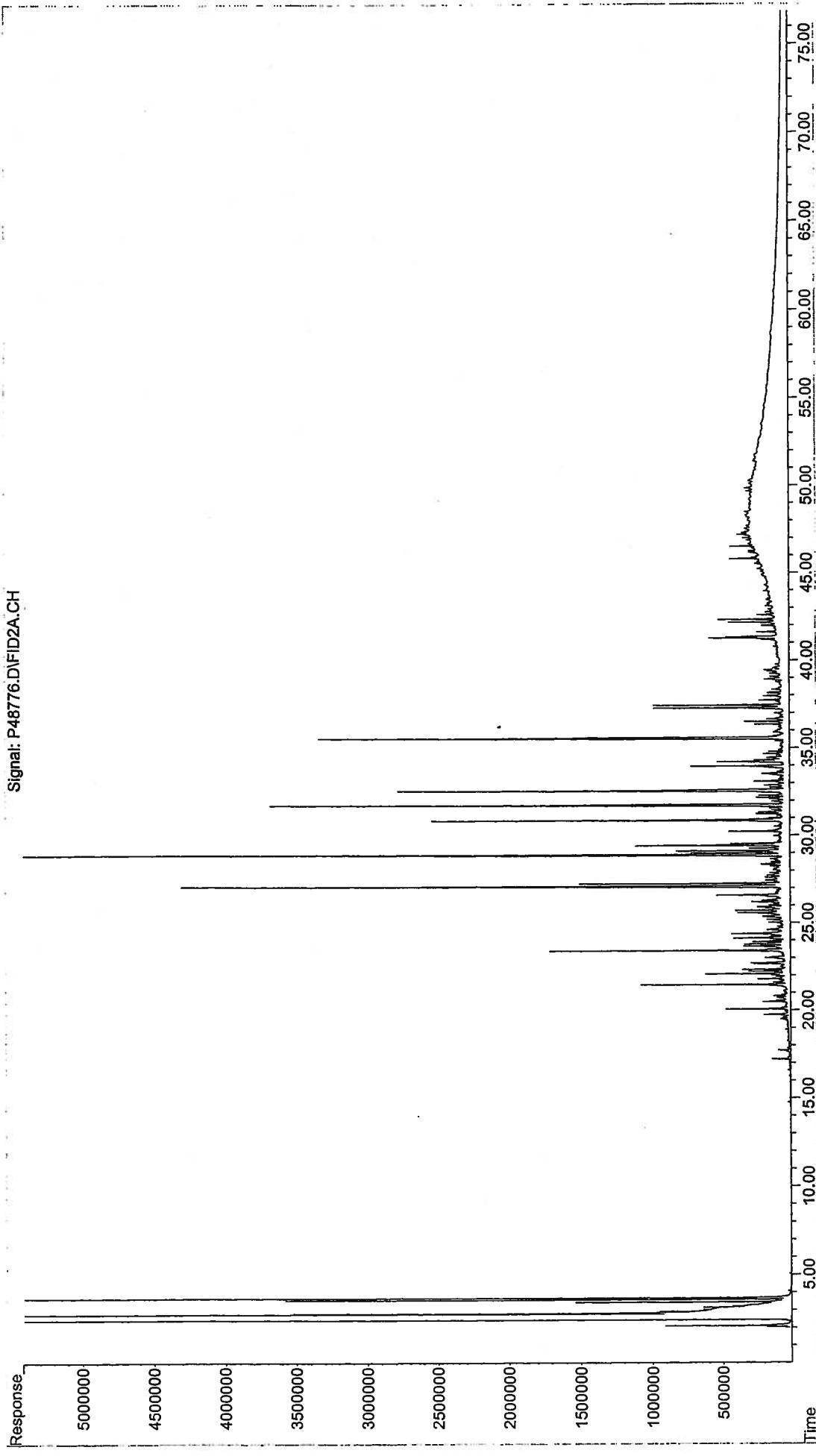


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Instrument : PAH-4
Sample Name: 0702022-03-afid
Misc Info : 1x
Vial Number: 96



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Instrument : PAH-4
Sample Name: 0702022-03d-afid
Misc Info : 1X
Vial Number: 97

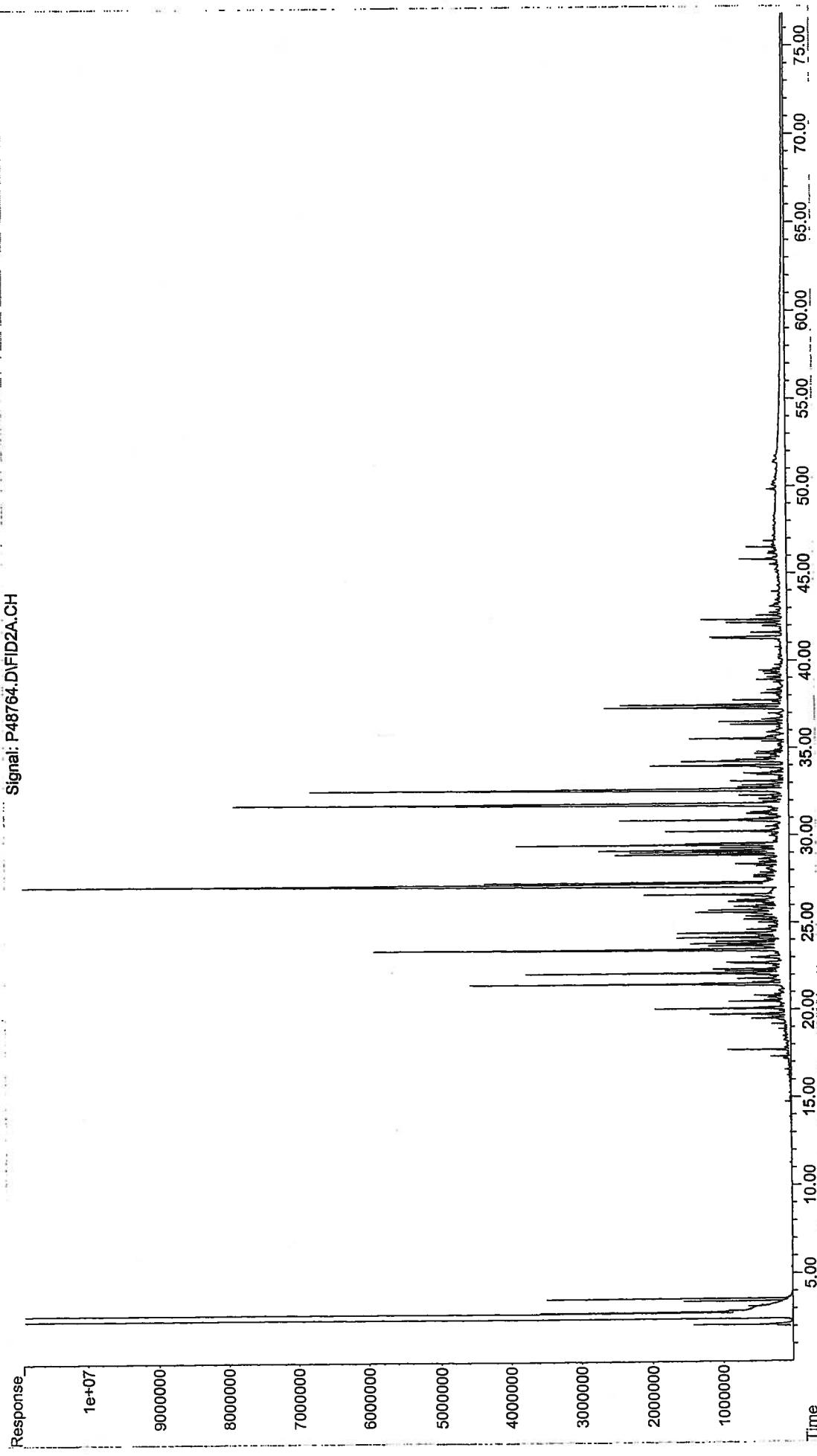
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Misc Info : 1x
Vial Number: 91

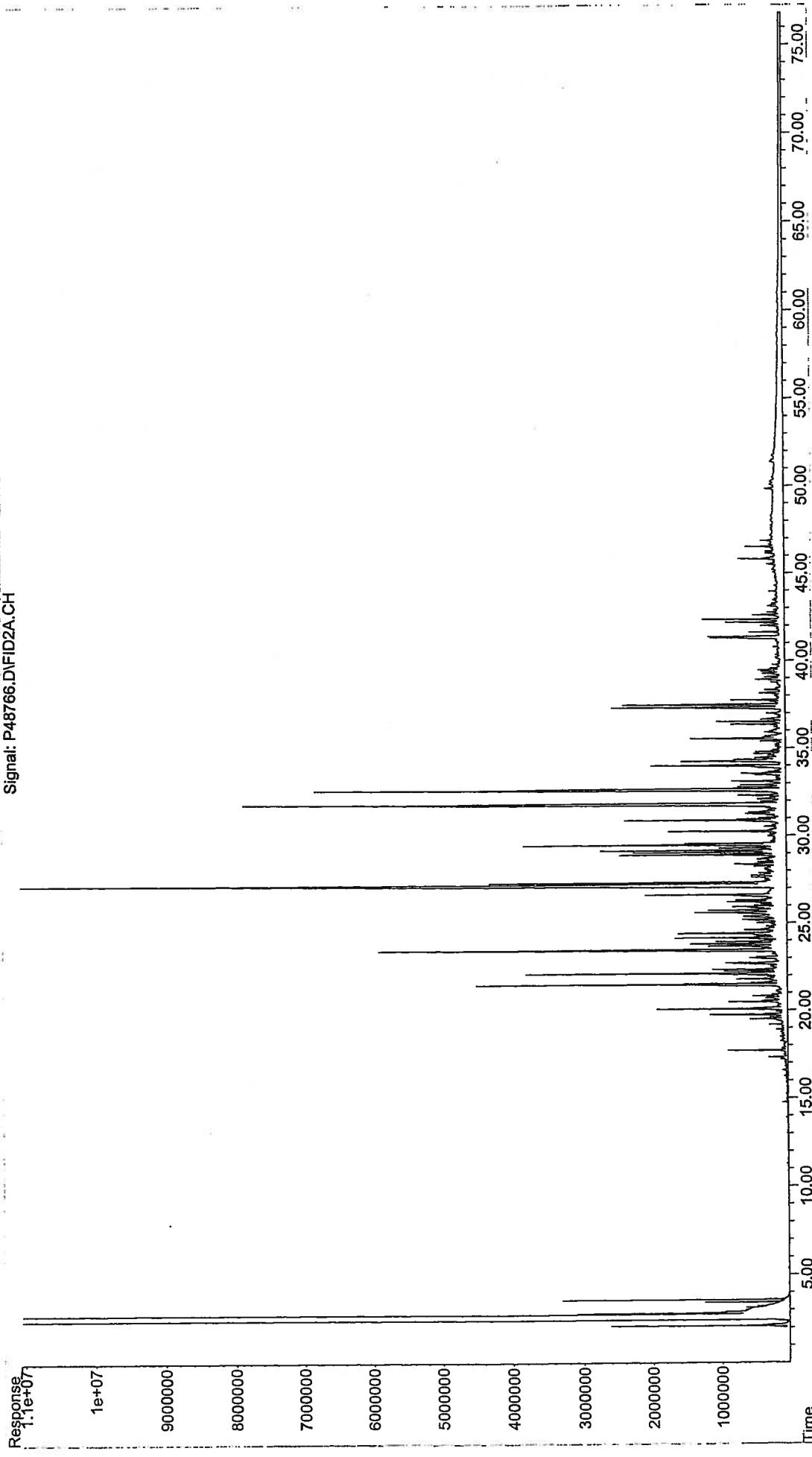
STA 1+75 US
0702022-04

Signal: P48764.D\FID2A.CH

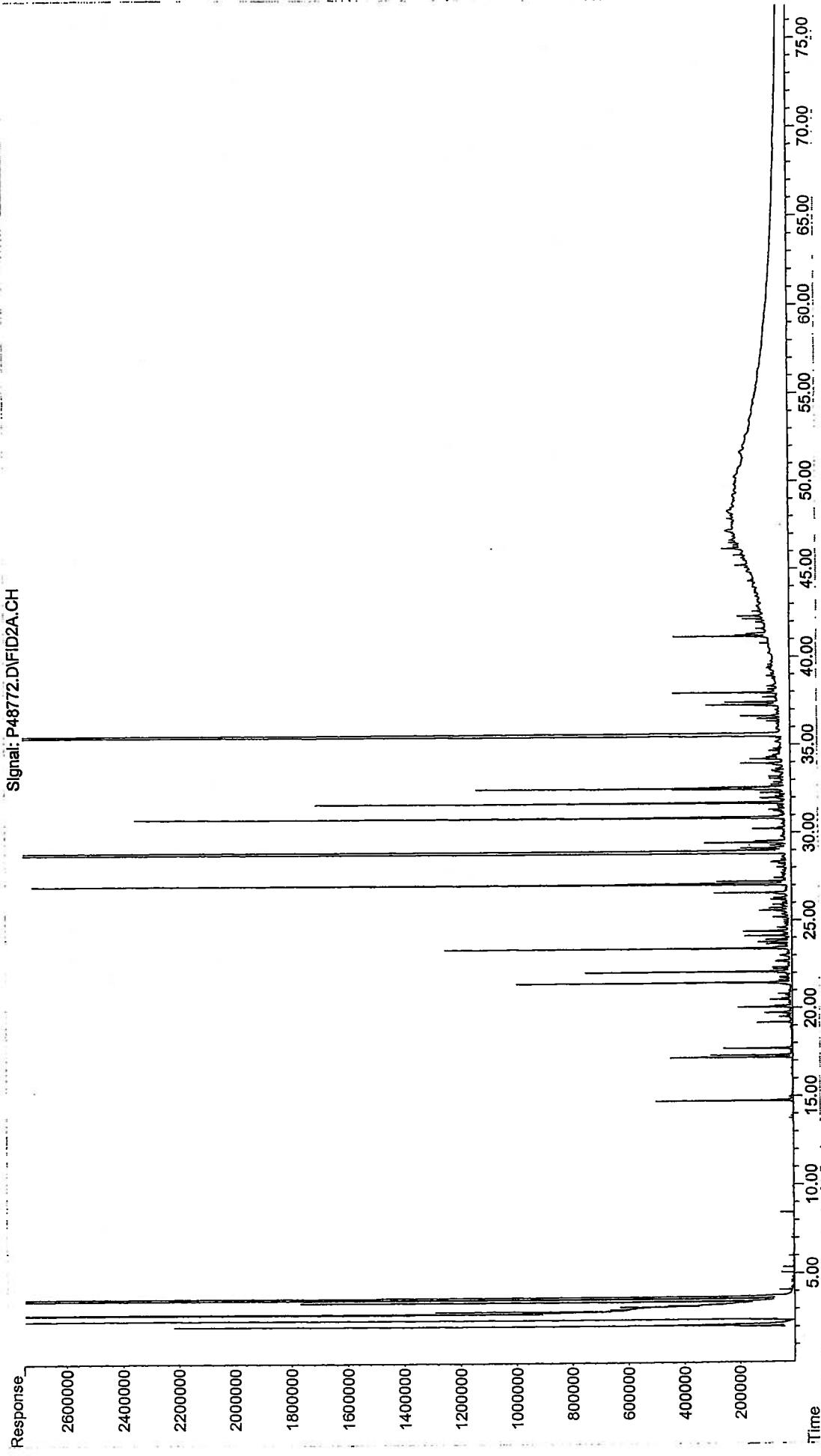


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Sample Name: 0702022-04d-afid
Misc Info : 1x
Vial Number: 92

STA 1+75 US
0702022-04D

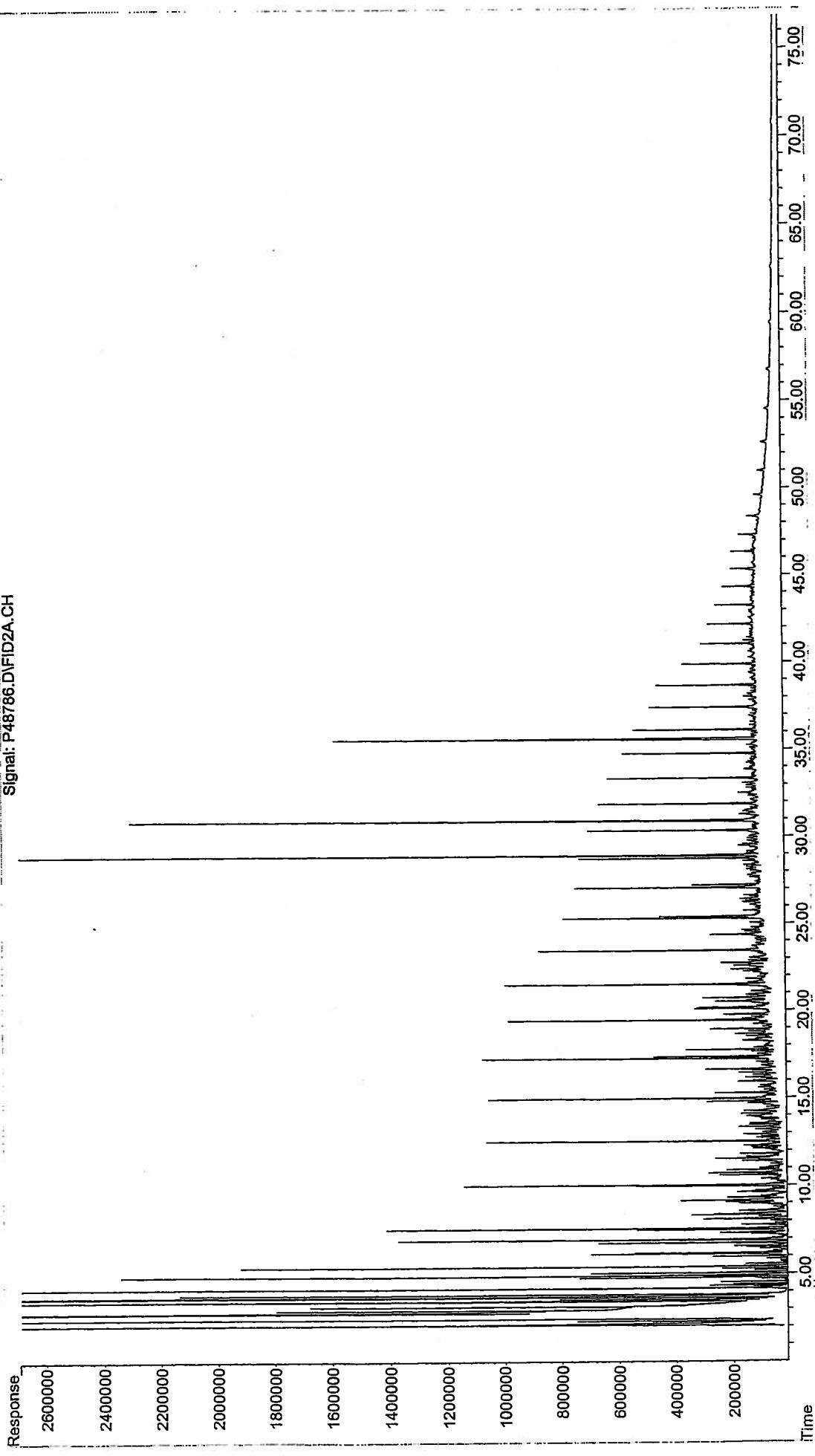


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Instrument : PAH-4
Sample Name: 0702022-05-afid
Misc Info : 1x
Vial Number: 95



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Operator : NJLJr
Acquired : 12 Feb 2007 12:42 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: TO021407AWS02
Misc Info : 1X ANS
Vial Number: 53

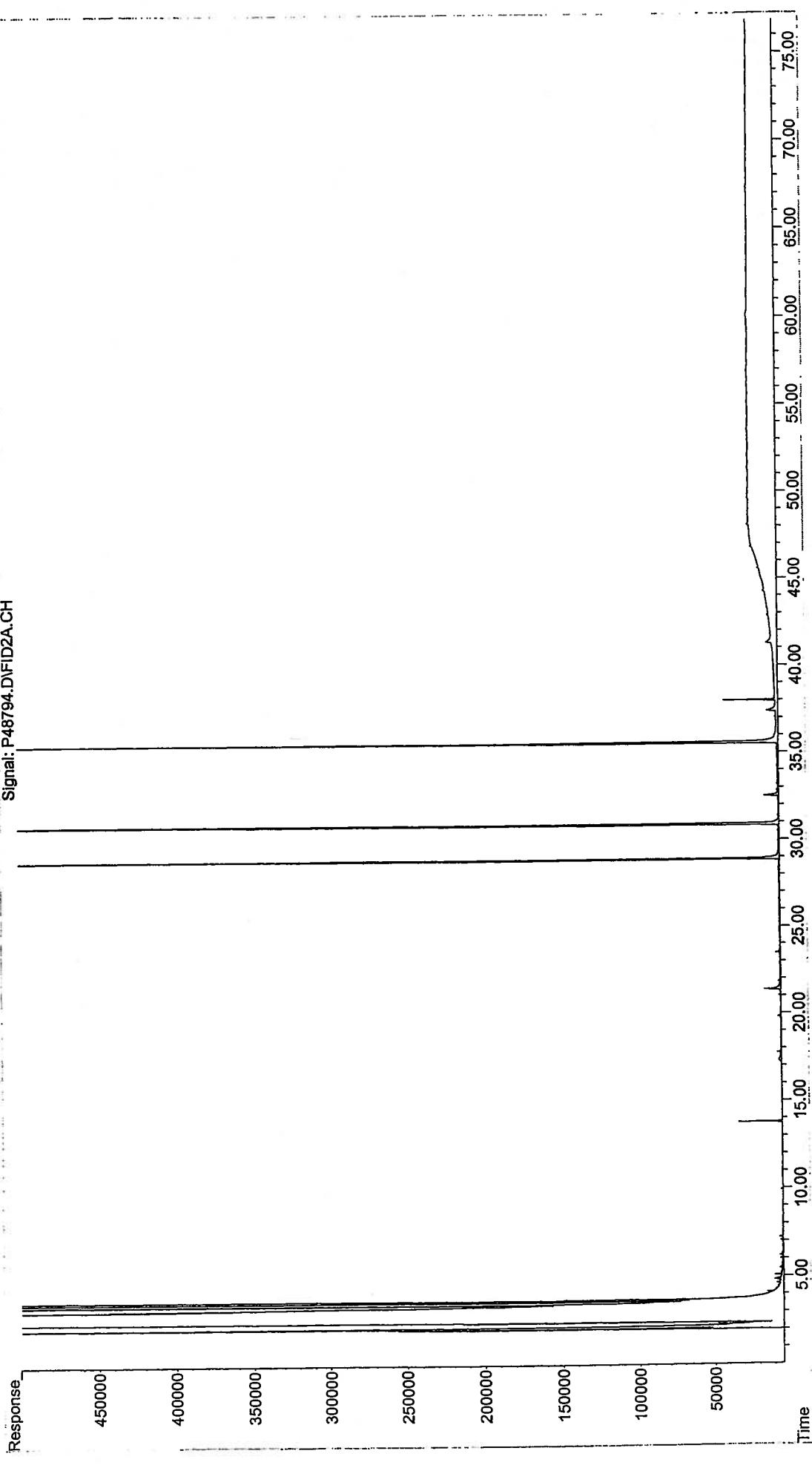
North Slope Crude
Reference Standard



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Operator : NLJR
Acquired : 12 Feb 2007 6:41 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: SW020807B04-afid
Misc Info : 1x etro0702022
Vial Number: 57

Method Blank
SW020807B04

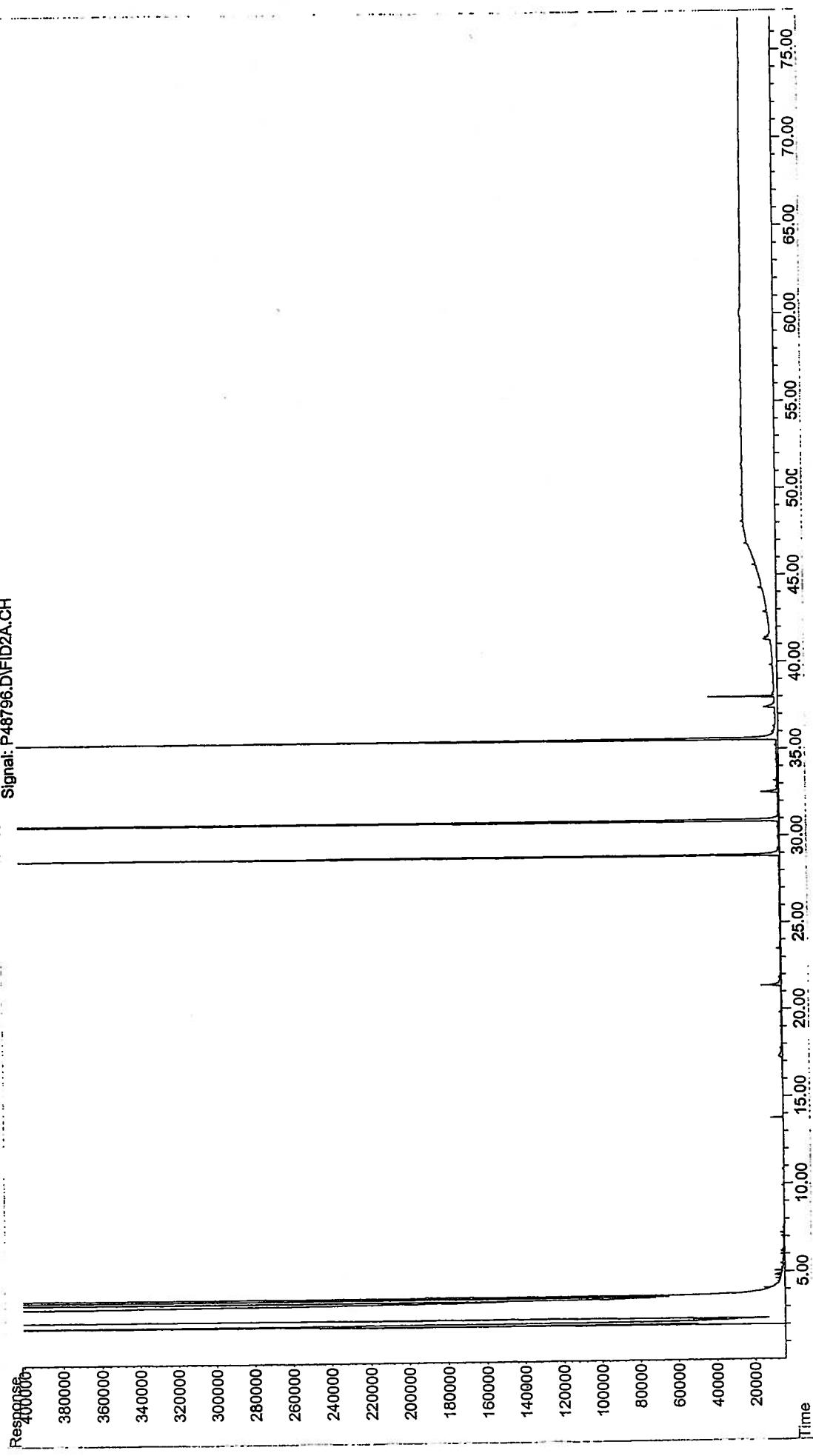
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Instrument : PAH-4
Sample Name: SS020807B05-afid
Misc Info : 1x etr0702022
Vial Number: 58

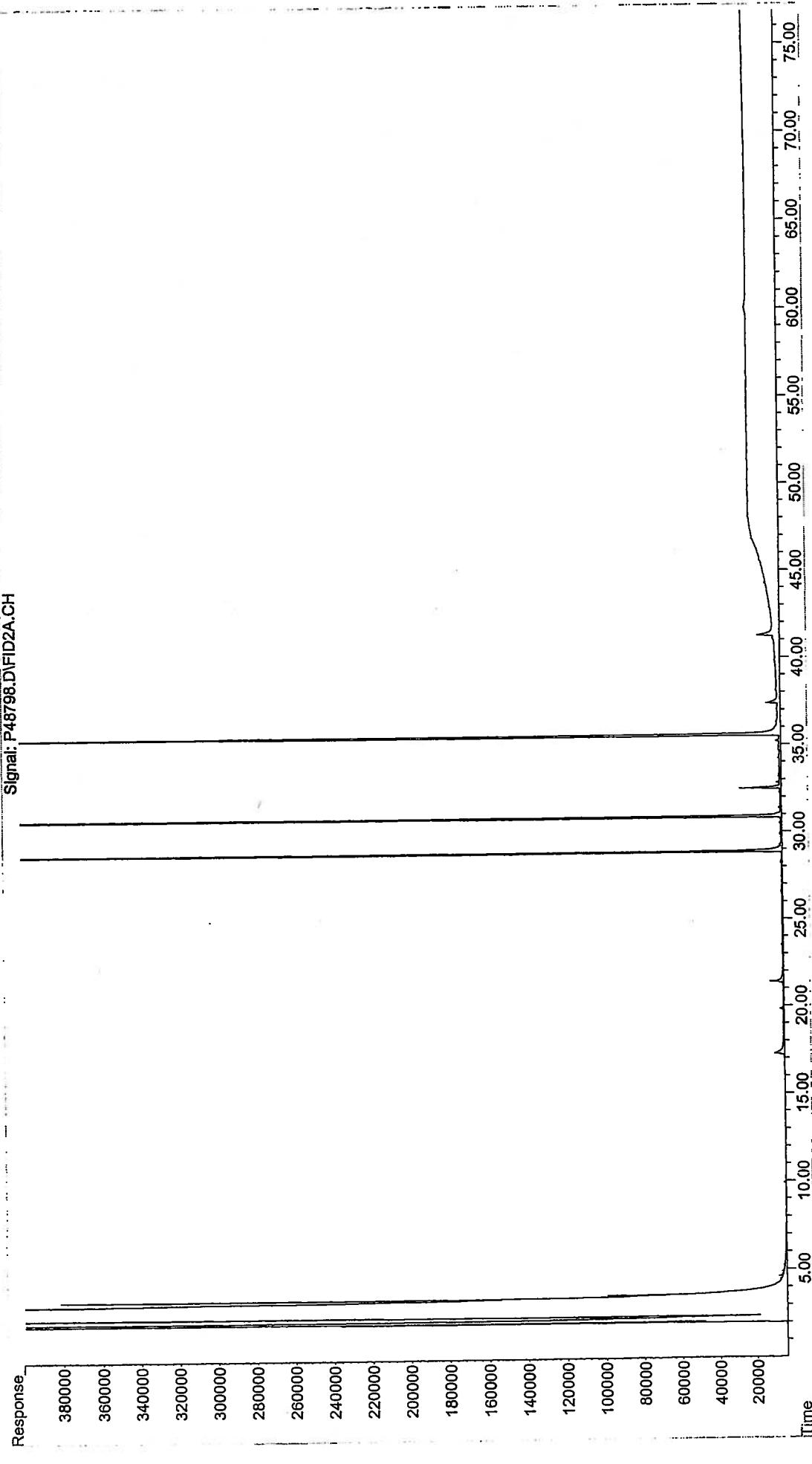
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Signal: P48796.D\FID2A.CH



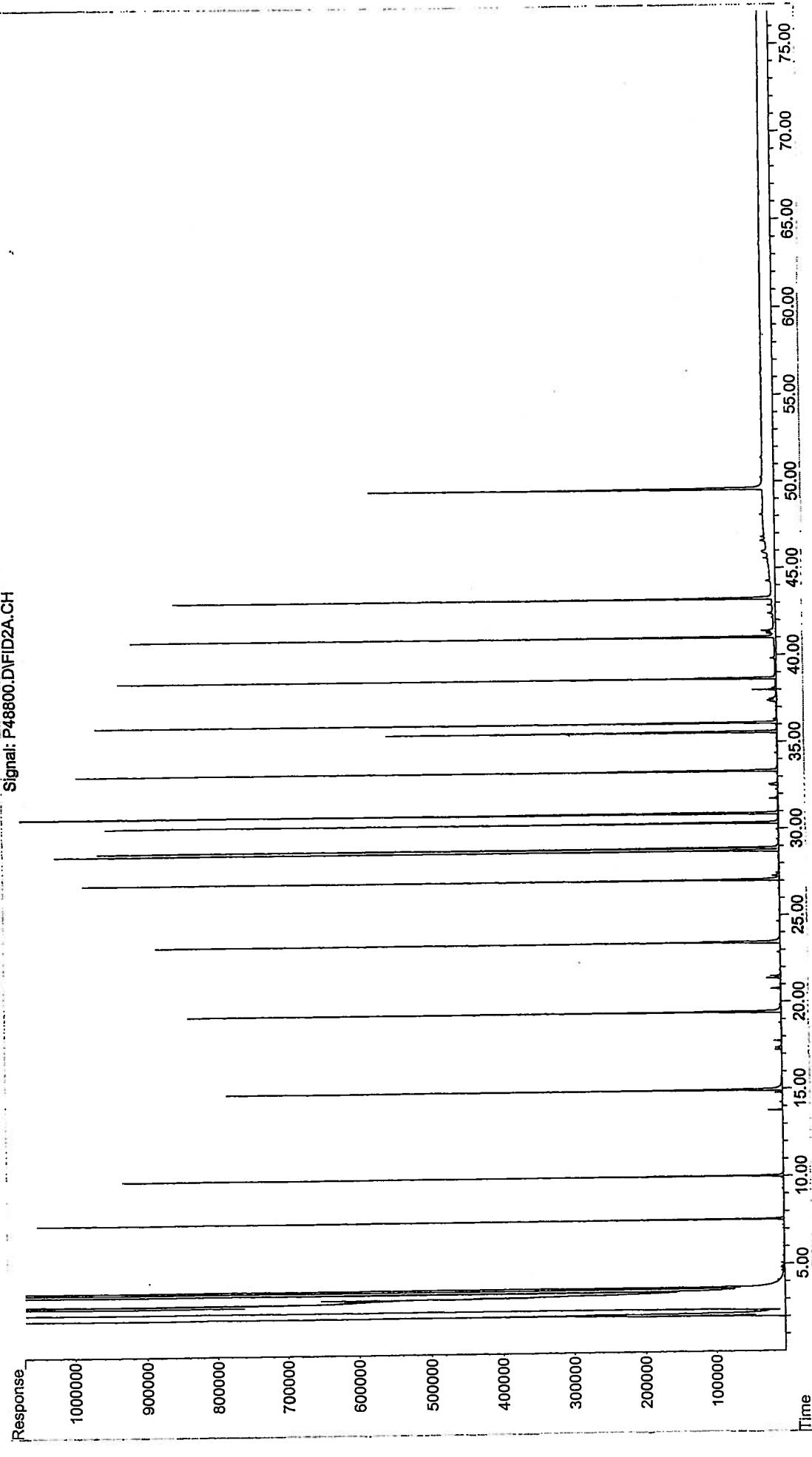
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Sample Name: S0020807B06-afid
Misc Info : 1x etr0702022
Vial Number: 59

Method Blank
SW020807B06



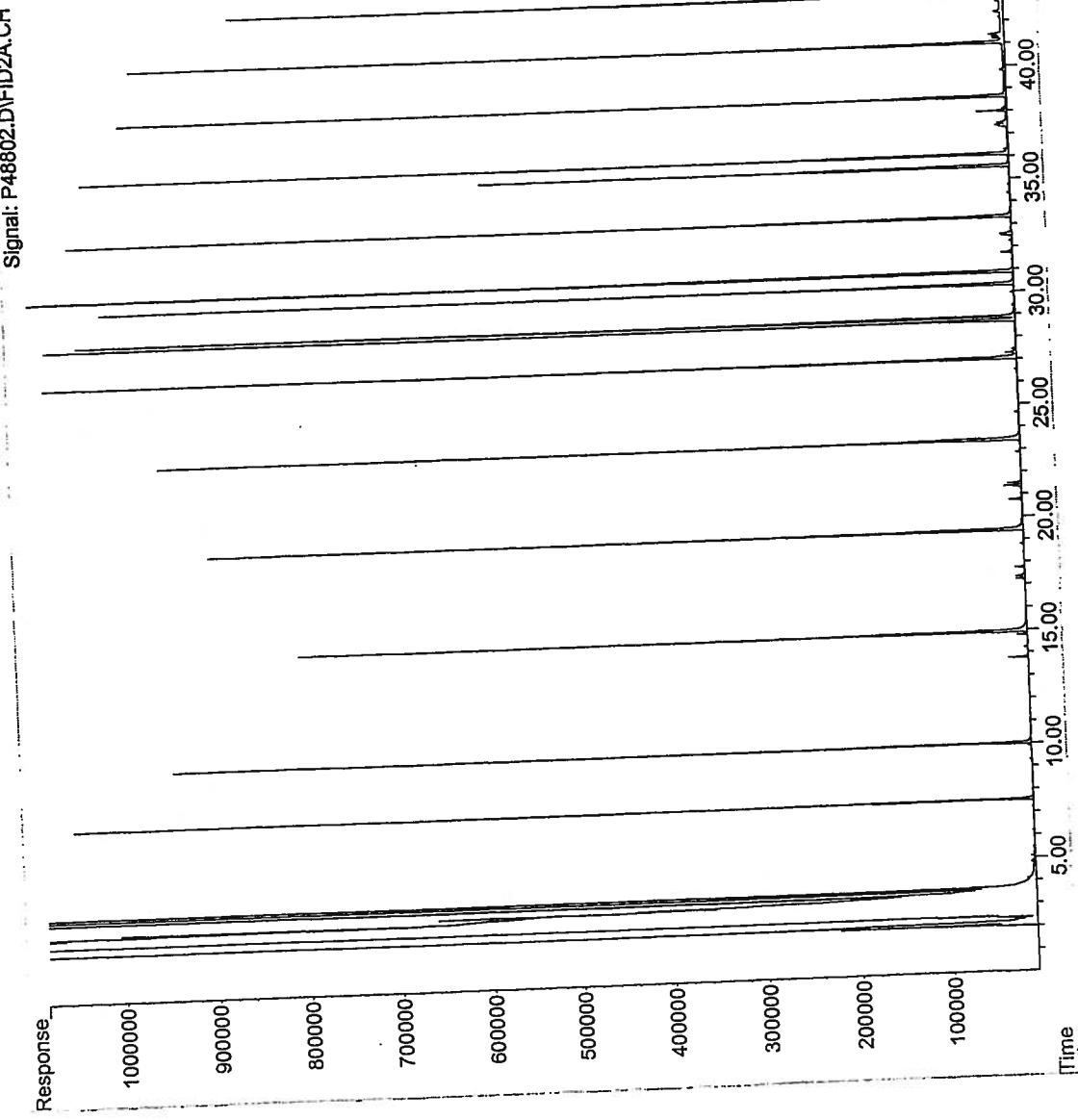
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Operator : NLJR
Acquired : 12 Feb 2007 11:09 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: SW020807LCS03-afid
Misc Info : 1x etr0702022
Vial Number: 60

Laboratory Control Sample
SW020807LCS03



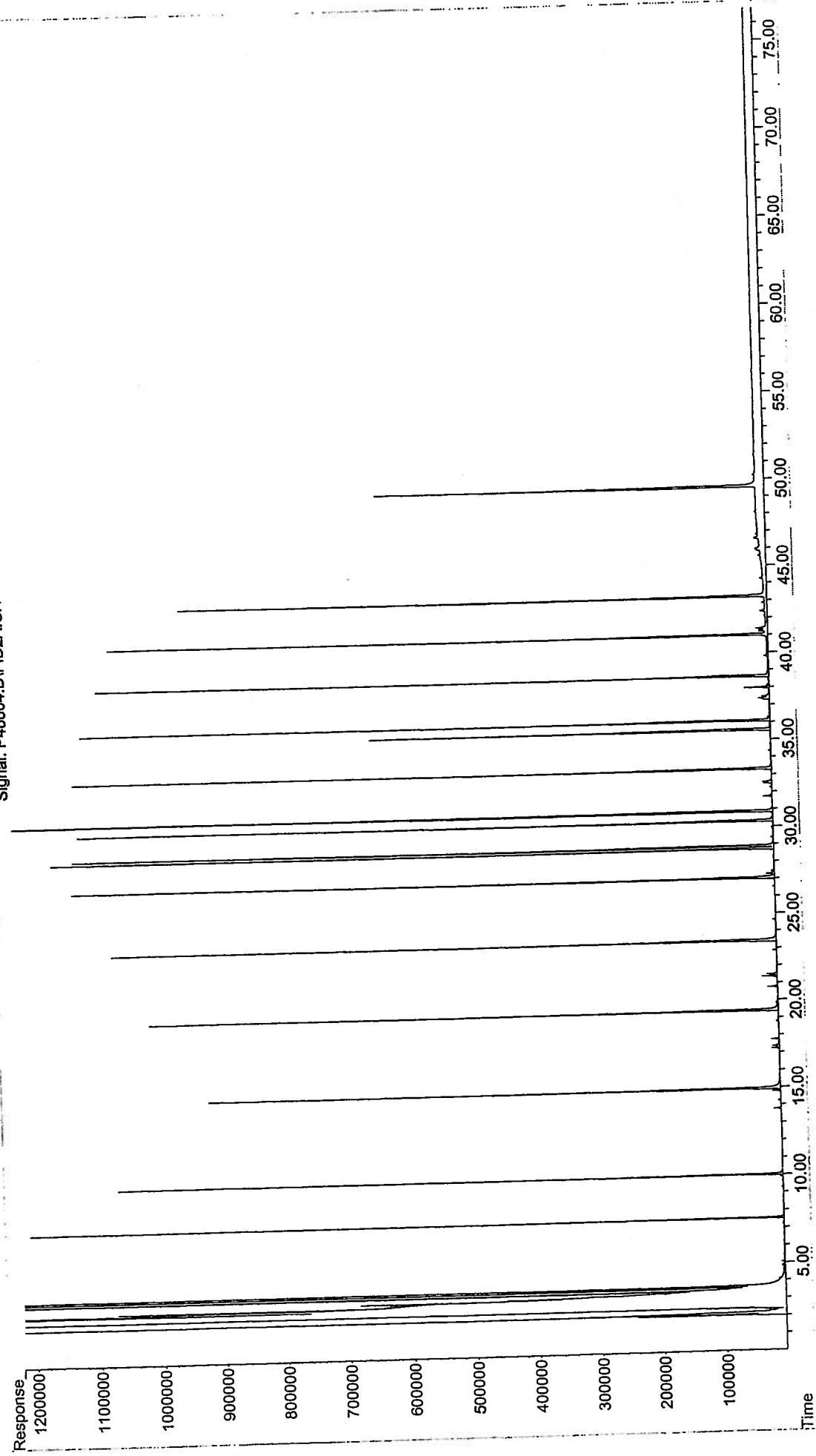
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Operator : NLJR
Acquired : 13 Feb 2007 12:38 am using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: SW020807LCSD03-afid
Misc Info : 1x etr0702022
Vial Number: 61

Laboratory Control Sample Dup
SW020807LCSD03



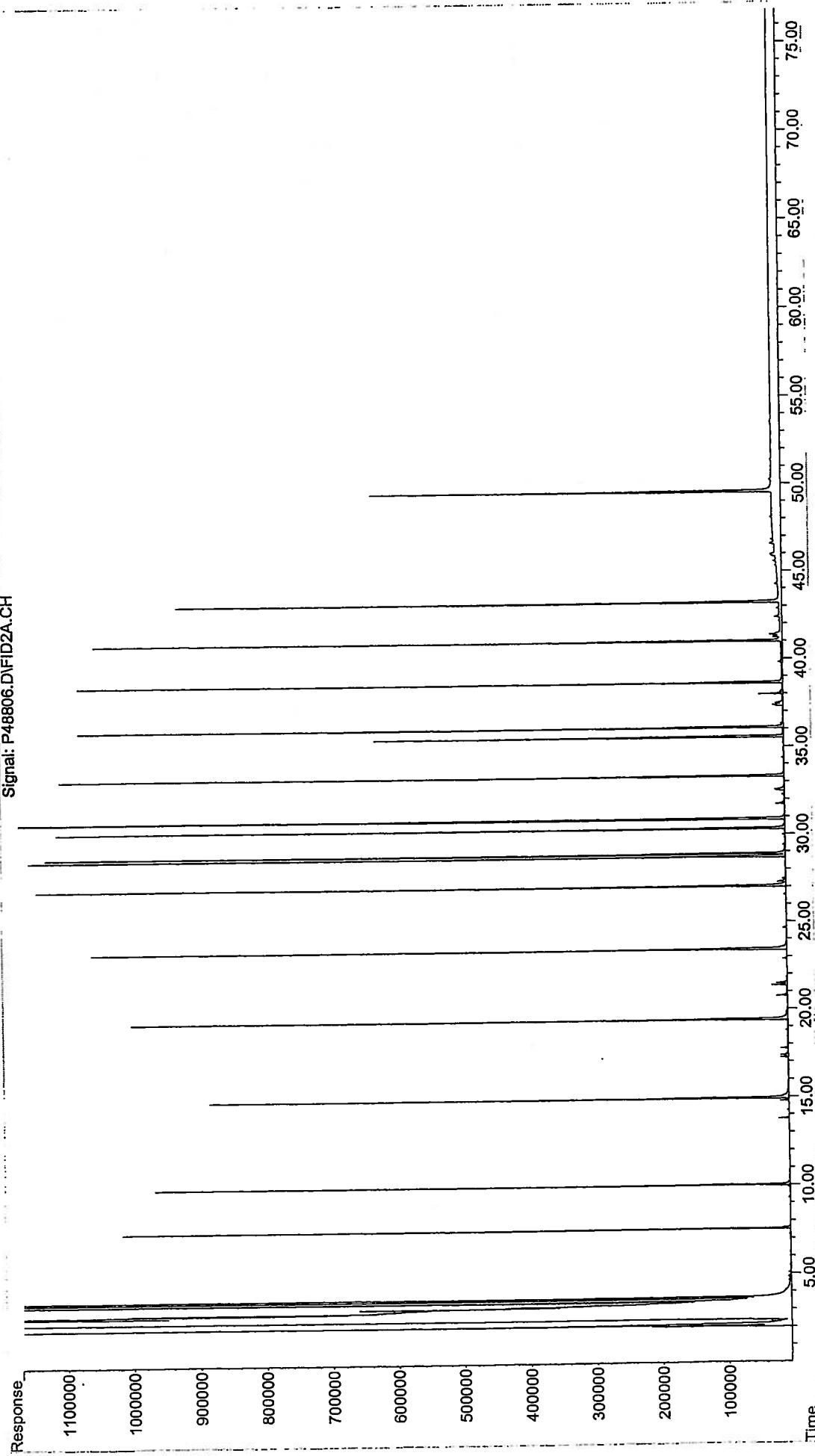
File : Y:\2007 AWHL DATA\Tronox Columbus\0702022\FID\P48804.D
Operator : NJLJR
Acquired : 13 Feb 2007 2:07 am using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: SS020807LCS04-afid
Misc Info : 1x etr0702022
Vial Number: 62

Laboratory Control Sample
SW020807LCS04



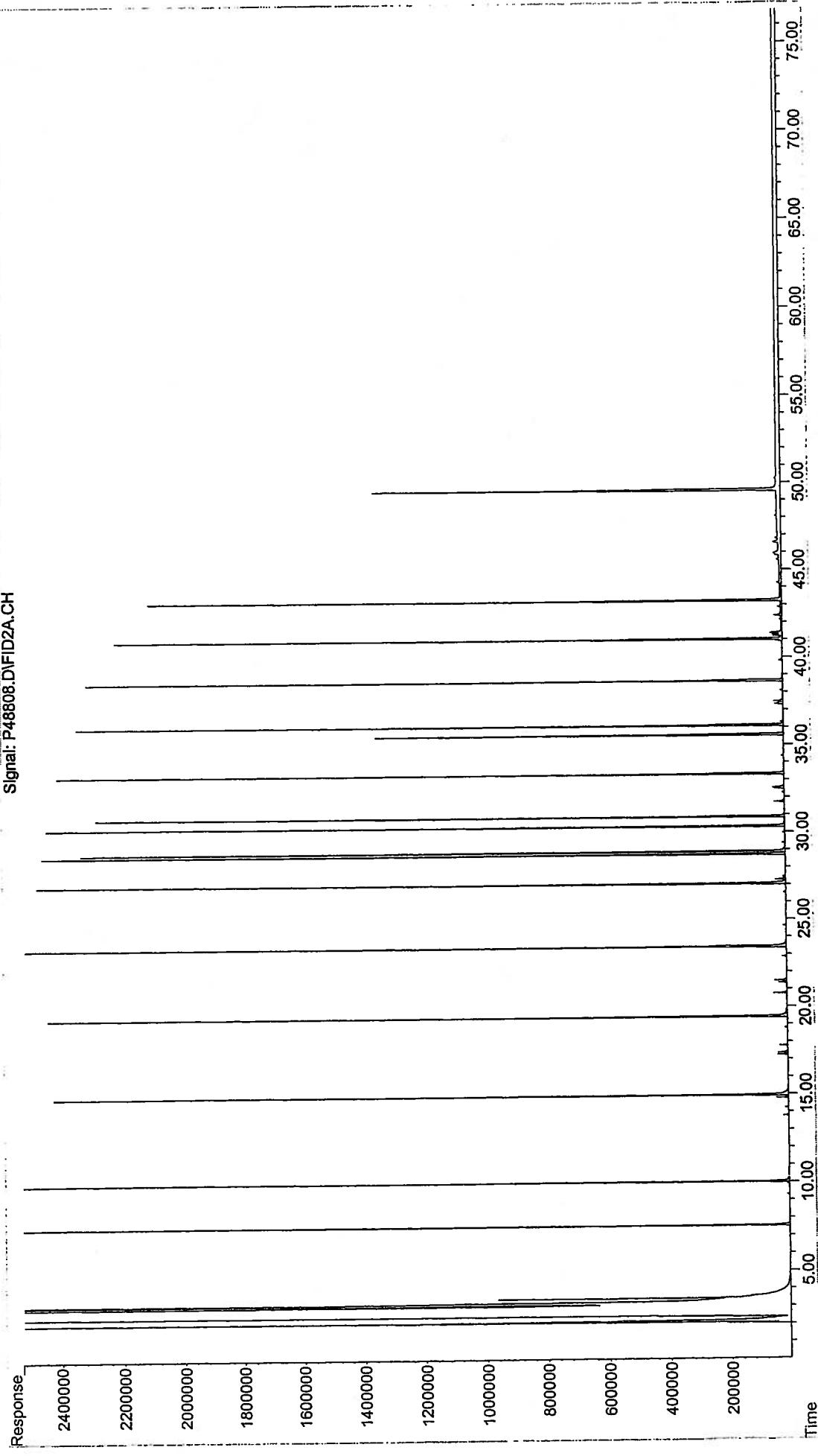
File : Y:\2007 AWHL DATA\Tronox Columbus\0702022\FID\P48806.D
Operator : NLJR
Acquired : 13 Feb 2007 3:36 am using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: SS020807LCSD04-afid
Misc Info : 1x etr0702022
Vial Number: 63

Laboratory Control Sample Dup
SW020807LCSD04



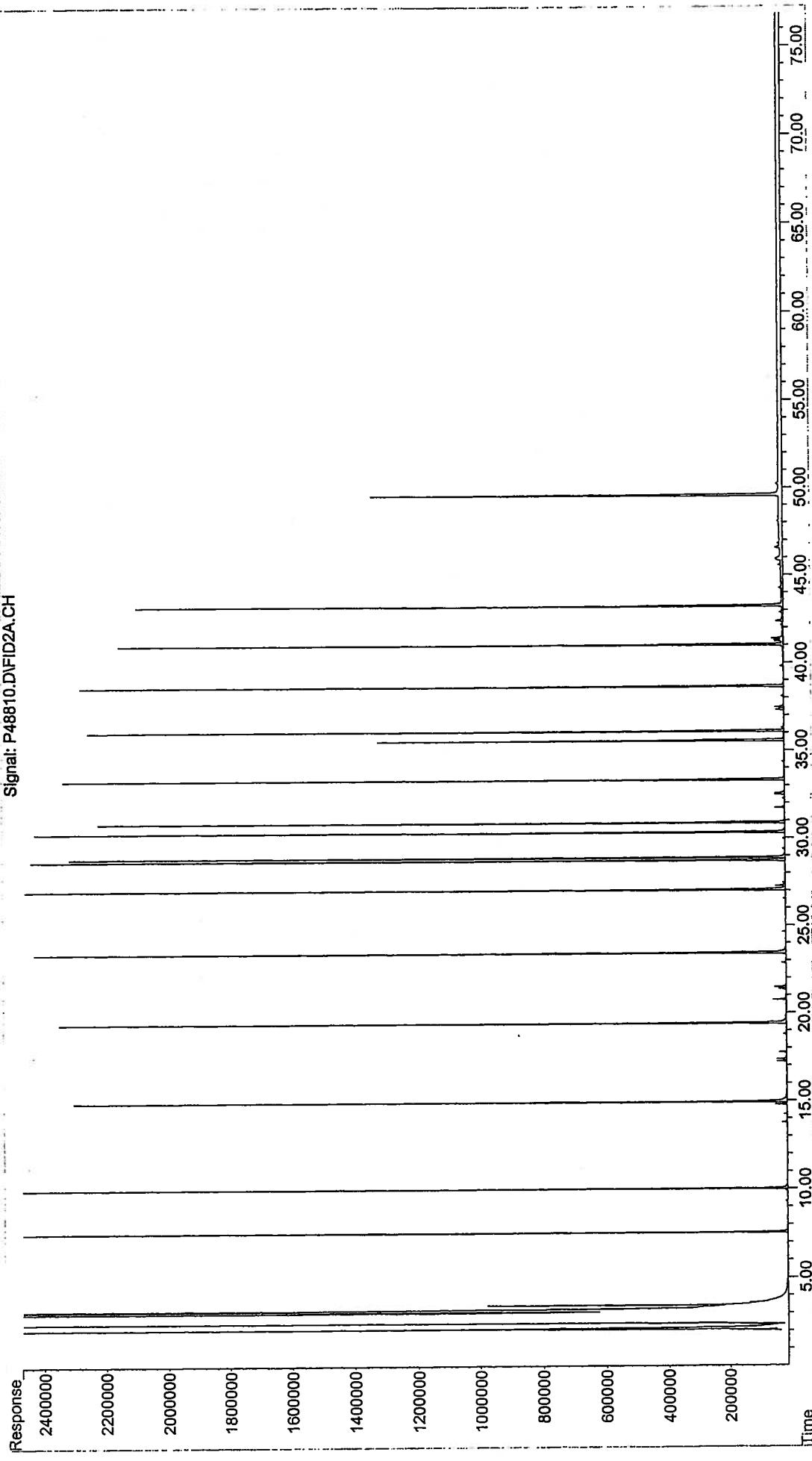
File : Y:\2007 AWHL DATA\Tronox Columbus\0702022\FID\P48808.D
Operator : NLJR
Acquired : 13 Feb 2007 5:05 am using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name : SO020807LCS05-afid
Misc Info : 1x etr0702022
Vial Number: 64

Laboratory Control Sample
SW020807LCS05

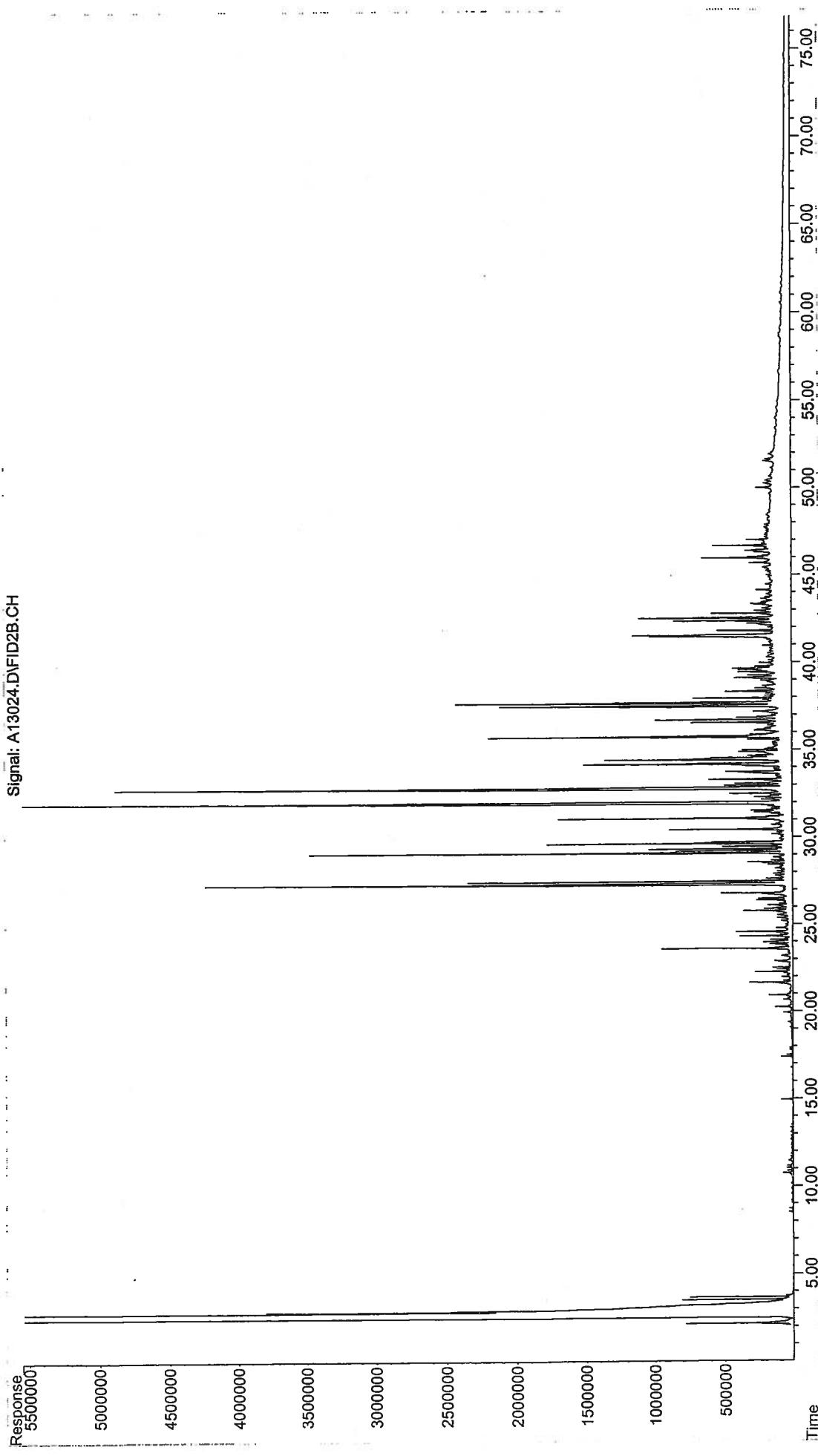


File : Y:\2007 AWHL DATA\Tronox Columbus\0702022\FID\P48810.D
Operator : NLJR
Acquired : 13 Feb 2007 6:33 am using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name : SO020807LCSD05-affid
Misc Info : 1x etr0702022
Vial Number : 65

Laboratory Control Sample Dup
SW020807LCSD05

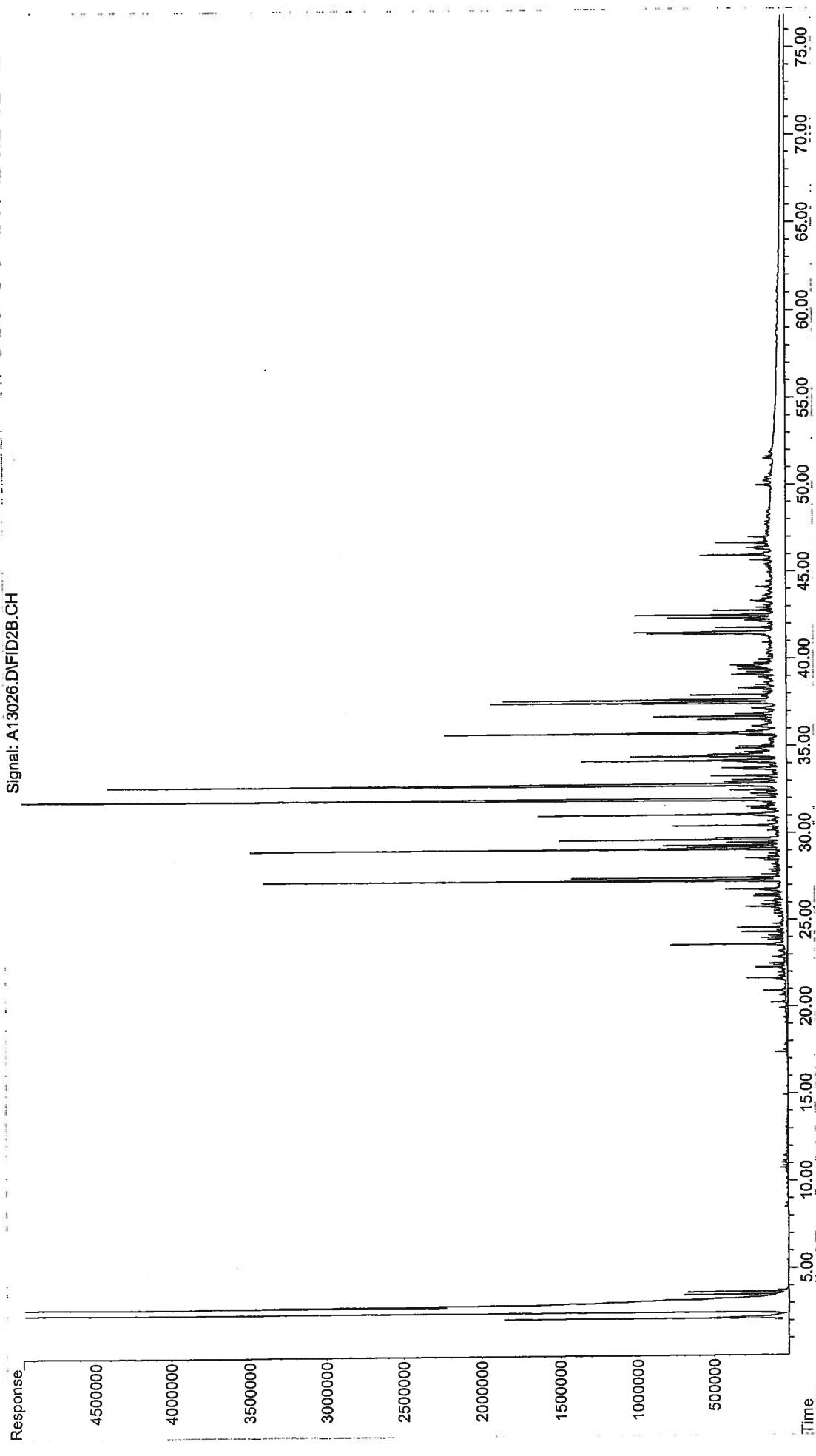


File : Y:\2007 AWHL DATA\Tronox Columbus\0702028\FID\A13024.D
Operator : MJS
Acquired : 13 Feb 2007 11:21 am using AcqMethod FRNC1D.M
Instrument : PAH-1
Sample Name: 0702028-01-AFID
Misc Info : 1X
Vial Number: 67



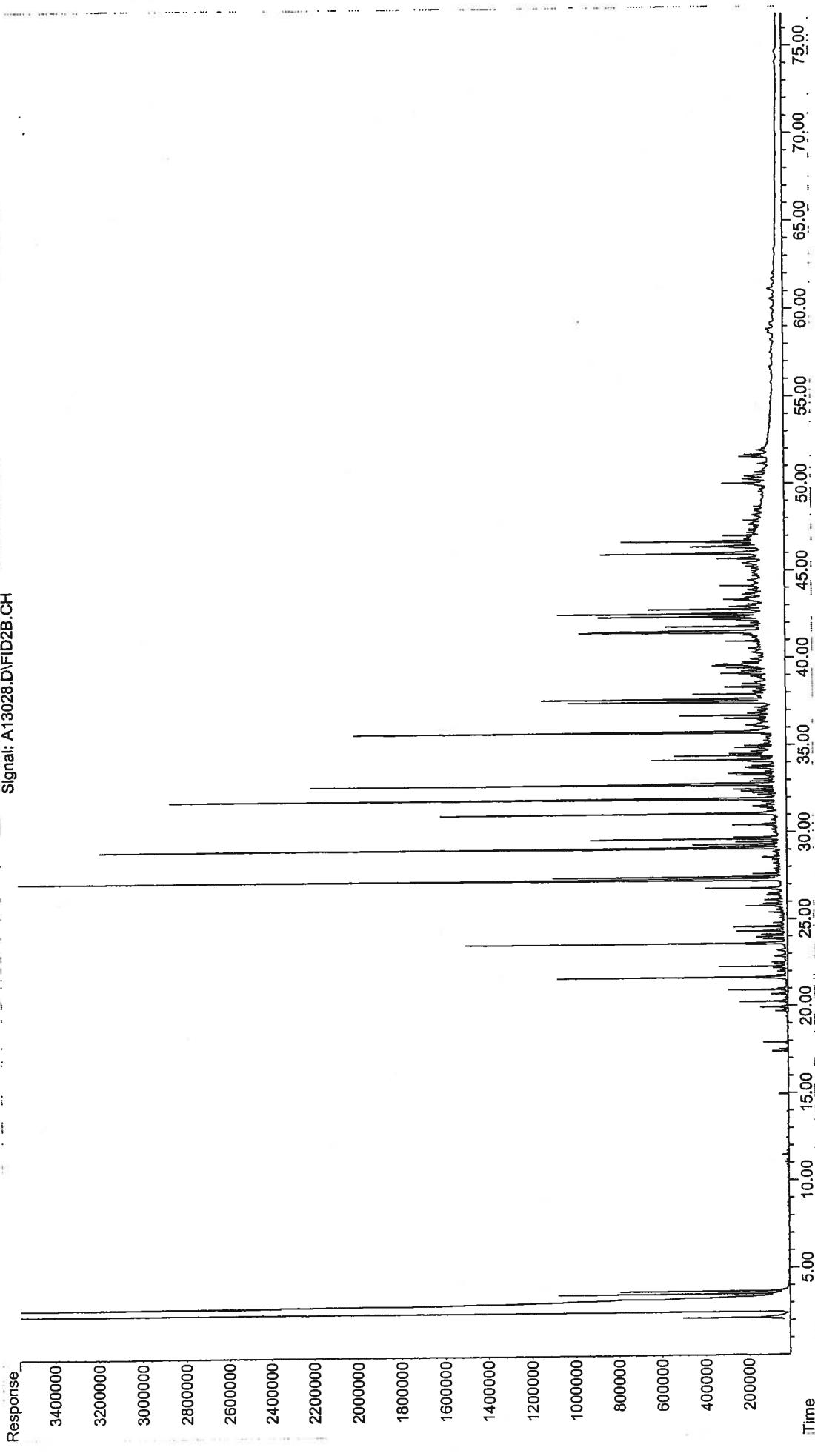
File : Y:\2007 AWHL DATA\Tronox Columbus\0702028\FID\A13026.D
Operator : MJS
Acquired : 13 Feb 2007 1:45 pm using AcqMethod FRNC1D.M
Instrument : PAH-1
Sample Name : 0702028-01D-AFID
Misc Info : 1X
Vial Number: 68

FPS-5
0702028-01D

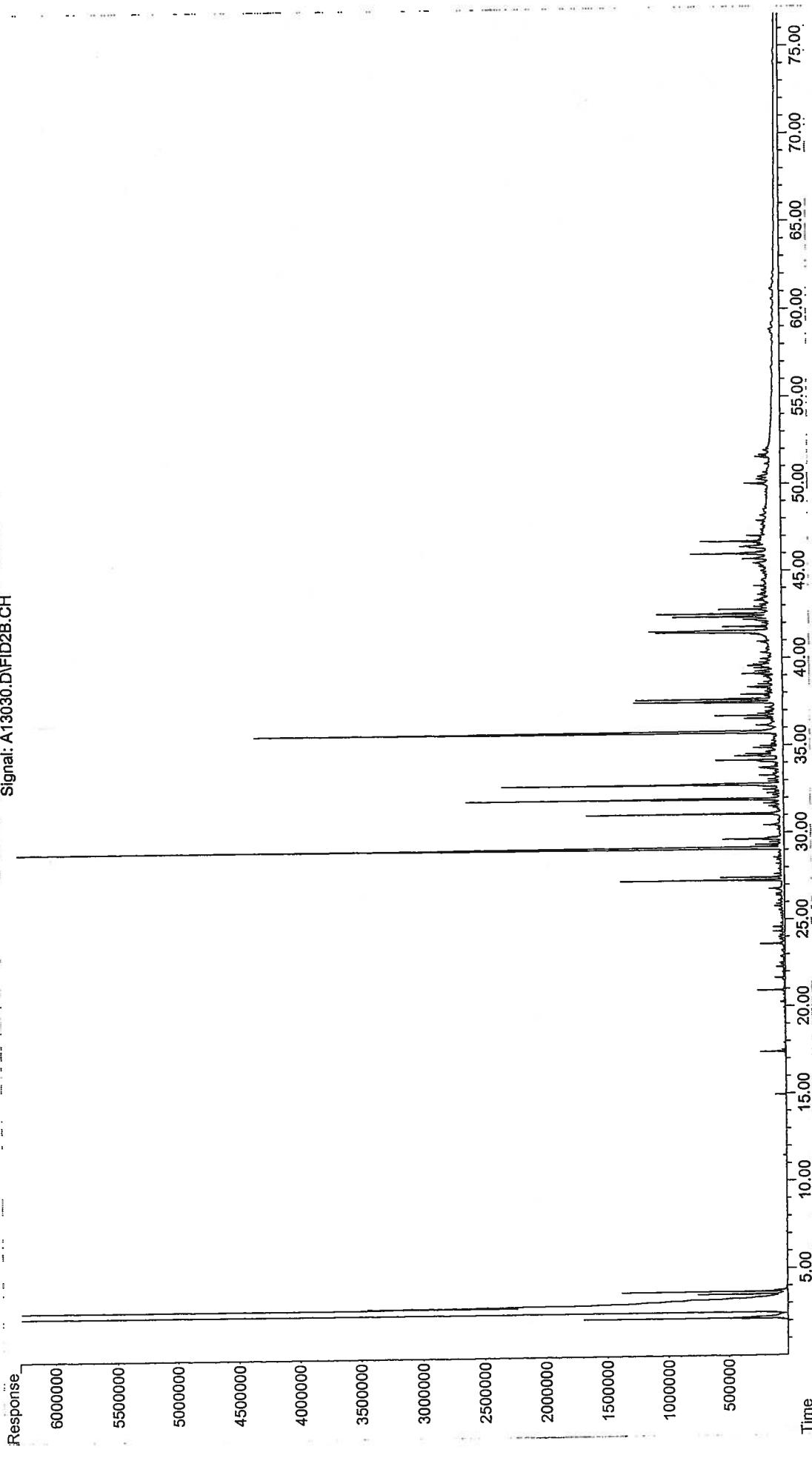


File : Y:\2007 AWHL DATA\Tronox Columbus\0702028\FID\A13028.D
Operator : MJJS
Acquired : 13 Feb 2007 3:14 pm using AcqMethod FRNC1D.M
Instrument : PAH-1
Sample Name: 0702028-03-AFID
Misc Info : 1X
Vial Number: 69

FPS-7
0702028-03

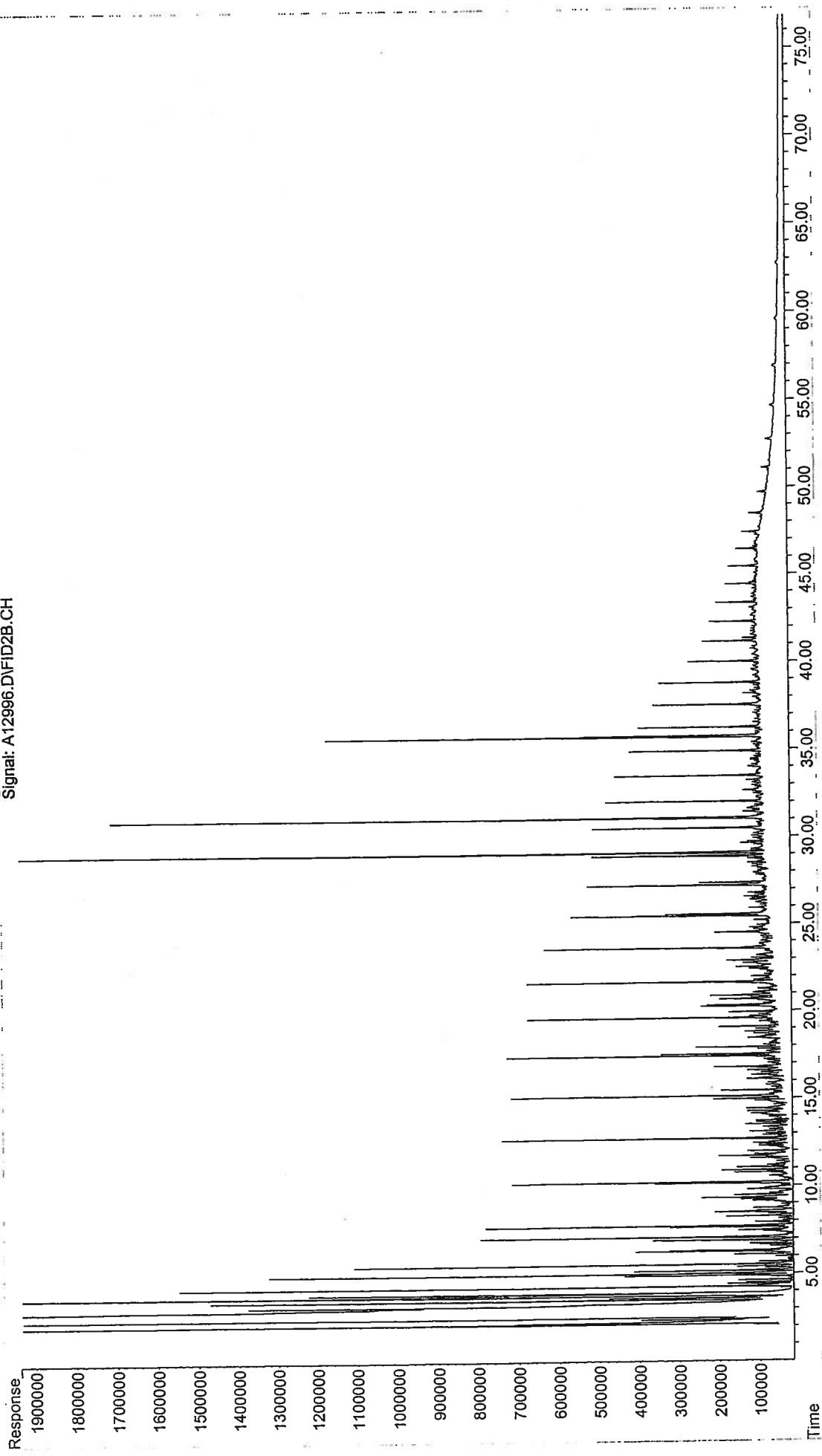


File : Y:\2007 AWHL DATA\Tronox Columbus\0702028\FID\A13030.D
Operator : MJS
Acquired : 13 Feb 2007 5:01 pm using AccqMethod FRNC1D.M
Instrument : PAH-1
Sample Name: 0702028-05-AFID
Misc Info : 1X
Vial Number: 70



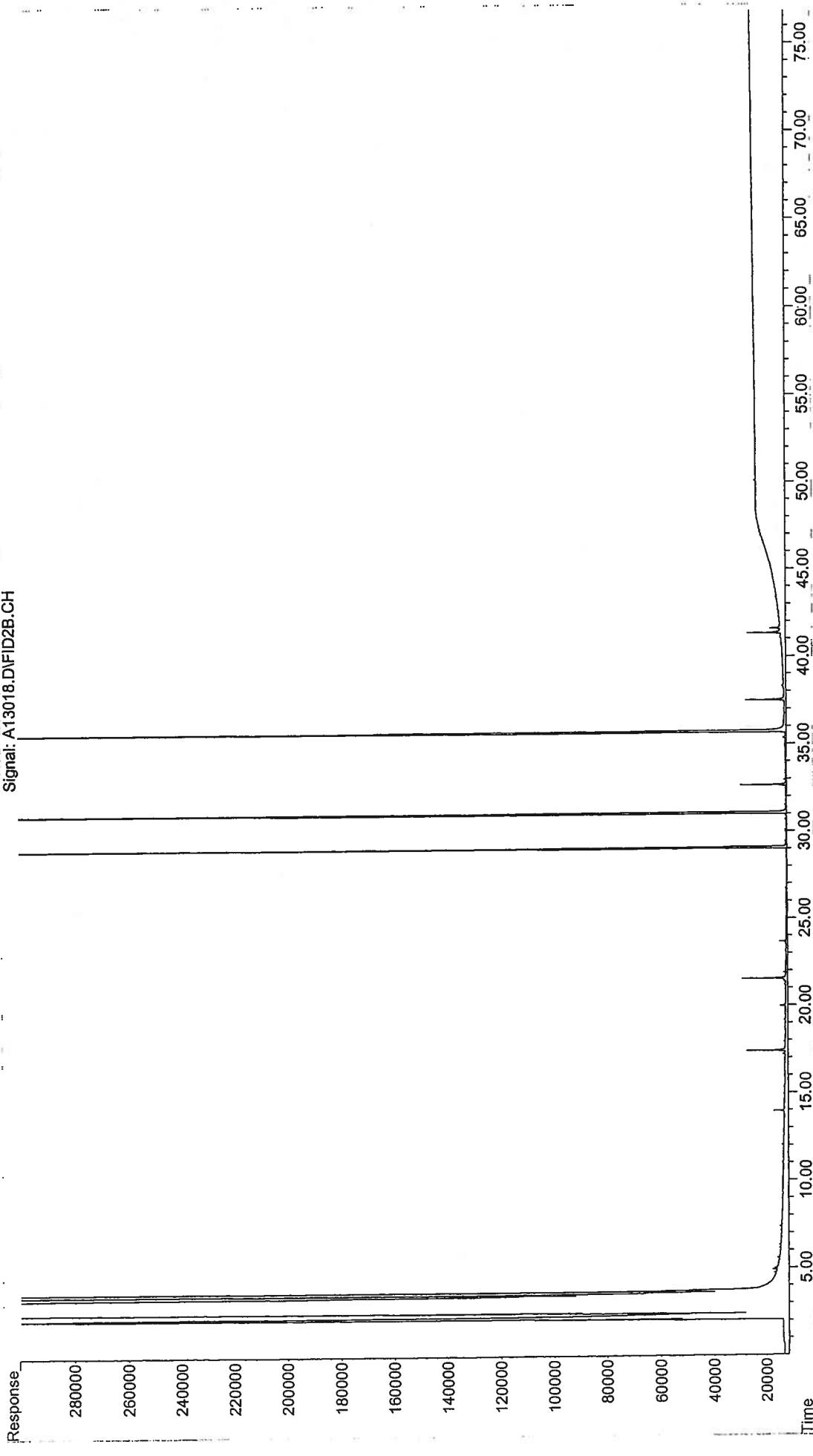
File : Y:\2007 AWHL DATA\Tronox Columbus\0702028\FID\A12996.D
Operator : MJS
Acquired : 12 Feb 2007 12:39 pm using AcqMethod FRNC1D.M
Instrument : PAH-1
Sample Name: TO021507AWS01-AFID
Misc Info : 1X ANS
Vial Number: 53

North Slope Crude
Reference Standard



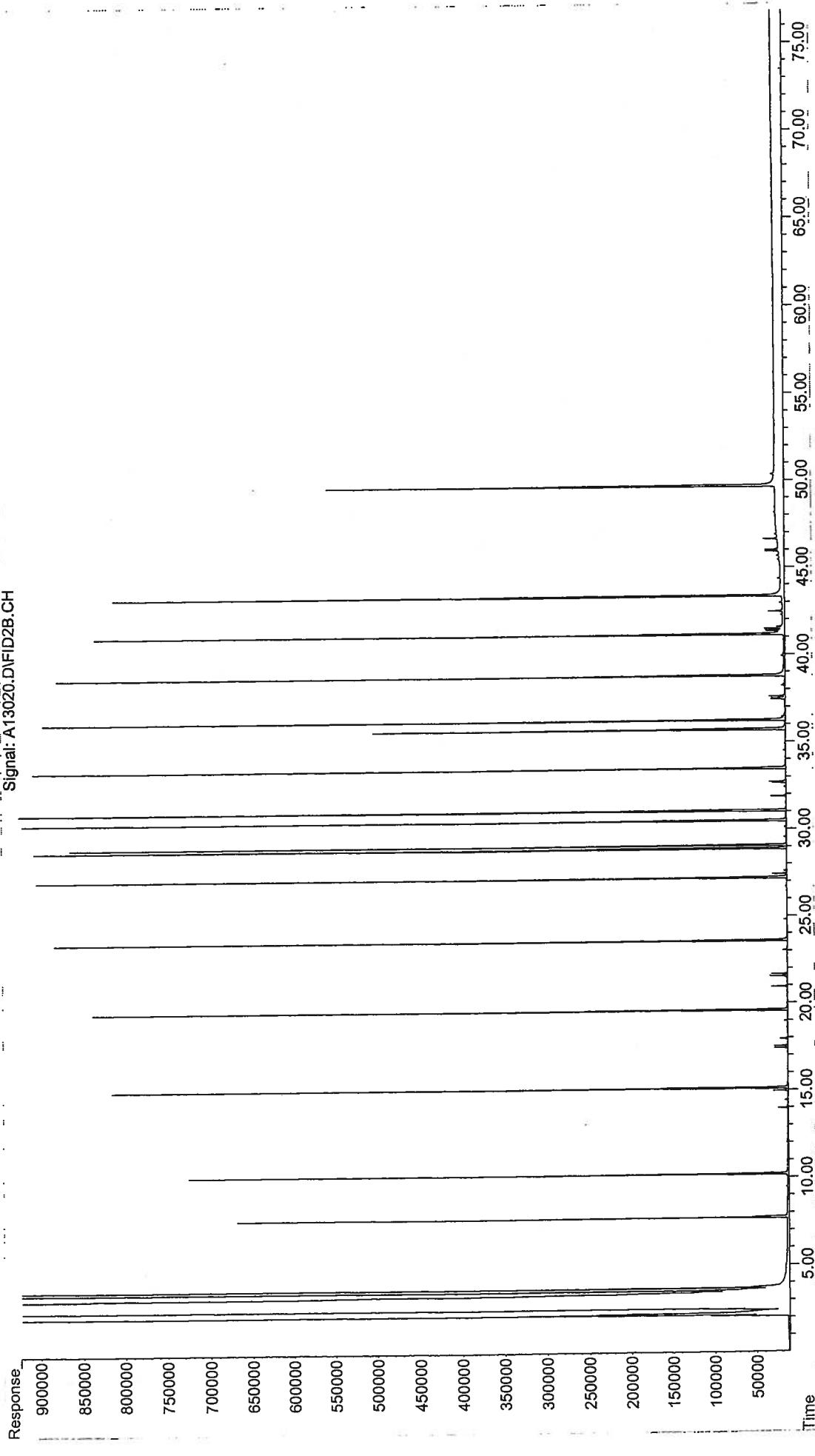
File : Y:\2007 AWHL DATA\Tronox Columbus\0702028\FID\A13018.D
Operator : MJSS
Acquired : 13 Feb 2007 5:03 am using AccMethod FRNC1D.M
Instrument : PAH-1
Sample Name: SS021007B01-AFID
Misc Info : 1X ETR 0702028
Vial Number: 64

Method Blank
SS021007B01



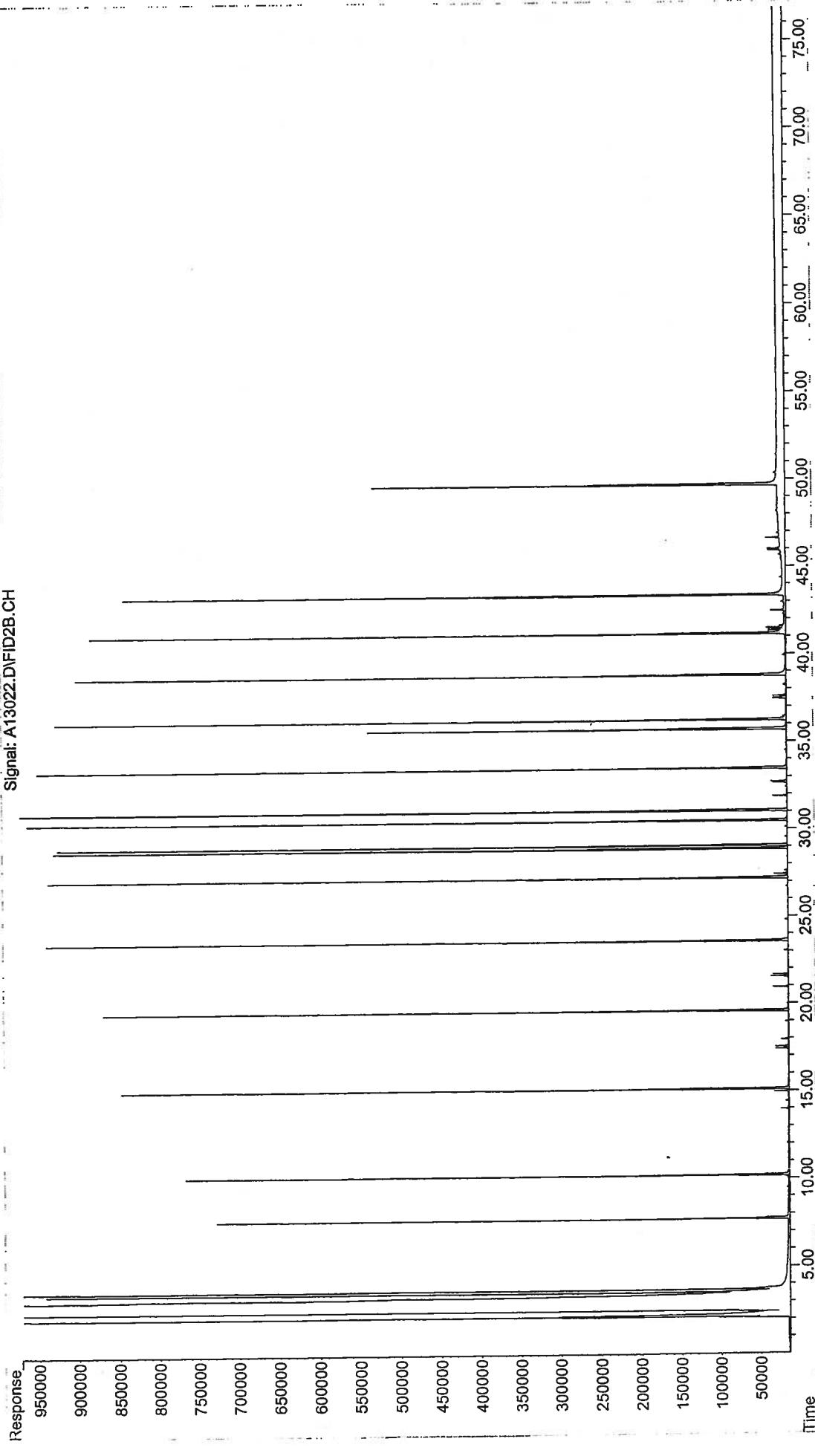
File : Y:\2007 AWHL DATA\Tronox Columbus\0702028\FID\A13020.D
Operator : MJS
Acquired : 13 Feb 2007 6:33 am using AcqMethod FRNC1D.M
Instrument : PAH-1
Sample Name : SS021007LCS01-AFID
Misc Info : 1X ETR 0702028
Vial Number : 65

Lab Control Sample
SS021007LCS01



File : Y:\2007 AWHL DATA\Tronox Columbus\0702028\FID\A13022.D
Operator : MJSS
Acquired : 13 Feb 2007 8:02 am using AcqMethod FRNC1D.M
Instrument : PAH-1
Sample Name: SS021007LCSD01-AFID
Misc Info : 1X
Vial Number: 66

Lab Control Sample Duplicate
SS021007LCSD01



Data Tables

Saturated Hydrocarbon Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	STA 2+00 US	STA 2+25 US	FPS-4	STA 1+75 US	STA 1+50 US							
Lab ID	0702022-01	0702022-02	0702022-03	0702022-04	0702022-05							
Matrix	Water	Water	Soil	Oil	Water							
Reference Method	SHC	SHC	SHC	SHC	SHC							
Batch ID	SW020807B04	SW020807B04	SS020807B05	SO020807B06	SW020807B04							
Date Collected	2/5/2007	2/5/2007	2/5/2007	2/5/2007	2/5/2007							
Date Received	2/6/2007	2/6/2007	2/6/2007	2/6/2007	2/6/2007							
Date Prepped	2/8/2007	2/8/2007	2/8/2007	2/8/2007	2/8/2007							
Date Analyzed	2/11/2007	2/11/2007	2/11/2007	2/11/2007	2/11/2007							
Sample Size (wet)	420	440	5.46	0.0366	400							
% Solid	N/A	N/A	72	100	N/A							
File ID	P48766.D	P48770.D	P48774.D	P48764.D	P48772.D							
Units	mg/L	mg/L	mg/Kg	mg/Kg	mg/L							
Final Volume	2	2.27	6.25	4.55	2							
Dilution	1	1	1	1	1							
Reporting Limit	0.16	0.17	52	4100	0.16							
Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL	Result	SSRL	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	21	0.16	21	0.17	6100	52	900000	4100	13	0.16

Surrogates (% Recovery)

ortho-Terphenyl	82	75	80	98	86
d50-Tetracosane	83	77	82	100	85

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	FPS-4	FPS-4
Lab ID	0702022-03	0702022-03D
Matrix	Soil	Soil
Reference Method	SHC	SHC
Batch ID	SS020807B05	SS020807B05
Date Collected	2/5/2007	2/5/2007
Date Received	2/6/2007	2/6/2007
Date Prepped	2/6/2007	2/6/2007
Date Analyzed	2/11/2007	2/11/2007
Sample Size (wet)	5.46	5.17
% Solid	72	72
File ID	P48774.D	P48776.D
Units	mg/Kg	mg/Kg
Final Volume	6.25	6.25
Dilution	1	1
Reporting Limit	52	55

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
SHC	TPH	Total Petroleum Hydrocarbons	6100	52	6700	55	10	30

Surrogates (% Recovery)

ortho-Terphenyl	80	83	4	30
d50-Tetracosane	82	85	4	30

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	STA 1+75 US	STA 1+75 US
Lab ID	0702022-04	0702022-04D
Matrix	Oil	Oil
Reference Method	SHC	SHC
Batch ID	SO020807B06	SO020807B06
Date Collected	2/5/2007	2/5/2007
Date Received	2/6/2007	2/6/2007
Date Prepped	2/8/2007	2/8/2007
Date Analyzed	2/11/2007	2/11/2007
Sample Size (wet)	0.0366	0.0392
% Solid	100	100
File ID	P48764.D	P48766.D
Units	mg/Kg	mg/Kg
Final Volume	4.55	4.55
Dilution	1	1
Reporting Limit	4100	3800

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
SHC	TPH	Total Petroleum Hydrocarbons	900000	4100	880000	3800	2	30

Surrogates (% Recovery)					
ortho-Terphenyl	98	94	4	30	
d50-Tetracosane	100	102	2	30	

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Method Blank	Method Blank	Method Blank
Lab ID	SO020807B06	SS020807B05	SW020807B04
Matrix	Oil	Soil	Water
Reference Method	SHC	SHC	SHC
Batch ID	SO020807B06	SS020807B05	SW020807B04
Date Collected	N/A	N/A	N/A
Date Received	N/A	N/A	N/A
Date Prepped	2/8/2007	2/8/2007	2/8/2007
Date Analyzed	2/12/2007	2/12/2007	2/12/2007
Sample Size (wet)	0.1	5	500
% Solid	100	100	N/A
File ID	P48798.D	P48796.D	P48794.D
Units	mg/Kg	mg/Kg	mg/L
Final Volume	1	2	2
Dilution	1	1	1
Reporting Limit	330	13	0.13

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	U 330		U 13		U 0.13	

Surrogates (% Recovery)

ortho-Terphenyl	97	80	86
d50-Tetracosane	99	81	89

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SO020807LCS05
Matrix	Oil
Reference Method	SHC
Batch ID	SO020807B06
Date Collected	N/A
Date Received	N/A
Date Prepped	2/8/2007
Date Analyzed	2/13/2007
Sample Size (wet)	0.1
% Solid	100
File ID	P48808.D
Units	mg/Kg
Final Volume	1
Dilution	1
Reporting Limit	10

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	C9	n-Nonane (C9)	520	S 10	104	500	50	130
SHC	C10	n-Decane (C10)	520	S 10	105	500	50	130
SHC	C12	n-Dodecane (C12)	550	S 10	110	500	50	130
SHC	C14	n-Tetradecane (C14)	560	S 10	112	500	50	130
SHC	C16	n-Hexadecane (C16)	580	S 10	117	500	50	130
SHC	C18	n-Octadecane (C18)	580	S 10	116	500	50	130
SHC	C19	n-Nonadecane (C19)	570	S 10	114	500	50	130
SHC	C20	n-Eicosane (C20)	570	S 10	115	500	50	130
SHC	C22	n-Docosane (C22)	590	S 10	117	500	50	130
SHC	C24	n-Tetracosane (C24)	560	S 10	112	500	50	130
SHC	C26	n-Hexacosane (C26)	550	S 10	111	500	50	130
SHC	C28	n-Octacosane (C28)	540	S 10	109	500	50	130
SHC	C30	n-Triacontane (C30)	540	S 10	108	500	50	130
SHC	C36	n-Hexatriacontane (C36)	530	S 10	106	500	50	130
SHC	TPH	Total Petroleum Hydrocarbons	6600		330			

Surrogates (% Recovery)
 ortho-Terphenyl
 d50-Tetracosane

97
 99

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SO020807LCSD05
Matrix	Oil
Reference Method	SHC
Batch ID	SO020807B06
Date Collected	N/A
Date Received	N/A
Date Prepped	2/8/2007
Date Analyzed	2/13/2007
Sample Size (wet)	0.1
% Solid	100
File ID	P48810.D
Units	mg/Kg
Final Volume	1
Dilution	1
Reporting Limit	10

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit	
SHC	C9	n-Nonane (C9)	520	S	10	104	500	50	130	0	30
SHC	C10	n-Decane (C10)	520	S	10	104	500	50	130	1	30
SHC	C12	n-Dodecane (C12)	540	S	10	108	500	50	130	2	30
SHC	C14	n-Tetradecane (C14)	560	S	10	111	500	50	130	1	30
SHC	C16	n-Hexadecane (C16)	580	S	10	116	500	50	130	1	30
SHC	C18	n-Octadecane (C18)	580	S	10	116	500	50	130	0	30
SHC	C19	n-Nonadecane (C19)	570	S	10	114	500	50	130	0	30
SHC	C20	n-Eicosane (C20)	580	S	10	115	500	50	130	0	30
SHC	C22	n-Docosane (C22)	590	S	10	117	500	50	130	0	30
SHC	C24	n-Tetracosane (C24)	560	S	10	112	500	50	130	0	30
SHC	C26	n-Hexacosane (C26)	560	S	10	111	500	50	130	0	30
SHC	C28	n-Octacosane (C28)	550	S	10	109	500	50	130	0	30
SHC	C30	n-Triacontane (C30)	540	S	10	108	500	50	130	0	30
SHC	C36	n-Hexatriacontane (C36)	530	S	10	106	500	50	130	0	30
SHC	TPH	Total Petroleum Hydrocarbons	6700			330					

Surrogates (% Recovery)	
ortho-Terphenyl	97
d50-Tetracosane	99

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS020807LCS04
Matrix	Soil
Reference Method	SHC
Batch ID	SS020807B05
Date Collected	N/A
Date Received	N/A
Date Prepped	2/8/2007
Date Analyzed	2/13/2007
Sample Size (wet)	5
% Solid	100
File ID	P48804.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.4

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	C9	n-Nonane (C9)	6.4 S	0.40	64	10	50	130
SHC	C10	n-Decane (C10)	7.2 S	0.40	72	10	50	130
SHC	C12	n-Dodecane (C12)	7.9 S	0.40	79	10	50	130
SHC	C14	n-Tetradecane (C14)	8.3 S	0.40	83	10	50	130
SHC	C16	n-Hexadecane (C16)	8.7 S	0.40	87	10	50	130
SHC	C18	n-Octadecane (C18)	8.7 S	0.40	87	10	50	130
SHC	C19	n-Nonadecane (C19)	8.6 S	0.40	88	10	50	130
SHC	C20	n-Eicosane (C20)	8.6 S	0.40	86	10	50	130
SHC	C22	n-Docosane (C22)	8.8 S	0.40	88	10	50	130
SHC	C24	n-Tetracosane (C24)	8.4 S	0.40	84	10	50	130
SHC	C26	n-Hexacosane (C26)	8.2 S	0.40	82	10	50	130
SHC	C28	n-Octacosane (C28)	8.1 S	0.40	81	10	50	130
SHC	C30	n-Triacontane (C30)	8.0 S	0.40	80	10	50	130
SHC	C36	n-Hexatriacontane (C36)	7.6 S	0.40	76	10	50	130
SHC	TPH	Total Petroleum Hydrocarbons	80		13			

Surrogates (% Recovery)
 ortho-Terphenyl 75
 d50-Tetracosane 77

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS020807LCSD04
Matrix	Soil
Reference Method	SHC
Batch ID	SS020807B05
Date Collected	N/A
Date Received	N/A
Date Prepped	2/8/2007
Date Analyzed	2/13/2007
Sample Size (wet)	5
% Solid	100
File ID	P48806.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.4

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
SHC	C9	n-Nonane (C9)	5.5 S	0.40	55	10	50	130	15	30
SHC	C10	n-Decane (C10)	6.6 S	0.40	66	10	50	130	8	30
SHC	C12	n-Dodecane (C12)	7.7 S	0.40	77	10	50	130	3	30
SHC	C14	n-Tetradecane (C14)	8.2 S	0.40	82	10	50	130	1	30
SHC	C16	n-Hexadecane (C16)	8.7 S	0.40	87	10	50	130	0	30
SHC	C18	n-Octadecane (C18)	8.8 S	0.40	88	10	50	130	1	30
SHC	C19	n-Nonadecane (C19)	8.7 S	0.40	87	10	50	130	1	30
SHC	C20	n-Eicosane (C20)	8.7 S	0.40	87	10	50	130	1	30
SHC	C22	n-Docosane (C22)	8.9 S	0.40	89	10	50	130	1	30
SHC	C24	n-Tetracosane (C24)	8.5 S	0.40	85	10	50	130	1	30
SHC	C26	n-Hexacosane (C26)	8.4 S	0.40	84	10	50	130	1	30
SHC	C28	n-Octacosane (C28)	8.2 S	0.40	82	10	50	130	1	30
SHC	C30	n-Triacontane (C30)	8.1 S	0.40	81	10	50	130	2	30
SHC	C36	n-Hexatriacontane (C36)	7.9 S	0.40	79	10	50	130	3	30
SHC	TPH	Total Petroleum Hydrocarbons	76		13					

Surrogates (% Recovery)	
ortho-Terphenyl	75
d50-Tetracosane	77

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SW020807LCS03
Matrix	Water
Reference Method	SHC
Batch ID	SW020807B04
Date Collected	N/A
Date Received	N/A
Date Prepped	2/8/2007
Date Analyzed	2/12/2007
Sample Size (wt)	500
% Solid	N/A
File ID	P48800.D
Units	mg/L
Final Volume	2
Dilution	1
Reporting Limit	0.004

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	
SHC	C9	n-Nonane (C9)	0.071	S	0.0040	71	0.10	50	130
SHC	C10	n-Decane (C10)	0.079	S	0.0040	79	0.10	50	130
SHC	C12	n-Dodecane (C12)	0.088	S	0.0040	86	0.10	50	130
SHC	C14	n-Tetradecane (C14)	0.089	S	0.0040	89	0.10	50	130
SHC	C16	n-Hexadecane (C16)	0.094	S	0.0040	94	0.10	50	130
SHC	C18	n-Octadecane (C18)	0.092	S	0.0040	92	0.10	50	130
SHC	C19	n-Nonadecane (C19)	0.094	S	0.0040	94	0.10	50	130
SHC	C20	n-Eicosane (C20)	0.094	S	0.0040	94	0.10	50	130
SHC	C22	n-Docosane (C22)	0.097	S	0.0040	97	0.10	50	130
SHC	C24	n-Tetracosane (C24)	0.092	S	0.0040	92	0.10	50	130
SHC	C26	n-Hexacosane (C26)	0.091	S	0.0040	91	0.10	50	130
SHC	C28	n-Octacosane (C28)	0.090	S	0.0040	90	0.10	50	130
SHC	C30	n-Triacontane (C30)	0.090	S	0.0040	90	0.10	50	130
SHC	C36	n-Hexatriacontane (C36)	0.087	S	0.0040	87	0.10	50	130
SHC	TPH	Total Petroleum Hydrocarbons	0.92		0.13				

Surrogates (% Recovery)	
ortho-Terphenyl	80
d50-Tetracosane	83

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SW020807LCSD03
Matrix	Water
Reference Method	SHC
Batch ID	SW020807B04
Date Collected	N/A
Date Received	N/A
Date Prepped	2/8/2007
Date Analyzed	2/13/2007
Sample Size (wet)	500
% Solid	N/A
File ID	P48802.D
Units	mg/L
Final Volume	2
Dilution	1
Reporting Limit	0.004

Class	Abbrev	Analytics	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
SHC	C9	n-Nonane (C9)	0.071 S	0.0040	71	0.10	50	130	0	30
SHC	C10	n-Decane (C10)	0.081 S	0.0040	81	0.10	50	130	2	30
SHC	C12	n-Dodecane (C12)	0.089 S	0.0040	89	0.10	50	130	3	30
SHC	C14	n-Tetradecane (C14)	0.094 S	0.0040	94	0.10	50	130	6	30
SHC	C16	n-Hexadecane (C16)	0.10 S	0.0040	101	0.10	50	130	6	30
SHC	C18	n-Octadecane (C18)	0.10 S	0.0040	101	0.10	50	130	9	30
SHC	C19	n-Nonadecane (C19)	0.10 S	0.0040	100	0.10	50	130	6	30
SHC	C20	n-Eicosane (C20)	0.10 S	0.0040	100	0.10	50	130	6	30
SHC	C22	n-Docosane (C22)	0.10 S	0.0040	102	0.10	50	130	5	30
SHC	C24	n-Tetracosane (C24)	0.097 S	0.0040	97	0.10	50	130	5	30
SHC	C26	n-Hexacosane (C26)	0.096 S	0.0040	96	0.10	50	130	4	30
SHC	C28	n-Octacosane (C28)	0.094 S	0.0040	94	0.10	50	130	3	30
SHC	C30	n-Triacontane (C30)	0.091 S	0.0040	91	0.10	50	130	2	30
SHC	C36	n-Hexatriacontane (C36)	0.079 S	0.0040	79	0.10	50	130	10	30
SHC	TPH	Total Petroleum Hydrocarbons	0.85		0.13					

Surrogates (% Recovery)	
ortho-Terphenyl	86
d50-Tetracosane	88

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID Alaska North Slope Crude
Lab ID TO021007AWS01
Matrix Oil
Reference Method SHC
Batch ID N/A
Date Collected N/A
Date Received N/A
Date Prepped N/A
Date Analyzed 2/8/2007
Sample Size (wet) 0.052
% Solid 100
File ID P48686.D
Units mg/Kg
Final Volume 10
Dilution 1
Reporting Limit 190

Class	Abbrev	Analytes	Result	SSRL	% Rec.	Spike Conc.	Lower Limit	Upper Limit
SHC	TPH	Total Petroleum Hydrocarbons	610000	6400	97	623913	65	135

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID Alaska North Slope Crude
Lab ID TO021407AWS02
Matrix Oil
Reference Method SHC
Batch ID N/A
Date Collected N/A
Date Received N/A
Date Prepped N/A
Date Analyzed 2/12/2007
Sample Size (wet) 0.052
% Solid 100
File ID P48786.D
Units mg/Kg
Final Volume 10
Dilution 1
Reporting Limit 190

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	TPH	Total Petroleum Hydrocarbons	570000	6400	91	623913	65	135

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-5	FPS-7	FPS-9
Lab ID	0702028-01	0702028-03	0702028-05
Matrix	Soil	Soil	Soil
Reference Method	SHC	SHC	SHC
Batch ID	SS021007B01	SS021007B01	SS021007B01
Date Collected	2/6/2007	2/6/2007	2/6/2007
Date Received	2/7/2007	2/7/2007	2/7/2007
Date Prepped	2/10/2007	2/10/2007	2/10/2007
Date Analyzed	2/13/2007	2/13/2007	2/13/2007
Sample Size (wet)	12.54	10.56	11.33
% Solid	84.01	73.47	76.15
File ID	A13024.D	A13028.D	A13030.D
Units	mg/Kg	mg/Kg	mg/Kg
Final Volume	8.33	9.09	3.33
Dilution	1	1	1
Reporting Limit	26	39	13

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	4800	26	4800	39	1600	13

Surrogates (% Recovery)			
ortho-Terphenyl	96	96	98
d50-Tetracosane	99	102	99

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-5	FPS-5
Lab ID	0702028-01D	Soll
Matrix	Soll	SHC
Reference Method	SHC	SHC
Batch ID	SS021007B01	SS021007B01
Date Collected	2/6/2007	2/6/2007
Date Received	2/7/2007	2/7/2007
Date Prepped	2/10/2007	2/10/2007
Date Analyzed	2/13/2007	2/13/2007
Sample Size (wet)	12.54	12.19
% Solid	84.01	84.01
File ID	A13024.D	A13026.D
Units	mg/Kg	mg/Kg
Final Volume	8.33	8.33
Dilution	1	1
Reporting Limit	26	27

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
SHC	TPH	Total Petroleum Hydrocarbons	4800	26	3900	27	21	30

Surrogates (% Recovery)					
ortho-Terphenyl	96		101	5	30
d50-Tetracosane	99		104	5	30

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	Method Blank
Lab ID	SS021007B01
Matrix	Soil
Reference Method	SHC
Batch ID	SS021007B01
Date Collected	N/A
Date Received	N/A
Date Prepped	2/10/2007
Date Analyzed	2/13/2007
Sample Size (wet)	30
% Solid	100
File ID	A13018.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	2.2

Class	Abbrev	Analytes	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	3.4	2.2

Surrogates (% Recovery)	
ortho-Terphenyl	98
d50-Tetracosane	103

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS021007LCS01
Matrix	Soil
Reference Method	SHC
Batch ID	SS021007B01
Date Collected	N/A
Date Received	N/A
Date Prepped	2/10/2007
Date Analyzed	2/13/2007
Sample Size (wet)	30
% Solid	100
File ID	A13020.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.067

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spke Conc.	Lower Limit	Upper Limit
SHC	C9	n-Nonane (C9)	1.3 S	0.067	78	1.6	50	130
SHC	C10	n-Decane (C10)	1.6 S	0.067	97	1.6	50	130
SHC	C12	n-Dodecane (C12)	1.8 S	0.067	107	1.6	50	130
SHC	C14	n-Tetradecane (C14)	1.8 S	0.067	107	1.6	50	130
SHC	C16	n-Hexadecane (C16)	1.8 S	0.067	110	1.6	50	130
SHC	C18	n-Octadecane (C18)	1.9 S	0.067	113	1.6	50	130
SHC	C19	n-Nonadecane (C19)	1.9 S	0.067	112	1.6	50	130
SHC	C20	n-Eicosane (C20)	1.9 S	0.067	112	1.6	50	130
SHC	C22	n-Docosane (C22)	1.9 S	0.067	117	1.6	50	130
SHC	C24	n-Tetracosane (C24)	1.9 S	0.067	112	1.6	50	130
SHC	C26	n-Hexacosane (C26)	1.9 S	0.067	112	1.6	50	130
SHC	C28	n-Octacosane (C28)	1.8 S	0.067	108	1.6	50	130
SHC	C30	n-Triacontane (C30)	1.8 S	0.067	107	1.6	50	130
SHC	C36	n-Hexatriacontane (C36)	1.8 S	0.067	107	1.6	50	130
SHC	TPH	Total Petroleum Hydrocarbons	28		2.2			

Surrogates (% Recovery)
 ortho-Terphenyl 94
 d50-Tetracosane 97

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS021007LCSD01
Matrix	Soil
Reference Method	SHC
Batch ID	SS021007B01
Date Collected	N/A
Date Received	N/A
Date Prepped	2/10/2007
Date Analyzed	2/13/2007
Sample Size (wet)	30
% Solid	100
File ID	A13022.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.067

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
SHC	C9	n-Nonane (C9)	1.3 S	0.067	79	1.6	50	130	1	30
SHC	C10	n-Decane (C10)	1.6 S	0.067	95	1.6	50	130	2	30
SHC	C12	n-Dodecane (C12)	1.7 S	0.067	103	1.6	50	130	3	30
SHC	C14	n-Tetradecane (C14)	1.8 S	0.067	105	1.6	50	130	2	30
SHC	C16	n-Hexadecane (C16)	1.8 S	0.067	108	1.6	50	130	2	30
SHC	C18	n-Octadecane (C18)	1.9 S	0.067	112	1.6	50	130	1	30
SHC	C19	n-Nonadecane (C19)	1.8 S	0.067	111	1.6	50	130	1	30
SHC	C20	n-Eicosane (C20)	1.8 S	0.067	111	1.6	50	130	1	30
SHC	C22	n-Docosane (C22)	1.9 S	0.067	115	1.6	50	130	2	30
SHC	C24	n-Tetracosane (C24)	1.8 S	0.067	111	1.6	50	130	1	30
SHC	C26	n-Hexacosane (C26)	1.8 S	0.067	110	1.6	50	130	2	30
SHC	C28	n-Octacosane (C28)	1.8 S	0.067	105	1.6	50	130	2	30
SHC	C30	n-Tricontane (C30)	1.7 S	0.067	105	1.6	50	130	2	30
SHC	C36	n-Hexatricontane (C36)	1.6 S	0.067	95	1.6	50	130	12	30
SHC	TPH	Total Petroleum Hydrocarbons	26		2.2					

Surrogates (% Recovery)	
ortho-Terphenyl	96
d50-Tetracosane	100

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID Alaska North Slope Crude
Lab ID TO021507AWS01
Matrix Oil
Reference Method SHC
Batch ID N/A
Date Collected N/A
Date Received N/A
Date Prepped N/A
Date Analyzed 2/12/2007
Sample Size (wet) 0.052
% Solid 100
File ID A12996.D
Units mg/Kg
Final Volume 10
Dilution 1
Reporting Limit 190

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	TPH	Total Petroleum Hydrocarbons	590000	6400	95	623913	65	135

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
a: Value outside of QC Limits.
S: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
t: Due to interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to Interference. (Metals)
a: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

Priority Pollutant PAH Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

	STA 2+00 US 0702022-01 Water	STA 2+25 US 0702022-02 Water	FPS-4 0702022-03 Soil	STA t+75 US 0702022-04 Oil	STA 1+50 US 0702022-05 Water
Client ID	SW020807B04	SW020807B04	SS020807B05	SO020807B06	SW020807B04
Lab ID	2/5/2007	2/5/2007	2/5/2007	2/5/2007	2/5/2007
Matrix	2/6/2007	2/6/2007	2/6/2007	2/6/2007	2/6/2007
Reference Method	2/8/2007	2/8/2007	2/8/2007	2/8/2007	2/8/2007
Batch ID	2/13/2007	2/13/2007	2/13/2007	2/13/2007	2/13/2007
Date Collected	420	440	5.46	0.0366	400
Date Received	N/A	N/A	72	100	N/A
Date Prepped	P48811.D	P48813.D	P48817.D	P48821.D	P48815.D
Date Analyzed	ng/L	ng/L	µg/Kg	mg/Kg	ng/L
Sample Size (wet)	2	2.27	6.25	4.55	2
% Solid	t	1	1	1	1
File ID	1000000	1000000	1000000	1000000	1000000
Units	D 4800	D 5200	D 5200	D 120	D 500
Final Volume	48	52	16	1.2	50
Dilution					
Reporting Limit					

Class	Abbrev	Analyses	Result	SSRL	Result	SSRL	Result	SSRL	Result	SSRL	Result	SSRL
2	N0	Naphthalene	7100	48	21000	52	400	16	180	1.2	40000	50
3	AY	Acenaphthylene	20000	48	36000	52	4100	16	970	1.2	2600	50
3	AE	Acenaphthene	240000	D 4800	280000	D 5200	34000	D 1600	15000	D 120	87000	D 500
3	F0	Fluorene	380000	D 4800	360000	D 5200	62000	D 1600	22000	D 120	120000	D 500
3	A0	Anthracene	t90000	D 4800	160000	D 5200	70000	D 1600	16000	D 120	30000	50
3	P0	Phenanthrene	1t00000	D 4800	1000000	D 5200	240000	D 1600	74000	D 120	300000	D 500
4	FL0	Fluoranthene	1100000	D 4800	720000	D 5200	230000	D 1600	56000	D 120	200000	D 500
4	PY0	Pyrene	690000	D 4800	470000	D 5200	150000	D 1600	35000	D 120	120000	D 500
4	BA0	Benz[a]anthracene	230000	D 4800	150000	D 5200	51000	D 1600	13000	D 120	27000	50
4	C0	Chrysene/Triphenylene	140000	D 4800	120000	D 5200	45000	D 1600	9900	D 120	19000	50
5	BBF	Benz[b]fluoranthene	120000	D 4800	140000	D 5200	27000	D 1600	4600	D 120	14000	50
5	BJKF	Benz[k]fluoranthene	100000	D 4800	110000	D 5200	27000	D 1600	4700	D 120	12000	50
5	BAP	Benz[a]pyrene	120000	D 4800	130000	D 5200	25000	D 1600	4800	D 120	12000	50
6	IND	Indeno[1,2,3-cd]pyrene	63000	D 4800	96000	D 5200	12000	16	2200	D 120	5800	50
5	DA	Dibenza[h]anthracene	16000	48	24000	52	3200	16	640	1.2	1500	50
6	GHI	Benz[g,h]perylene	45000	48	74000	D 5200	9800	16	1500	D 120	4600	50
	TPAH		4561100		3891000		990500		260490		995500	

Surrogates (% Recovery)					
2-Methylnaphthalene-d10	69	68	62	92	73
Pyrene-d10	97	85	86	127	91
Benz[b]fluoranthene-d12	88	82	83	109	91

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-4	FPS-4
Lab ID	0702022-03	0702022-03D
Matrix	Soil	Soil
Reference Method		
Batch ID	SS020807B05	SS020807B05
Date Collected	2/5/2007	2/5/2007
Date Received	2/6/2007	2/6/2007
Date Prepped	2/8/2007	2/8/2007
Date Analyzed	2/13/2007	2/13/2007
Sample Size (wet)	5.46	5.17
% Solid	72	72
File ID	P48817.D	P48819.D
Units	µg/Kg	µg/Kg
Final Volume	6.25	6.25
Dilution	1	1
Reporting Limit	16	17

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	400	16	480	17	16	30
3	AY	Acenaphthylene	4100	16	3300	17	21	30
3	AE	Acenaphthene	34000	D 1600	30000	D 1700	13	30
3	F0	Fluorene	62000	D 1600	53000	D 1700	15	30
3	A0	Anthracene	70000	D 1600	57000	D 1700	20	30
3	P0	Phenanthrene	240000	D 1600	200000	D 1700	20	30
4	FLO	Fluoranthene	230000	D 1600	200000	D 1700	17	30
4	PY0	Pyrene	150000	D 1600	130000	D 1700	16	30
4	BA0	Benz[a]anthracene	51000	D 1600	41000	D 1700	22	30
4	C0	Chrysene/Triphenylene	45000	D 1600	38000	D 1700	17	30
5	BBF	Benz[b]fluoranthene	27000	D 1600	21000	D 1700	24	30
5	BJKF	Benz[k]fluoranthene	27000	D 1600	20000	D 1700	29	30
5	BAP	Benz[a]pyrene	25000	D 1600	19000	D 1700	25	30
6	IND	Indeno[1,2,3-cd]pyrene	12000	16	9700	17	25	30
5	DA	Dibenz[a,h]anthracene	3200	16	2600	17	23	30
6	GHI	Benzog,h,l]perylene	9800	16	7600	17	26	30
		TPAH	990500		832680			

Surrogates (% Recovery)				
2-Methylnaphthalene-d10	62	63	2	30
Pyrene-d10	88	90	5	30
Benz[b]fluoranthene-d12	83	87	5	30

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	STA 1+75 US	STA 1+75 US
Lab ID	0702022-04	0702022-04D
Matrix	Oil	Oil
Reference Method		SO020807B06
Batch ID	SO020807B06	2/5/2007
Date Collected	2/5/2007	2/6/2007
Date Received	2/6/2007	2/6/2007
Date Prepped	2/8/2007	2/8/2007
Date Analyzed	2/13/2007	2/13/2007
Sample Size (wt)	0.0366	0.0392
% Solid	100	100
File ID	P48821.D	P48823.D
Units	mg/Kg	mg/Kg
Final Volume	4.55	4.55
Dilution	1	1
Reporting Limit	1.2	1.2

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	180	1.2	160	1.2	11	30
3	AY	Acenaphthylene	970	1.2	890	1.2	8	30
3	AE	Acenaphthene	15000	D 120	13000	D 120	11	30
3	F0	Fluorene	22000	D 120	20000	D 120	11	30
3	A0	Anthracene	16000	D 120	14000	D 120	11	30
3	P0	Phenanthrene	74000	D 120	67000	D 120	10	30
4	FL0	Fluoranthene	56000	D 120	50000	D 120	11	30
4	PY0	Pyrene	35000	D 120	31000	D 120	11	30
4	BA0	Benz[a]anthracene	13000	D 120	11000	D 120	13	30
4	C0	Chrysene/Triphenylene	9900	D 120	8600	D 120	14	30
5	BBF	Benz[b]fluoranthene	4600	D 120	4000	D 120	13	30
5	BJKF	Benz[j]fluoranthene	4700	D 120	4100	D 120	13	30
5	BAP	Benz[a]pyrene	4800	D 120	4300	D 120	12	30
6	IND	Indeno[1,2,3-cd]pyrene	2200	D 120	1900	D 120	15	30
5	DA	Dibenz[a,h]anthracene	640	1.2	570	1.2	11	30
6	GHI	Benzof[g,h,i]perylene	1500	D 120	1300	D 120	13	30
		TPAH	260490		231820			

Surrogates (% Recovery)				
2-Methylnaphthalene-d10	92	92	0	30
Pyrene-d10	127	120	6	30
Benz[b]fluoranthene-d12	109	106	3	30

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

	FPS-5	FPS-7	FPS-9
Client ID	0702028-01	0702028-03	0702028-05
Lab ID	Soil	Soil	Soil
Matrix	Modified 8270C	Modified 8270C	Modified 8270C
Reference Method	SS021007B01	SS021007B01	SS021007B01
Batch ID	2/6/2007	2/6/2007	2/6/2007
Date Collected	2/7/2007	2/7/2007	2/7/2007
Date Received	2/10/2007	2/10/2007	2/10/2007
Date Prepped	2/14/2007	2/14/2007	2/14/2007
Date Analyzed			
Sample Size (wet)	12.54	10.58	11.33
% Solid	84.01	73.47	76.15
File ID	A13041.D	A13045.D	A13047.D
Units	µg/Kg	µg/Kg	µg/Kg
Final Volume	8.33	9.09	3.33
Dilution	1	1	1
Reporting Limit	7.9	12	3.9

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
2	N0	Naphthalene	1800	7.9	1400	12	880	3.9
3	AY	Acenaphthylene	5200	7.9	14000	D 590	3500	3.9
3	AE	Acenaphthene	6300	7.9	36000	D 590	750	3.9
3	F0	Fluorene	29000	D 790	54000	D 590	1900	3.9
3	A0	Anthracene	110000	D 790	49000	D 590	9000	D 150
3	P0	Phenanthrene	230000	D 790	180000	D 590	18000	D 150
4	FL0	Fluoranthene	420000	D 790	150000	D 590	50000	D 150
4	PY0	Pyrene	280000	D 790	100000	D 590	40000	D 150
4	BA0	Benz[a]anthracene	130000	D 790	42000	D 590	21000	D 150
4	C0	Chrysene/Triphenylene	130000	D 790	48000	D 590	20000	D 150
5	BBF	Benzol[b]fluoranthene	50000	D 790	47000	D 590	21000	D 150
5	BJKF	Benzol[k]fluoranthene	51000	D 790	40000	D 590	19000	D 150
5	BAP	Benzol[a]pyrene	50000	D 790	48000	D 590	18000	D 150
6	IND	Indeno[1,2,3-cd]pyrene	21000	D 790	38000	D 590	12000	D 150
5	DA	Dibenz[a,h]anthracene	4400	7.9	8800	12	2800	3.9
6	GHI	Benzol[g,h,j]perylene	15000	D 790	28000	D 590	8900	D 150
	TPAH		1533700		884200		246830	

Summates (% Recovery)			
2-Methylnaphthalene-d10	97	93	96
Pyrene-d10	126	101	101
Benzol[b]fluoranthene-d12	112	106	115

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-5
Lab ID	0702028-01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS021007B01
Date Collected	2/6/2007
Date Received	2/7/2007
Date Prepped	2/10/2007
Date Analyzed	2/14/2007
Sample Size (wet)	12.54
% Solid	84.01
File ID	A13041.D
Units	$\mu\text{g}/\text{Kg}$
Final Volume	8.33
Dilution	1
Reporting Limit	7.9

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	1800	7.9	640	8.1	95	30
3	AY	Acenaphthylene	5200	7.9	4700	8.1	11	30
3	AE	Acenaphthene	6300	7.9	5300	8.1	18	30
3	F0	Fluorene	29000 D	790	27000 D	810	8	30
3	A0	Anthracene	110000 D	790	69000 D	810	48	30
3	P0	Phenanthrene	230000 D	790	180000 D	810	20	30
4	FL0	Fluoranthene	420000 D	790	430000 D	810	1	30
4	PY0	Pyrene	280000 D	790	290000 D	810	3	30
4	BA0	Benz[a]anthracene	130000 D	790	130000 D	810	1	30
4	C0	Chrysene/Triphenylene	130000 D	790	100000 D	810	25	30
5	BBF	Benz[b]fluoranthene	50000 D	790	54000 D	810	7	30
5	BJKF	Benz[k]fluoranthene	51000 D	790	53000 D	810	3	30
5	BAP	Benz[a]pyrene	50000 D	790	52000 D	810	5	30
6	IND	Indeno[1,2,3-cd]pyrene	21000 D	790	22000 D	810	6	30
5	DA	Dibenz[a,h]anthracene	4400	7.9	4000	8.1	10	30
6	GHI	Benz[g,h]perylene	15000 D	790	16000 D	810	4	30
	TPA1		1533700		1437640			

Surrogates (% Recovery)
 2-Methylnaphthalene-d10
 Pyrene-d10
 Benzo[b]fluoranthene-d12

97	96	1	30
126	115	9	30
112	110	2	30

Parent and Alkylated PAH Data

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

	STA 2+00 US 0702022-01 Water	STA 2+25 US 0702022-02 Water	FPS-4 0702022-03 Soil	STA 1+75 US 0702022-04 Oil	STA 1+50 US 0702022-05 Water
Client ID	SW020807B04	SW020807B04	SS020807B05	SO020807B06	SW020807B04
Lab ID	2/5/2007	2/5/2007	2/5/2007	2/5/2007	2/5/2007
Matrix	2/6/2007	2/6/2007	2/6/2007	2/6/2007	2/6/2007
Reference Method	2/8/2007	2/8/2007	2/8/2007	2/8/2007	2/8/2007
Batch ID	2/13/2007	2/13/2007	2/13/2007	2/13/2007	2/13/2007
Date Collected	420	440	5.46	0.0366	400
Date Received	N/A	N/A	72	100	N/A
Date Prepped	P48811.D	P48813.D	P48817.D	P48821.D	P48815.D
Date Analyzed	ng/L	ng/L	µg/Kg	mg/Kg	ng/L
Sample Size (wet)	2	2.27	6.25	4.55	2
% Solid	1	1	1	1	1
Final Volume	48	52	16	1.2	50
Dilution					
Reporting Limit					

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL	Result	SSRL	Result	SSRL
2	N0	Naphthalene	7100	48	21000	52	400	16	180	1.2	40000	50
2	N1	C1-Naphthalenes	22000	48	50000	52	1900	16	1600	D 120	29000	50
2	N2	C2-Naphthalenes	95000	48	120000	D 5200	18000	16	7500	D 120	26000	50
2	N3	C3-Naphthalenes	120000	48	89000	52	27000	16	7900	1.2	17000	50
2	N4	C4-Naphthalenes	63000	48	36000	52	14000	16	3600	1.2	6100	50
2	B	Biphenyl	6600	48	24000	52	180	16	480	1.2	9600	50
3	DF	Dibenzofuran	200000	D 4800	230000	D 5200	25000	D 1600	13000	D 120	77000	D 500
3	AY	Acenaphthylene	20000	48	36000	52	4100	16	970	1.2	2600	50
3	AE	Acenaphthene	240000	D 4800	280000	D 5200	34000	D 1600	15000	D 120	87000	D 500
3	F0	Fluorene	380000	D 4800	360000	D 5200	62000	D 1600	22000	D 120	120000	D 500
3	F1	C1-Fluorenes	91000	48	62000	52	18000	16	5500	1.2	15000	50
3	F2	C2-Fluorenes	68000	48	38000	52	15000	16	3900	1.2	7800	50
3	F3	C3-Fluorenes	46000	48	26000	52	9300	16	2300	1.2	6500	50
3	A0	Anthracene	190000	D 4800	160000	D 5200	70000	D 1600	16000	D 120	30000	50
3	P0	Phanthrene	1100000	D 4800	1000000	D 5200	240000	D 1600	74000	D 120	300000	D 500
3	PA1	C1-Phenanthrenes/Anthracenes	300000	D 4800	200000	D 5200	74000	D 1600	18000	D 120	57000	50
3	PA2	C2-Phenanthrenes/Anthracenes	150000	48	88000	52	33000	16	8200	1.2	21000	50
3	PA3	C3-Phenanthrenes/Anthracenes	42000	48	28000	52	11000	16	2300	1.2	6000	50
3	PA4	C4-Phenanthrenes/Anthracenes	11000	48	9400	52	3000	16	550	1.2	1900	50
3	DBT0	Dibenzothiophene	110000	D 4800	84000	D 5200	19000	D 1600	5700	D 120	35000	50
3	DBT1	C1-Dibenzothiophenes	53000	48	32000	52	12000	16	2000	D 120	7800	50
3	DBT2	C2-Dibenzothiophenes	31000	48	18000	52	8700	16	1800	1.2	4000	50
3	DBT3	C3-Dibenzothiophenes	13000	48	8800	52	4700	16	780	1.2	2000	50
3	DBT4	C4-Dibenzothiophenes	3500	48	3400	52	1600	16	220	1.2	690	50
4	BF	Benzo(b)fluorene	88000	D 4800	53000	D 5200	24000	D 1600	5900	D 120	13000	50
4	FL0	Fluoranthene	1100000	D 4800	720000	D 5200	230000	D 1600	56000	D 120	200000	D 500
4	PY0	Pyrene	690000	D 4800	470000	D 5200	150000	D 1600	35000	D 120	120000	D 500
4	FP1	C1-Fluoranthenes/Pyrenes	270000	D 4800	180000	D 5200	67000	D 1600	15000	D 120	45000	50
4	FP2	C2-Fluoranthenes/Pyrenes	86000	48	68000	52	17000	16	3600	1.2	14000	50
4	FP3	C3-Fluoranthenes/Pyrenes	30000	48	33000	52	7000	16	1300	1.2	4400	50
4	FP4	C4-Fluoranthenes/Pyrenes	17000	48	19000	52	3800	16	660	1.2	2200	50
4	NBT0	Naphthobenzothiophenes	52000	D 4800	50000	52	16000	16	3200	D 120	9900	50
4	NBT1	C1-Naphthobenzothiophenes	23000	48	19000	52	5300	16	1200	1.2	3100	50
4	NBT2	C2-Naphthobenzothiophenes	8500	48	9100	52	2200	16	380	1.2	1100	50
4	NBT3	C3-Naphthobenzothiophenes	4300	48	6300	52	1200	16	180	1.2	630	50
4	NBT4	C4-Naphthobenzothiophenes	1500	48	2300	52	530	16	63	1.2	160	50
4	BA0	Benz[a]anthracene	230000	D 4800	150000	D 5200	51000	D 1600	13000	D 120	27000	50
4	C0	Chrysene/Triphenylene	140000	D 4800	120000	D 5200	45000	D 1600	9900	D 120	19000	50
4	BC1	C1-Chrysenes	54000	48	50000	52	13000	16	2700	1.2	7600	50
4	BC2	C2-Chrysenes	20000	48	23000	52	4800	16	880	1.2	2400	50
4	BC3	C3-Chrysenes	14000	48	21000	52	3600	16	610	1.2	2000	50
4	BC4	C4-Chrysenes	5100	48	9400	52	1300	16	210	1.2	560	50
5	BBF	Benz[b]fluoranthene	120000	D 4800	140000	D 5200	27000	D 1600	4600	D 120	14000	50
5	BJKF	Benz[k]fluoranthene	100000	D 4800	110000	D 5200	27000	D 1600	4700	D 120	12000	50
5	BAF	Benz[a]jfluoranthene	25000	48	34000	52	4900	16	1100	1.2	3200	50
5	BEP	Benz[e]pyrene	71000	D 4800	95000	D 5200	15000	16	2700	D 120	8900	50
5	BAP	Benz[a]pyrene	120000	D 4800	130000	D 5200	25000	D 1600	4800	D 120	12000	50
5	PER	Perylene	26000	48	32000	52	5400	16	1200	1.2	3700	50
6	IND	Indeno[1,2,3-cd]pyrene	63000	D 4800	96000	D 5200	12000	16	2200	D 120	5800	50
5	DA	Dibenzo[a,h]anthracene	16000	48	24000	52	3200	16	640	1.2	1500	50
6	GHI	Benzog[f,h,j]perylene	45000	48	74000	D 5200	9800	16	1500	D 120	4600	50
3	4MDT	4-Methyl dibenzothiophene	20000	48	11000	52	4200	16	1000	1.2	2600	50
3	2MDT	2/3-Methyl dibenzothiophene	21000	48	13000	52	4800	16	890	D 120	2900	50
3	1MDT	1-Methyl dibenzothiophene	4900	48	3200	52	1100	16	290	1.2	840	50
3	3MP	3-Methylphenanthrene	88000	D 4800	56000	D 5200	20000	D 1600	4900	D 120	16000	50
3	2MP	2/4-Methylphenanthrene	85000	D 4800	60000	D 5200	22000	D 1600	5700	D 120	16000	50
3	2MA	2-Methylnaphthalene	31000	48	24000	52	7900	16	1900	D 120	4900	50
3	9MP	9-Methylphenanthrene	55000	D 4800	44000	52	13000	16	3100	D 120	11000	50
3	1MP	1-Methylphenanthrene	47000	48	28000	52	9300	16	2000	D 120	7400	50
	TPAH		7133500		5980900		1560210		406483		1508380	

Surrogates (% Recovery)

2-Methylnaphthalene-d10	69	68	62	92	73
Pyrene-d10	97	85	86	127	91
Benz[b]fluoranthene-d12	88	82	83	109	91

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-4	FPS-4
Lab ID	0702022-03	0702022-03D
Matrix	Soil	Soil
Reference Method		
Batch ID	SS020807B05	SS020807B05
Date Collected	2/5/2007	2/5/2007
Date Received	2/6/2007	2/6/2007
Date Prepped	2/8/2007	2/8/2007
Date Analyzed	2/13/2007	2/13/2007
Sample Size (wet)	5.46	5.17
% Solid	72	72
File ID	P48817.D	P48819.D
Units	µg/Kg	µg/Kg
Final Volume	6.25	6.25
Dilution	1	1
Reporting Limit	16	17

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	400	16	480	17	16	30
2	N1	C1-Naphthalenes	1900	16	1600	17	20	30
2	N2	C2-Naphthalenes	18000	16	16000	17	14	30
2	N3	C3-Naphthalenes	27000	16	25000	17	6	30
2	N4	C4-Naphthalenes	14000	16	14000	17	6	30
2	B	Biphenyl	180	16	210	17	16	30
3	DF	Dibenzofuran	25000	D 1600	19000	D 1700	29	30
3	AY	Aceanaphthylene	4100	16	3300	17	21	30
3	AE	Aceanaphthene	34000	D 1600	30000	D 1700	13	30
3	F0	Fluorene	62000	D 1600	53000	D 1700	15	30
3	F1	C1-Fluorenes	18000	16	16000	17	11	30
3	F2	C2-Fluorenes	15000	16	14000	17	12	30
3	F3	C3-Fluorenes	9300	16	8200	17	12	30
3	A0	Anthracene	70000	D 1600	57000	D 1700	20	30
3	P0	Phanthrene	240000	D 1600	200000	D 1700	20	30
3	PA1	C1-Phenanthrenes/Anthracenes	74000	D 1600	62000	D 1700	17	30
3	PA2	C2-Phenanthrenes/Anthracenes	33000	16	27000	17	17	30
3	PA3	C3-Phenanthrenes/Anthracenes	11000	16	8500	17	23	30
3	PA4	C4-Phenanthrenes/Anthracenes	3000	16	2500	17	15	30
3	DBT0	Dibenzothiophene	19000	D 1600	16000	D 1700	15	30
3	DBT1	C1-Dibenzothiophenes	12000	16	10000	17	11	30
3	DBT2	C2-Dibenzothiophenes	8700	16	7400	17	15	30
3	DBT3	C3-Dibenzothiophenes	4700	16	3800	17	21	30
3	DBT4	C4-Dibenzothiophenes	1600	16	1200	17	25	30
4	BF	Benz[b]fluororene	24000	D 1600	20000	D 1700	18	30
4	FL0	Fluoranthene	230000	D 1600	200000	D 1700	17	30
4	PY0	Pyrene	150000	D 1600	130000	D 1700	16	30
4	FP1	C1-Fluoranthenes/Pyrenes	67000	D 1600	56000	D 1700	19	30
4	FP2	C2-Fluoranthenes/Pyrenes	17000	16	14000	17	17	30
4	FP3	C3-Fluoranthenes/Pyrenes	7000	16	5500	17	23	30
4	FP4	C4-Fluoranthenes/Pyrenes	3800	16	3000	17	23	30
4	NBT0	Naphthobenzoithiophenes	16000	16	14000	17	15	30
4	NBT1	C1-Naphthobenzoithiophenes	5300	16	4300	17	21	30
4	NBT2	C2-Naphthobenzoithiophenes	2200	16	1700	17	25	30
4	NBT3	C3-Naphthobenzoithiophenes	1200	16	940	17	23	30
4	NBT4	C4-Naphthobenzoithiophenes	530	16	410	17	24	30
4	BA0	Benz[a]anthracene	51000	D 1600	41000	D 1700	22	30
4	C0	Chrysene/Triphenylene	45000	D 1600	38000	D 1700	17	30
4	BC1	C1-Chrysenes	13000	16	9800	17	25	30
4	BC2	C2-Chrysenes	4800	16	3700	17	24	30
4	BC3	C3-Chrysenes	3600	16	2600	17	29	30
4	BC4	C4-Chrysenes	1300	16	1100	17	20	30
5	BBF	Benz[b]fluoranthene	27000	D 1600	21000	D 1700	24	30
5	BJKF	Benz[j]k]fluoranthene	27000	D 1600	20000	D 1700	29	30
5	BAF	Benz[a]j]fluoranthene	4800	16	3700	17	28	30
5	BEP	Benz[e]pyrene	15000	16	12000	17	24	30
5	BAP	Benz[a]pyrene	25000	D 1600	19000	D 1700	25	30
5	PER	Perylene	5400	16	4200	17	25	30
6	IND	Indeno[1,2,3-cd]pyrene	12000	16	9700	17	25	30
5	DA	Dibenz[a,h]anthracene	3200	16	2600	17	23	30
6	GHI	Benz[g,h,i]perylene	9800	16	7600	17	26	30
3	4MDT	4-Methyldibenzothiophene	4200	16	3800	17	12	30
3	2MDT	2/3-Methyldibenzothiophene	4800	16	4200	17	13	30
3	1MDT	1-Methyldibenzothiophene	1100	16	970	17	16	30
3	3MP	3-Methylphenanthrene	20000	D 1600	16000	D 1700	17	30
3	2MP	2/4-Methylphenanthrene	22000	D 1600	19000	D 1700	16	30
3	2MA	2-Methylnanthracene	7900	16	6500	17	19	30
3	9MP	9-Methylphenanthrene	13000	16	11000	17	17	30
3	1MP	1-Methylphenanthrene	9300	16	8100	17	14	30
	TPAH		1560210		1311610			

Surrogates (% Recovery)				
2-Methylnaphthalene-d10	62	63	2	30
Pyrene-d10	86	90	5	30
Benz[b]fluoranthene-d12	83	87	5	30

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	STA 1+75 US	STA 1+75 US
Lab ID	0702022-04	0702022-04D
Matrix	Oil	Oil
Reference Method		
Batch ID	SO020807B06	SO020807B06
Date Collected	2/5/2007	2/5/2007
Date Received	2/6/2007	2/6/2007
Date Prepped	2/8/2007	2/8/2007
Date Analyzed	2/13/2007	2/13/2007
Sample Size (wet)	0.0366	0.0392
% Solid	100	100
File ID	P48821.D	P48823.D
Units	mg/Kg	mg/Kg
Final Volume	4.55	4.55
Dilution	1	1
Reporting Limit	1.2	1.2

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	180	1.2	160	1.2	11	30
2	N1	C1-Naphthalenes	1600	D 120	1400	D 120	10	30
2	N2	C2-Naphthalenes	7500	D 120	6800	D 120	11	30
2	N3	C3-Naphthalenes	7900	1.2	7200	1.2	10	30
2	N4	C4-Naphthalenes	3600	1.2	3300	1.2	10	30
2	B	Biphenyl	480	1.2	440	1.2	9	30
3	DF	Dibenzofuran	13000	D 120	11000	D 120	10	30
3	AY	Acenaphthylene	970	1.2	890	1.2	8	30
3	AE	Acenaphthene	15000	D 120	13000	D 120	11	30
3	F0	Fluorene	22000	D 120	20000	D 120	11	30
3	F1	C1-Fluorenes	5500	1.2	5000	1.2	10	30
3	F2	C2-Fluorenes	3900	1.2	3500	1.2	11	30
3	F3	C3-Fluorenes	2300	1.2	2000	1.2	13	30
3	A0	Anthracene	16000	D 120	14000	D 120	11	30
3	P0	Phenanthrene	74000	D 120	67000	D 120	10	30
3	PA1	C1-Phenanthrenes/Anthracenes	18000	D 120	16000	D 120	11	30
3	PA2	C2-Phenanthrenes/Anthracenes	8200	1.2	7400	1.2	11	30
3	PA3	C3-Phenanthrenes/Anthracenes	2300	1.2	2000	1.2	11	30
3	PA4	C4-Phenanthrenes/Anthracenes	550	1.2	490	1.2	12	30
3	DBT0	Dibenzothiophene	5700	D 120	5100	D 120	10	30
3	DBT1	C1-Dibenzothiophenes	2000	D 120	1800	D 120	10	30
3	DBT2	C2-Dibenzothiophenes	1800	1.2	1600	1.2	12	30
3	DBT3	C3-Dibenzothiophenes	780	1.2	700	1.2	11	30
3	DBT4	C4-Dibenzothiophenes	220	1.2	200	1.2	11	30
4	BF	Benzo(b)fluorene	5900	D 120	4700	D 120	23	30
4	FL0	Fluoranthene	56000	D 120	50000	D 120	11	30
4	PY0	Pyrene	35000	D 120	31000	D 120	11	30
4	FP1	C1-Fluoranthenes/Pyrenes	15000	D 120	13000	D 120	10	30
4	FP2	C2-Fluoranthenes/Pyrenes	3600	1.2	3200	1.2	12	30
4	FP3	C3-Fluoranthenes/Pyrenes	1300	1.2	1200	1.2	9	30
4	FP4	C4-Fluoranthenes/Pyrenes	680	1.2	560	1.2	16	30
4	NBT0	Naphthobenzothiophenes	3200	D 120	2800	D 120	13	30
4	NBT1	C1-Naphthobenzothiophenes	1200	1.2	1000	1.2	13	30
4	NBT2	C2-Naphthobenzothiophenes	380	1.2	330	1.2	15	30
4	NBT3	C3-Naphthobenzothiophenes	180	1.2	150	1.2	16	30
4	NBT4	C4-Naphthobenzothiophenes	63	1.2	53	1.2	17	30
4	BA0	Benz[a]anthracene	13000	D 120	11000	D 120	13	30
4	C0	Chrysene/Triphenylene	9900	D 120	8600	D 120	14	30
4	BC1	C1-Chrysenes	2700	1.2	2500	1.2	9	30
4	BC2	C2-Chrysenes	880	1.2	790	1.2	11	30
4	BC3	C3-Chrysenes	610	1.2	530	1.2	14	30
4	BC4	C4-Chrysenes	210	1.2	170	1.2	20	30
5	BBF	Benz[b]fluoranthene	4600	D 120	4000	D 120	13	30
5	BJKF	Benzo[k]fluoranthene	4700	D 120	4100	D 120	13	30
5	BAF	Benzo[a]fluoranthene	1100	1.2	990	1.2	12	30
5	BEP	Benzo[e]pyrene	2700	D 120	2400	D 120	14	30
5	BAP	Benzo[a]pyrene	4800	D 120	4300	D 120	12	30
5	PER	Perylene	1200	1.2	1100	1.2	11	30
6	IND	Indeno[1,2,3-cd]pyrene	2200	D 120	1900	D 120	15	30
5	DA	Dibenz[a,h]anthracene	640	1.2	570	1.2	11	30
6	GHI	Benzog[f,h,i]perylene	1500	D 120	1300	D 120	13	30
3	4MDT	4-Methylbenzothiophene	1000	1.2	950	1.2	9	30
3	2MDT	2,3-Methylbenzothiophene	890	D 120	810	D 120	9	30
3	1MDT	1-Methylbenzothiophene	290	1.2	270	1.2	9	30
3	3MP	3-Methylphenanthrene	4900	D 120	4400	D 120	11	30
3	2MP	2,4-Methylphenanthrene	5700	D 120	5100	D 120	11	30
3	2MA	2-Methylnaphthalene	1900	D 120	1700	D 120	12	30
3	9MP	9-Methylnaphthalene	3100	D 120	2700	D 120	12	30
3	1MP	1-Methylnaphthalene	2000	D 120	1800	D 120	10	30
		TPAH	406483		360963			

Surrogates (% Recovery)				
2-Methylnaphthalene-d10	92	92	0	30
Pyrene-d10	127	120	6	30
Benzo[b]fluoranthene-d12	109	106	3	30

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Method Blank	Method Blank	Method Blank
Lab ID	SO020807B06	SS020807B05	SW020807B04
Matrix	Oil	Soil	Water
Reference Method			
Batch ID	SO020807B06	SS020807B05	SW020807B04
Date Collected	N/A	N/A	N/A
Date Received	N/A	N/A	N/A
Date Prepped	2/8/2007	2/8/2007	2/8/2007
Date Analyzed	2/12/2007	2/12/2007	2/12/2007
Sample Size (wt%)	0.1	5	500
% Solid	100	100	N/A
File ID	P48795.D	P48793.D	P48791.D
Units	mg/Kg	µg/Kg	ng/L
Final Volume	1	2	2
Dilution	1	1	1
Reporting Limit	0.1	4	40

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
2	N0	Naphthalene	U 0.10	0.56	J 4.0	8.1	J 40	
2	N1	C1-Naphthalenes	U 0.10		U 4.0		11	J 40
2	N2	C2-Naphthalenes	U 0.10		U 4.0		U 40	
2	N3	C3-Naphthalenes	U 0.10		U 4.0		U 40	
2	N4	C4-Naphthalenes	U 0.10		U 4.0		U 40	
2	B	Biphenyl	U 0.10		0.50	J 4.0	U 40	
3	DF	Dibenzofuran	U 0.10		U 4.0		5.2	J 40
3	AY	Acenaphthylene	U 0.10		0.31	J 4.0	U 40	
3	AE	Acenaphthene	U 0.10		U 4.0		U 40	
3	F0	Fluorene	U 0.10		0.45	J 4.0	5.4	J 40
3	F1	C1-Fluorenes	U 0.10		U 4.0		U 40	
3	F2	C2-Fluorenes	U 0.10		U 4.0		U 40	
3	F3	C3-Fluorenes	U 0.10		U 4.0		U 40	
3	A0	Anthracene	U 0.10		0.67	J 4.0	U 40	
3	P0	Phenanthrene	0.016	J 0.10	4.1	4.0	18	J 40
3	PA1	C1-Phenanthrenes/Anthracenes	U 0.10		2.4	J 4.0	U 40	
3	PA2	C2-Phenanthrenes/Anthracenes	U 0.10		U 4.0		U 40	
3	PA3	C3-Phenanthrenes/Anthracenes	U 0.10		U 4.0		U 40	
3	PA4	C4-Phenanthrenes/Anthracenes	U 0.10		U 4.0		U 40	
3	DBT0	Dibenzothiophene	U 0.10		0.52	J 4.0	U 40	
3	DBT1	C1-Dibenzothiophenes	U 0.10		U 4.0		U 40	
3	DBT2	C2-Dibenzothiophenes	U 0.10		U 4.0		U 40	
3	DBT3	C3-Dibenzothiophenes	U 0.10		U 4.0		U 40	
3	DBT4	C4-Dibenzothiophenes	U 0.10		U 4.0		U 40	
4	BF	Benz(b)fluorene	U 0.10		U 4.0		U 40	
4	FL0	Fluoranthene	0.0085	J 0.10	5.4	4.0	5.8	J 40
4	PY0	Pyrene	U 0.10		3.5	J 4.0	5.2	J 40
4	FP1	C1-Fluoranthenes/Pyrenes	U 0.10		2.7	J 4.0	U 40	
4	FP2	C2-Fluoranthenes/Pyrenes	U 0.10		U 4.0		U 40	
4	FP3	C3-Fluoranthenes/Pyrenes	U 0.10		U 4.0		U 40	
4	FP4	C4-Fluoranthenes/Pyrenes	U 0.10		U 4.0		U 40	
4	NBT0	Naphthobenzothiophenes	U 0.10		U 4.0		U 40	
4	NBT1	C1-Naphthobenzothiophenes	U 0.10		U 4.0		U 40	
4	NBT2	C2-Naphthobenzothiophenes	U 0.10		U 4.0		U 40	
4	NBT3	C3-Naphthobenzothiophenes	U 0.10		U 4.0		U 40	
4	NBT4	C4-Naphthobenzothiophenes	U 0.10		U 4.0		U 40	
4	BA0	Benz[a]anthracene	U 0.10		1.1	J 4.0	U 40	
4	C0	Chrysene/Triphenylene	U 0.10		0.82	J 4.0	U 40	
4	BC1	C1-Chrysenes	U 0.10		U 4.0		U 40	
4	BC2	C2-Chrysenes	U 0.10		U 4.0		U 40	
4	BC3	C3-Chrysenes	U 0.10		U 4.0		U 40	
4	BC4	C4-Chrysenes	U 0.10		U 4.0		U 40	
5	BBF	Benz[b]fluoranthene	U 0.10		0.75	J 4.0	U 40	
5	BJKF	Benz{o}fluoranthene	U 0.10		0.64	J 4.0	U 40	
5	BAF	Benzo[a]fluoranthene	U 0.10		U 4.0		U 40	
5	BEP	Benz{o}pyrene	U 0.10		0.55	J 4.0	U 40	
5	BAP	Benzo[a]pyrene	U 0.10		0.72	J 4.0	U 40	
5	PER	Perylene	U 0.10		U 4.0		U 40	
6	IND	Indeno[1,2,3-cd]pyrene	U 0.10		0.43	J 4.0	U 40	
5	DA	Dibenz[a,h]anthracene	U 0.10		U 4.0		U 40	
6	GHI	Benzog,h,i]perylene	U 0.10		0.57	J 4.0	U 40	
3	4MDT	4-Methyldibenzothiophene	U 0.10		U 4.0		U 40	
3	2MDT	2/3-Methyldibenzothiophene	U 0.10		U 4.0		U 40	
3	1MDT	1-Methyldibenzothiophene	U 0.10		U 4.0		U 40	
3	3MP	3-Methylphenanthrene	U 0.10		0.48	J 4.0	U 40	
3	2MP	2/4-Methylphenanthrene	U 0.10		0.53	J 4.0	U 40	
3	2MA	2-Methylnaphthalene	U 0.10		U 4.0		U 40	
3	9MP	9-Methylnaphthalene	U 0.10		0.37	J 4.0	U 40	
3	1MP	1-Methylnaphthalene	U 0.10		0.32	J 4.0	U 40	

Surrogates (% Recovery)			
2-Methylnaphthalene-d10	92	70	76
Pyrene-d10	102	82	89
Benz{o}fluoranthene-d12	104	85	94

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SO020807LCS05
Matrix	Oil
Reference Method	
Batch ID	SO020807B06
Date Collected	N/A
Date Received	N/A
Date Prepped	2/8/2007
Date Analyzed	2/13/2007
Sample Size (wet)	0.1
% Solid	100
File ID	P48805.D
Units	mg/Kg
Final Volume	1
Dilution	1
Reporting Limit	0.1

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	9.8	S 0.10	98	10	50	130
2	N1	C1-Naphthalenes		U 0.10				
2	N2	C2-Naphthalenes		U 0.10				
2	N3	C3-Naphthalenes		U 0.10				
2	N4	C4-Naphthalenes		U 0.10				
2	B	Biphenyl		U 0.10				
3	DF	Dibenzofuran		U 0.10				
3	AY	Acenaphthylene	10	S 0.10	103	10	50	130
3	AE	Acenaphthene	9.6	S 0.10	96	10	50	130
3	F0	Fluorene	10	S 0.10	103	10	50	130
3	F1	C1-Fluorenes		U 0.10				
3	F2	C2-Fluorenes		U 0.10				
3	F3	C3-Fluorenes		U 0.10				
3	A0	Anthracene	12	S 0.10	124	10	50	130
3	P0	Phenanthrene	11	S 0.10	109	10	50	130
3	PA1	C1-Phenanthrenes/Anthracenes		U 0.10				
3	PA2	C2-Phenanthrenes/Anthracenes		U 0.10				
3	PA3	C3-Phenanthrenes/Anthracenes		U 0.10				
3	PA4	C4-Phenanthrenes/Anthracenes		U 0.10				
3	DBT0	Dibenzothiophene		U 0.10				
3	DBT1	C1-Dibenzothiophenes		U 0.10				
3	DBT2	C2-Dibenzothiophenes		U 0.10				
3	DBT3	C3-Dibenzothiophenes		U 0.10				
3	DBT4	C4-Dibenzothiophenes		U 0.10				
4	BF	Benz{o}fluorene		U 0.10				
4	FL0	Fluoranthene	11	S 0.10	114	10	50	130
4	PY0	Pyrene	12	S 0.10	115	10	50	130
4	FP1	C1-Fluoranthenes/Pyrenes		U 0.10				
4	FP2	C2-Fluoranthenes/Pyrenes		U 0.10				
4	FP3	C3-Fluoranthenes/Pyrenes		U 0.10				
4	FP4	C4-Fluoranthenes/Pyrenes		U 0.10				
4	NBT0	Naphthobenzothiophenes		U 0.10				
4	NBT1	C1-Naphthobenzothiophenes		U 0.10				
4	NBT2	C2-Naphthobenzothiophenes		U 0.10				
4	NBT3	C3-Naphthobenzothiophenes		U 0.10				
4	NBT4	C4-Naphthobenzothiophenes		U 0.10				
4	BA0	Benz[a]anthracene	9.8	S 0.10	98	10	50	130
4	C0	Chrysene/Triphenylene	9.3	S 0.10	93	10	50	130
4	BC1	C1-Chrysenes		U 0.10				
4	BC2	C2-Chrysenes		U 0.10				
4	BC3	C3-Chrysenes		U 0.10				
4	BC4	C4-Chrysenes		U 0.10				
5	BBF	Benz[b]fluoranthene	10	S 0.10	101	10	50	130
5	BJKF	Benz[k]fluoranthene	10	S 0.10	100	10	50	130
5	BAF	Benz[a]fluoranthene		U 0.10				
5	BEP	Benz[e]pyrene		U 0.10				
5	BAP	Benz[a]pyrene	9.9	S 0.10	99	10	50	130
5	PER	Perylene		U 0.10				
6	IND	Indeno[1,2,3-cd]pyrene	11	S 0.10	107	10	50	130
5	DA	Dibenz[a,h]anthracene	10	S 0.10	102	10	50	130
6	GHI	Benz[g,h,i]perylene	10	S 0.10	103	10	50	130

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 85
 Pyrene-d10 106
 Benzo[b]fluoranthene-d12 103

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SO020807LCSD05
Matrix	Oil
Reference Method	
Batch ID	SO020807B06
Date Collected	N/A
Date Received	N/A
Date Prepped	2/8/2007
Date Analyzed	2/13/2007
Sample Size (wet)	0.1
% Solid	100
File ID	P48807.D
Units	mg/Kg
Final Volume	1
Dilution	1
Reporting Limit	0.1

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
2	N0	Naphthalene	9.8	S 0.10	98	10	50	130	1	30
2	N1	C1-Naphthalenes		U 0.10						
2	N2	C2-Naphthalenes		U 0.10						
2	N3	C3-Naphthalenes		U 0.10						
2	N4	C4-Naphthalenes		U 0.10						
2	B	Biphenyl		U 0.10						
3	DF	Dibenzofuran		U 0.10						
3	AY	Acenaphthylene	10	S 0.10	103	10	50	130	1	30
3	AE	Acenaphthene	9.7	S 0.10	97	10	50	130	1	30
3	F0	Fluorene	11	S 0.10	107	10	50	130	4	30
3	F1	C1-Fluorenes		U 0.10						
3	F2	C2-Fluorenes		U 0.10						
3	F3	C3-Fluorenes		U 0.10						
3	A0	Anthracene	12	S 0.10	125	10	50	130	1	30
3	P0	Phenanthrene	11	S 0.10	111	10	50	130	1	30
3	PA1	C1-Phenanthrenes/Anthracenes		U 0.10						
3	PA2	C2-Phenanthrenes/Anthracenes		U 0.10						
3	PA3	C3-Phenanthrenes/Anthracenes		U 0.10						
3	PA4	C4-Phenanthrenes/Anthracenes		U 0.10						
3	DBT0	Dibenzothiophene		U 0.10						
3	DBT1	C1-Dibenzothiophenes		U 0.10						
3	DBT2	C2-Dibenzothiophenes		U 0.10						
3	DBT3	C3-Dibenzothiophenes		U 0.10						
3	DBT4	C4-Dibenzothiophenes		U 0.10						
4	BF	Benz[b]fluorene		U 0.10						
4	FL0	Fluoranthene	12	S 0.10	115	10	50	130	1	30
4	PY0	Pyrene	12	S 0.10	117	10	50	130	2	30
4	FP1	C1-Fluoranthenes/Pyrenes		U 0.10						
4	FP2	C2-Fluoranthenes/Pyrenes		U 0.10						
4	FP3	C3-Fluoranthenes/Pyrenes		U 0.10						
4	FP4	C4-Fluoranthenes/Pyrenes		U 0.10						
4	NBT0	Naphthobenzothiophenes		U 0.10						
4	NBT1	C1-Naphthobenzothiophenes		U 0.10						
4	NBT2	C2-Naphthobenzothiophenes		U 0.10						
4	NBT3	C3-Naphthobenzothiophenes		U 0.10						
4	NBT4	C4-Naphthobenzothiophenes		U 0.10						
4	BA0	Benz[a]anthracene	9.8	S 0.10	98	10	50	130	0	30
4	C0	Chrysene/Triphenylene	9.3	S 0.10	93	10	50	130	0	30
4	BC1	C1-Chrysenes		U 0.10						
4	BC2	C2-Chrysenes		U 0.10						
4	BC3	C3-Chrysenes		U 0.10						
4	BC4	C4-Chrysenes		U 0.10						
5	BBF	Benz[b]fluoranthene	10	S 0.10	100	10	50	130	0	30
5	BJKF	Benz[k]fluoranthene	10	S 0.10	100	10	50	130	0	30
5	BAF	Benz[a]fluoranthene		U 0.10						
5	BEP	Benz[e]pyrene		U 0.10						
5	BAP	Benz[a]pyrene	9.9	S 0.10	99	10	50	130	0	30
5	PER	Perylene		U 0.10						
6	IND	Indeno[1,2,3-cd]pyrene	11	S 0.10	106	10	50	130	1	30
5	DA	Dibenz[a,h]anthracene	10	S 0.10	102	10	50	130	0	30
5	GHI	Benz[g,h]perylene	10	S 0.10	103	10	50	130	0	30

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 83
 Pyrene-d10 108
 Benzo[b]fluoranthene-d12 104

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS020807LCS04
Matrix	Soil
Reference Method	
Batch ID	SS020807B05
Date Collected	N/A
Date Received	N/A
Date Prepped	2/8/2007
Date Analyzed	2/12/2007
Sample Size (wet)	5
% Solid	100
File ID	P48801.D
Units	$\mu\text{g}/\text{Kg}$
Final Volume	2
Dilution	1
Reporting Limit	4

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	140	S 4.0	67	200	50	130
2	N1	C1-Naphthalenes		U 4.0				
2	N2	C2-Naphthalenes		U 4.0				
2	N3	C3-Naphthalenes		U 4.0				
2	N4	C4-Naphthalenes		U 4.0				
2	B	Biphenyl		U 4.0				
3	DF	Dibenzofuran		U 4.0				
3	AY	Acenaphthylene	140	S 4.0	71	200	50	130
3	AE	Acenaphthene	140	S 4.0	68	200	50	130
3	F0	Fluorene	150	S 4.0	74	200	50	130
3	F1	C1-Fluorenes		U 4.0				
3	F2	C2-Fluorenes		U 4.0				
3	F3	C3-Fluorenes		U 4.0				
3	A0	Anthracene	170	S 4.0	86	200	50	130
3	P0	Phenanthrene	150	S 4.0	76	200	50	130
3	PA1	C1-Phenanthrenes/Anthracenes		U 4.0				
3	PA2	C2-Phenanthrenes/Anthracenes		U 4.0				
3	PA3	C3-Phenanthrenes/Anthracenes		U 4.0				
3	PA4	C4-Phenanthrenes/Anthracenes		U 4.0				
3	DBT0	Dibenzothiophene		U 4.0				
3	DBT1	C1-Dibenzothiophenes		U 4.0				
3	DBT2	C2-Dibenzothiophenes		U 4.0				
3	DBT3	C3-Dibenzothiophenes		U 4.0				
3	DBT4	C4-Dibenzothiophenes		U 4.0				
4	BF	Benz(b)fluorene		U 4.0				
4	FL0	Fluoranthene	160	S 4.0	80	200	50	130
4	PY0	Pyrene	160	S 4.0	80	200	50	130
4	FP1	C1-Fluoranthenes/Pyrenes		U 4.0				
4	FP2	C2-Fluoranthenes/Pyrenes		U 4.0				
4	FP3	C3-Fluoranthenes/Pyrenes		U 4.0				
4	FP4	C4-Fluoranthenes/Pyrenes		U 4.0				
4	NBT0	Naphthobenzothiophenes		U 4.0				
4	NBT1	C1-Naphthobenzothiophenes		U 4.0				
4	NBT2	C2-Naphthobenzothiophenes		U 4.0				
4	NBT3	C3-Naphthobenzothiophenes		U 4.0				
4	NBT4	C4-Naphthobenzothiophenes		U 4.0				
4	BA0	Benz[a]anthracene	150	S 4.0	73	200	50	130
4	C0	Chrysene/Triphenylene	140	S 4.0	70	200	50	130
4	BC1	C1-Chrysenes		U 4.0				
4	BC2	C2-Chrysenes		U 4.0				
4	BC3	C3-Chrysenes		U 4.0				
4	BC4	C4-Chrysenes		U 4.0				
5	BBF	Benz[b]fluoranthene	150	S 4.0	74	200	50	130
5	BJKF	Benz[j]fluoranthene	150	S 4.0	75	200	50	130
5	BAF	Benz[a]fluoranthene		U 4.0				
5	BEP	Benz[e]pyrene		U 4.0				
5	BAP	Benz[a]pyrene	150	S 4.0	74	200	50	130
5	PER	Perylene		U 4.0				
6	IND	Indeno[1,2,3-cd]pyrene	160	S 4.0	78	200	50	130
5	DA	Dibenz[a,h]anthracene	150	S 4.0	76	200	50	130
5	GHI	Benz[g,h,i]perylene	160	S 4.0	79	200	50	130

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 61
 Pyrene-d10 77
 Benzo[b]fluoranthene-d12 80

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS020807LCSD04
Matrix	Soil
Reference Method	
Batch ID	SS020807B05
Date Collected	N/A
Date Received	N/A
Date Prepped	2/8/2007
Date Analyzed	2/13/2007
Sample Size (wet)	5
% Solid	100
File ID	P48803.D
Units	$\mu\text{g}/\text{Kg}$
Final Volume	2
Dilution	1
Reporting Limit	4

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
2	N0	Naphthalene	130 S 4.0	67	200	50	130	1	30	
2	N1	C1-Naphthalenes	U 4.0							
2	N2	C2-Naphthalenes	U 4.0							
2	N3	C3-Naphthalenes	U 4.0							
2	N4	C4-Naphthalenes	U 4.0							
2	B	Biphenyl	U 4.0							
3	DF	Dibenzofuran	U 4.0							
3	AY	Acenaphthylene	140 S 4.0	71	200	50	130	0	30	
3	AE	Acenaphthene	140 S 4.0	68	200	50	130	0	30	
3	F0	Fluorene	150 S 4.0	74	200	50	130	1	30	
3	F1	C1-Fluorenes	U 4.0							
3	F2	C2-Fluorenes	U 4.0							
3	F3	C3-Fluorenes	U 4.0							
3	A0	Anthracene	180 S 4.0	87	200	50	130	1	30	
3	P0	Phenanthrene	150 S 4.0	77	200	50	130	1	30	
3	PA1	C1-Phenanthrenes/Anthracenes	U 4.0							
3	PA2	C2-Phenanthrenes/Anthracenes	U 4.0							
3	PA3	C3-Phenanthrenes/Anthracenes	U 4.0							
3	PA4	C4-Phenanthrenes/Anthracenes	U 4.0							
3	DBT0	Dibenzothiophene	U 4.0							
3	DBT1	C1-Dibenzothiophenes	U 4.0							
3	DBT2	C2-Dibenzothiophenes	U 4.0							
3	DBT3	C3-Dibenzothiophenes	U 4.0							
3	DBT4	C4-Dibenzothiophenes	U 4.0							
4	BF	Benz[b]fluorene	U 4.0							
4	FL0	Fluoranthene	160 S 4.0	80	200	50	130	0	30	
4	PY0	Pyrene	160 S 4.0	82	200	50	130	2	30	
4	FP1	C1-Fluoranthenes/Pyrenes	U 4.0							
4	FP2	C2-Fluoranthenes/Pyrenes	U 4.0							
4	FP3	C3-Fluoranthenes/Pyrenes	U 4.0							
4	FP4	C4-Fluoranthenes/Pyrenes	U 4.0							
4	NBT0	Naphthobenzothiophenes	U 4.0							
4	NBT1	C1-Naphthobenzothiophenes	U 4.0							
4	NBT2	C2-Naphthobenzothiophenes	U 4.0							
4	NBT3	C3-Naphthobenzothiophenes	U 4.0							
4	NBT4	C4-Naphthobenzothiophenes	U 4.0							
4	BA0	Benz[a]anthracene	150 S 4.0	73	200	50	130	1	30	
4	C0	Chrysene/Triphenylene	140 S 4.0	70	200	50	130	0	30	
4	BC1	C1-Chrysenes	U 4.0							
4	BC2	C2-Chrysenes	U 4.0							
4	BC3	C3-Chrysenes	U 4.0							
4	BC4	C4-Chrysenes	U 4.0							
5	BBF	Benzo[b]fluoranthene	150 S 4.0	74	200	50	130	0	30	
5	BJKF	Benzo[k]fluoranthene	150 S 4.0	76	200	50	130	2	30	
5	BAF	Benzo[a]fluoranthene	U 4.0							
5	BEP	Benzo[e]pyrene	U 4.0							
5	BAP	Benzo[a]pyrene	150 S 4.0	75	200	50	130	1	30	
5	PER	Perylene	U 4.0							
6	IND	Indeno[1,2,3-cd]pyrene	160 S 4.0	78	200	50	130	1	30	
5	DA	Dibenz[a,h]anthracene	150 S 4.0	76	200	50	130	0	30	
6	GHI	Benzo[g,h,i]perylene	160 S 4.0	79	200	50	130	0	30	

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 59
 Pyrene-d10 77
 Benzo[b]fluoranthene-d12 80

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SW020807LCS03
Matrix	Water
Reference Method	
Batch ID	SW020807B04
Date Collected	N/A
Date Received	N/A
Date Prepped	2/8/2007
Date Analyzed	2/12/2007
Sample Size (wet)	500
% Solid	N/A
File ID	P48797.D
Units	ng/L
Final Volume	2
Dilution	1
Reporting Limit	40

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	
2	N0	Naphthalene	1500	S	40	74	2000	50	130
2	N1	C1-Naphthalenes		U	40				
2	N2	C2-Naphthalenes		U	40				
2	N3	C3-Naphthalenes		U	40				
2	N4	C4-Naphthalenes		U	40				
2	B	Biphenyl		U	40				
3	DF	Dibenzofuran		U	40				
3	AY	Acenaphthylene	1600	S	40	78	2000	50	130
3	AE	Acenaphthene	1500	S	40	74	2000	50	130
3	F0	Fluorene	1600	S	40	79	2000	50	130
3	F1	C1-Fluorenes		U	40				
3	F2	C2-Fluorenes		U	40				
3	F3	C3-Fluorenes		U	40				
3	A0	Anthracene	1900	S	40	94	2000	50	130
3	P0	Phenanthrene	1600	S	40	82	2000	50	130
3	PA1	C1-Phenanthrenes/Anthracenes		U	40				
3	PA2	C2-Phenanthrenes/Anthracenes		U	40				
3	PA3	C3-Phenanthrenes/Anthracenes		U	40				
3	PA4	C4-Phenanthrenes/Anthracenes		U	40				
3	DBT0	Dibenzothiophene		U	40				
3	DBT1	C1-Dibenzothiophenes		U	40				
3	DBT2	C2-Dibenzothiophenes		U	40				
3	DBT3	C3-Dibenzothiophenes		U	40				
3	DBT4	C4-Dibenzothiophenes		U	40				
4	BF	Benz(a)bifluorane		U	40				
4	FL0	Fluoranthene	1700	S	40	85	2000	50	130
4	PY0	Pyrene	1700	S	40	87	2000	50	130
4	FP1	C1-Fluoranthenes/Pyrenes		U	40				
4	FP2	C2-Fluoranthenes/Pyrenes		U	40				
4	FP3	C3-Fluoranthenes/Pyrenes		U	40				
4	FP4	C4-Fluoranthenes/Pyrenes		U	40				
4	NBT0	Naphthobenzothiophenes		U	40				
4	NBT1	C1-Naphthobenzothiophenes		U	40				
4	NBT2	C2-Naphthobenzothiophenes		U	40				
4	NBT3	C3-Naphthobenzothiophenes		U	40				
4	NBT4	C4-Naphthobenzothiophenes		U	40				
4	BA0	Benz[a]anthracene	1600	S	40	79	2000	50	130
4	C0	Chrysene/Triphenylene	1500	S	40	76	2000	50	130
4	BC1	C1-Chrysenes		U	40				
4	BC2	C2-Chrysenes		U	40				
4	BC3	C3-Chrysenes		U	40				
4	BC4	C4-Chrysenes		U	40				
5	BBF	Benzo[b]fluoranthene	1600	S	40	82	2000	50	130
5	BJKF	Benzo[k]fluoranthene	1600	S	40	82	2000	50	130
5	BAF	Benzo[a]fluoranthene		U	40				
5	BEP	Benz[e]pyrene		U	40				
5	BAP	Benz[a]pyrene	1600	S	40	82	2000	50	130
5	PER	Perylene		U	40				
6	IND	Indeno[1,2,3-cd]pyrene	1800	S	40	90	2000	50	130
5	DA	Dibenzo[a,h]anthracene	1700	S	40	85	2000	50	130
6	GHI	Benzo[g,h,i]perylene	1800	S	40	87	2000	50	130

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 67
 Pyrene-d10 81
 Benzo[b]fluoranthene-d12 85

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SW020807LCSD03
Matrix	Water
Reference Method	
Batch ID	SW020807B04
Date Collected	N/A
Date Received	N/A
Date Prepped	2/8/2007
Date Analyzed	2/12/2007
Sample Size (wet)	500
% Solid	N/A
File ID	P48799.D
Units	ng/L
Final Volume	2
Dilution	1
Reporting Limit	40

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
2	N0	Naphthalene	1500	S 40	77	2000	50	130	4	30
2	N1	C1-Naphthalenes				U 40				
2	N2	C2-Naphthalenes				U 40				
2	N3	C3-Naphthalenes				U 40				
2	N4	C4-Naphthalenes				U 40				
2	B	Biphenyl				U 40				
3	DF	Dibenzofuran				U 40				
3	AY	Aceanaphthylene	1600	S 40	82	2000	50	130	5	30
3	AE	Aceanaphthene	1600	S 40	79	2000	50	130	6	30
3	F0	Fluorene	1700	S 40	84	2000	50	130	7	30
3	F1	C1-Fluorenes				U 40				
3	F2	C2-Fluorenes				U 40				
3	F3	C3-Fluorenes				U 40				
3	A0	Anthracene	2000	S 40	99	2000	50	130	5	30
3	P0	Phenanthrene	1600	S 40	88	2000	50	130	7	30
3	PA1	C1-Phenanthrenes/Anthracenes				U 40				
3	PA2	C2-Phenanthrenes/Anthracenes				U 40				
3	PA3	C3-Phenanthrenes/Anthracenes				U 40				
3	PA4	C4-Phenanthrenes/Anthracenes				U 40				
3	DBT0	Dibenzothiophene				U 40				
3	DBT1	C1-Dibenzothiophenes				U 40				
3	DBT2	C2-Dibenzothiophenes				U 40				
3	DBT3	C3-Dibenzothiophenes				U 40				
3	DBT4	C4-Dibenzothiophenes				U 40				
4	BF	Benzo(b)fluorene	1800	S 40	90	2000	50	130	6	30
4	FL0	Fluoranthene	1800	S 40	92	2000	50	130	5	30
4	PY0	Pyrene				U 40				
4	FP1	C1-Fluoranthenes/Pyrenes				U 40				
4	FP2	C2-Fluoranthenes/Pyrenes				U 40				
4	FP3	C3-Fluoranthenes/Pyrenes				U 40				
4	FP4	C4-Fluoranthenes/Pyrenes				U 40				
4	NBT0	Naphthobenzothiophenes				U 40				
4	NBT1	C1-Naphthobenzothiophenes				U 40				
4	NBT2	C2-Naphthobenzothiophenes				U 40				
4	NBT3	C3-Naphthobenzothiophenes				U 40				
4	NBT4	C4-Naphthobenzothiophenes				U 40				
4	BA0	Benz[a]anthracene	1700	S 40	84	2000	50	130	6	30
4	C0	Chrysene/Triphenylene	1600	S 40	80	2000	50	130	5	30
4	BC1	C1-Chrysenes				U 40				
4	BC2	C2-Chrysenes				U 40				
4	BC3	C3-Chrysenes				U 40				
4	BC4	C4-Chrysenes				U 40				
5	BBF	Benzo[b]fluoranthene	1700	S 40	86	2000	50	130	6	30
5	BJKF	Benzo[k]fluoranthene	1700	S 40	86	2000	50	130	6	30
5	BAF	Benzo[a]fluoranthene				U 40				
5	BEP	Benzo[e]pyrene				U 40				
5	BAP	Benzo[a]pyrene	1700	S 40	85	2000	50	130	4	30
5	PER	Perylene				U 40				
6	IND	Indeno[1,2,3-cd]pyrene	1900	S 40	96	2000	50	130	7	30
5	DA	Dibenz[a,h]anthracene	1800	S 40	89	2000	50	130	5	30
5	GHI	Benzo[g,h,i]perylene	1800	S 40	91	2000	50	130	4	30

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 69
 Pyrene-d10 86
 Benzo[b]fluoranthene-d12 91

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID Alaska North Slope Crude
 Lab ID SO021307AWS1
 Matrix Oil
 Reference Method Modified 8270C
 Batch ID N/A
 Date Collected N/A
 Date Received N/A
 Date Prepped N/A
 Date Analyzed 2/10/2007
 Sample Size (wet) 0.052
 % Solid 100
 File ID A12945.D
 Units mg/Kg
 Final Volume 10
 Dilution 1
 Reporting Limit 1.9

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	660	1.9	98	669.92	65	135
2	N1	C1-Naphthalenes	1500	1.9	102	1432.05	65	135
2	N2	C2-Naphthalenes	1900	1.9	107	1770.37	65	135
2	N3	C3-Naphthalenes	1400	1.9	110	1321.83	65	135
2	N4	C4-Naphthalenes	840	1.9	115	731.64	65	135
2	B	Biphenyl	220	1.9	114	190.36	65	135
3	DF	Dibenzofuran	69	1.9				
3	AY	Acenaphthylene	8.4	1.9				
3	AE	Acenaphthene	18	1.9	125	14.71	65	135
3	F0	Fluorene	86	1.9	111	77.57	65	135
3	F1	C1-Fluorennes	230	1.9	114	203.54	65	135
3	F2	C2-Fluorennes	380	1.9	120	314.43	65	135
3	F3	C3-Fluorennes	390	1.9	134	290.03	65	135
3	A0	Anthracene	U	1.9				
3	P0	Phenanthrone	280	1.9	108	259.89	65	135
3	PA1	C1-Phenanthrenes/Anthracenes	630	1.9	116	545.98	65	135
3	PA2	C2-Phenanthrenes/Anthracenes	770	1.9	131	587.69	65	135
3	PA3	C3-Phenanthrenes/Anthracenes	530	1.9	124	428.71	65	135
3	PA4	C4-Phenanthrenes/Anthracenes	200	1.9	128	159.5	65	135
3	DBT0	Dibenzothiophene	230	1.9	109	210.91	65	135
3	DBT1	C1-Dibenzothiophenes	460	1.9	116	396.93	65	135
3	DBT2	C2-Dibenzothiophenes	650	1.9	121	538.82	65	135
3	DBT3	C3-Dibenzothiophenes	580	1.9	124	464.97	65	135
3	DBT4	C4-Dibenzothiophenes	300	1.9	123	243.14	65	135
4	BF	Benzo(b)fluorene	5.1	1.9				
4	FL0	Fluoranthene	2.9	1.9	71	4.14	65	135
4	PY0	Pyrene	14	1.9	120	12.07	65	135
4	FP1	C1-Fluoranthenes/Pyrenes	85	1.9	117	72.24	65	135
4	FP2	C2-Fluoranthenes/Pyrenes	140	1.9	120	120.66	65	135
4	FP3	C3-Fluoranthenes/Pyrenes	160	1.9	126	130.08	65	135
4	FP4	C4-Fluoranthenes/Pyrenes	140	1.9				
4	NBT0	Naphthobenzothiophenes	64	1.9				
4	NBT1	C1-Naphthobenzothiophenes	180	1.9				
4	NBT2	C2-Naphthobenzothiophenes	230	1.9				
4	NBT3	C3-Naphthobenzothiophenes	180	1.9				
4	NBT4	C4-Naphthobenzothiophenes	110	1.9				
4	BA0	Benz[a]anthracene	1.9	1.9				
4	C0	Chrysene/Triphenylene	49	1.9	98	49.55	65	135
4	BC1	C1-Chrysenes	87	1.9	105	82.86	65	135
4	BC2	C2-Chrysenes	110	1.9	103	102.78	65	135
4	BC3	C3-Chrysenes	130	1.9	119	107.68	65	135
4	BC4	C4-Chrysenes	76	1.9	121	62.56	65	135
5	BBF	Benzo[b]fluoranthene	6.4	1.9	110	5.79	65	135
5	BJKF	Benzo[k]fluoranthene	U	1.9				
5	BAF	Benzo[a]f]luoranthene	U	1.9				
5	BEP	Benzo[e]pyrene	13	1.9	109	12.05	65	135
5	BAP	Benzo[a]pyrene	2.2	1.9				
5	PER	Perylene	1.9	1.9				
6	IND	Indeno[1,2,3-cd]pyrene	U	1.9				
5	DA	Dibenz[a,h]anthracene	1.3	1.9	134	0.94	65	135
6	GHI	Benzog[h,i]perylene	3.7	1.9	107	3.47	65	135
3	4MDT	4-Methylidibenzothiophene	230	1.9				
3	2MDT	2/3-Methylidibenzothiophene	160	1.9				
3	1MDT	1-Methylidibenzothiophene	69	1.9				
3	3MP	3-Methylphenanthrene	130	1.9				
3	2MP	2/4-Methylphenanthrene	140	1.9				
3	2MA	2-Methylanthracene	3.4	1.9				
3	9MP	9-Methylphenanthrene	210	1.9				
3	1MP	1-Methylphenanthrene	140	1.9				
H30	T19	Hopane	170	1.9	111	155.8	65	135



Project Name: Tronox-Columbus
 Project Number:

	FPS-5	FPS-7	FPS-9
Client ID	0702028-01	0702028-03	0702028-05
Lab ID	Soil	Soil	Soil
Matrix	Modified 8270C	Modified 8270C	Modified 8270C
Reference Method	SS021007B01	SS021007B01	SS021007B01
Batch ID			
Date Collected	2/6/2007	2/6/2007	2/6/2007
Date Received	2/7/2007	2/7/2007	2/7/2007
Date Prepped	2/10/2007	2/10/2007	2/10/2007
Date Analyzed	2/14/2007	2/14/2007	2/14/2007
Sample Size (wet)	12.54	10.56	11.33
% Solid	84.01	73.47	76.15
File ID	A13041.D	A13045.D	A13047.D
Units	µg/Kg	µg/Kg	µg/Kg
Final Volume	8.33	9.09	3.33
Dilution	1	1	1
Reporting Limit	7.9	12	3.9

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
2	N0	Naphthalene	1800	7.9	1400	12	880	3.9
2	N1	C1-Naphthalenes	880	7.9	3100	12	290	3.9
2	N2	C2-Naphthalenes	3800	7.9	11000	12	500	3.9
2	N3	C3-Naphthalenes	8400	7.9	7000	12	1100	3.9
2	N4	C4-Naphthalenes	4700	7.9	2800	12	720	3.9
2	B	Biphenyl	570	7.9	160	12	80	3.9
3	DF	Dibenzofuran	6000	7.9	10000	12	720	3.9
3	AY	Acenaphthylene	5200	7.9	14000 D 590	3500	3.9	
3	AE	Acenaphthene	6300	7.9	36000 D 590	750	3.9	
3	F0	Fluorene	29000 D 790	54000 D 590	1900	3.9		
3	F1	C1-Fluorenes	10000	7.9	8200	12	1200	3.9
3	F2	C2-Fluorenes	9000	7.9	4500	12	1100	3.9
3	F3	C3-Fluorenes	6600	7.9	4500	12	1200	3.9
3	A0	Anthracene	110000 D 790	49000 D 590	9000 D 150			
3	P0	Phenanthrene	230000 D 790	180000 D 590	180000 D 150			
3	PA1	C1-Phenanthrenes/Anthracenes	82000 D 790	36000	12	6600	3.9	
3	PA2	C2-Phenanthrenes/Anthracenes	31000	7.9	15000	12	3700	3.9
3	PA3	C3-Phenanthrenes/Anthracenes	11000	7.9	6300	12	1900	3.9
3	PA4	C4-Phenanthrenes/Anthracenes	2700	7.9	2500	12	860	3.9
3	DBT0	Dibenzothiophene	16000 D 790	13000 D 590	1200	3.9		
3	DBT1	C1-Dibenzothiophenes	7100	7.9	3700	12	720	3.9
3	DBT2	C2-Dibenzothiophenes	6500	7.9	2800	12	740	3.9
3	DBT3	C3-Dibenzothiophenes	5200	7.9	2600	12	620	3.9
3	DBT4	C4-Dibenzothiophenes	2500	7.9	1800	12	300	3.9
4	BF	Benzo(b)fluorene	56000 D 790	22000 D 590	5000 D 150			
4	FL0	Fluoranthene	420000 D 790	150000 D 590	50000 D 150			
4	PY0	Pyrene	280000 D 790	100000 D 590	40000 D 150			
4	FP1	C1-Fluoranthenes/Pyrenes	140000 D 790	19000 D 590	19000 D 150			
4	FP2	C2-Fluoranthenes/Pyrenes	230000	7.9	20000	12	7000	3.9
4	FP3	C3-Fluoranthenes/Pyrenes	9000	7.9	11000	12	4000	3.9
4	FP4	C4-Fluoranthenes/Pyrenes	3900	7.9	5500	12	2000	3.9
4	NBT0	Naphthobenzothiophenes	31000 D 790	10000	12	4400	3.9	
4	NBT1	C1-Naphthobenzothiophenes	7000	7.9	5200	12	2000	3.9
4	NBT2	C2-Naphthobenzothiophenes	2700	7.9	2900	12	970	3.9
4	NBT3	C3-Naphthobenzothiophenes	1400	7.9	2200	12	550	3.9
4	NBT4	C4-Naphthobenzothiophenes	500	7.9	740	12	200	3.9
4	BA0	Benz[a]anthracene	130000 D 790	42000 D 590	21000 D 150			
4	C0	Chrysene/Triphenylene	130000 D 790	48000 D 590	20000 D 150			
4	BC1	C1-Chrysenes	20000	7.9	17000	12	6700	3.9
4	BC2	C2-Chrysenes	6000	7.9	7800	12	2800	3.9
4	BC3	C3-Chrysenes	4200	7.9	7000	12	2500	3.9
4	BC4	C4-Chrysenes	1300	7.9	2800	12	900	3.9
5	BBF	Benzo[b]fluoranthene	50000 D 790	47000 D 590	21000 D 150			
5	BJKF	Benzo[k]fluoranthene	51000 D 790	40000 D 590	19000 D 150			
5	BAF	Benzo[a]fluoranthene	12000 D 790	14000 D 590	4300 D 150			
5	BEP	Benzo[e]pyrene	30000 D 790	32000 D 590	13000 D 150			
5	BAP	Benzo[a]pyrene	50000 D 790	48000 D 590	18000 D 150			
5	PER	Perylene	13000 D 790	18000 D 590	5400 D 150			
6	IND	Indeno[1,2,3-cd]pyrene	21000 D 790	38000 D 590	12000 D 150			
5	DA	Dibenzo[a,h]anthracene	4400	7.9	8800	12	2900	3.9
6	GHI	Benzol[g,h]perylene	15000 D 790	28000 D 590	8900 D 150			
3	4MDT	4-Methyl dibenzothiophene	2400	7.9	1100	12	230	3.9
3	2MDT	2/3-Methyl dibenzothiophene	3000	7.9	1600	12	340	3.9
3	1MDT	1-Methyl dibenzothiophene	750	7.9	430	12	74	3.9
3	3MP	3-Methyl phenanthrene	20000 D 790	8400	12	1600	3.9	
3	2MP	2/4-Methyl phenanthrene	24000 D 790	10000	12	1700	3.9	
3	2MA	2-Methyl anthracene	12000 D 790	6000	12	1000	3.9	
3	9MP	9-Methyl phenanthrene	14000 D 790	7100	12	1500	3.9	
3	1MP	1-Methyl phenanthrene	10000 D 790	4200	12	720	3.9	
	TPAH		2194900	1255130	358264			

Surrogates (% Recovery)			
2-Methylnaphthalene-d10	97	93	96
Pyrene-d10	126	101	101
Benzo[b]fluoranthene-d12	112	106	115

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

	FPS-5	FPS-5
Client ID	0702028-01	0702028-01D
Lab ID		Soil
Matrix		Modified 8270C
Reference Method	SS021007B01	SS021007B01
Batch ID		
Date Collected	2/6/2007	2/6/2007
Date Received	2/7/2007	2/7/2007
Date Prepped	2/10/2007	2/10/2007
Date Analyzed	2/14/2007	2/14/2007
Sample Size (wet)	12.54	12.19
% Solid	84.01	84.01
File ID	A13041.D	A13043.D
Units	µg/Kg	µg/Kg
Final Volume	8.33	8.33
Dilution	1	1
Reporting Limit	7.9	8.1

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	1800	7.9	640	8.1	95	30
2	N1	C1-Naphthalenes	880	7.9	570	8.1	43	30
2	N2	C2-Naphthalenes	3800	7.9	3100	8.1	18	30
2	N3	C3-Naphthalenes	8400	7.9	6500	8.1	26	30
2	N4	C4-Naphthalenes	4700	7.9	3800	8.1	21	30
2	B	Biphenyl	570	7.9	470	8.1	19	30
3	DF	Dibenzofuran	6000	7.9	4600	8.1	26	30
3	AY	Acenaphthylene	5200	7.9	4700	8.1	11	30
3	AE	Acenaphthene	6300	7.9	5300	8.1	18	30
3	F0	Fluorene	29000	D 790	27000	D 810	8	30
3	F1	C1-Fluorenes	10000	7.9	8000	8.1	27	30
3	F2	C2-Fluorenes	9000	7.9	7200	8.1	22	30
3	F3	C3-Fluorenes	6800	7.9	5200	8.1	24	30
3	A0	Anthracene	110000	D 790	69000	D 810	48	30
3	P0	Phenanthrene	230000	D 790	180000	D 810	20	30
3	PA1	C1-Phenanthrenes/Anthracenes	82000	D 790	75000	D 810	8	30
3	PA2	C2-Phenanthrenes/Anthracenes	31000	7.9	26000	8.1	19	30
3	PA3	C3-Phenanthrenes/Anthracenes	11000	7.9	8800	8.1	20	30
3	PA4	C4-Phenanthrenes/Anthracenes	2700	7.9	2200	8.1	20	30
3	DBT0	Dibenzothiophene	16000	D 790	15000	D 810	8	30
3	DBT1	C1-Dibenzothiophenes	7100	7.9	5500	8.1	25	30
3	DBT2	C2-Dibenzothiophenes	6500	7.9	5500	8.1	17	30
3	DBT3	C3-Dibenzothiophenes	5200	7.9	4300	8.1	18	30
3	DBT4	C4-Dibenzothiophenes	2600	7.9	2200	8.1	18	30
4	BF	Benz[b]fluorene	56000	D 790	52000	D 810	8	30
4	FLO	Fluoranthene	420000	D 790	430000	D 810	1	30
4	PY0	Pyrene	280000	D 790	290000	D 810	3	30
4	FP1	C1-Fluoranthenes/Pyrenes	140000	D 790	140000	D 810	1	30
4	FP2	C2-Fluoranthenes/Pyrenes	23000	7.9	20000	8.1	13	30
4	FP3	C3-Fluoranthenes/Pyrenes	9000	7.9	7800	8.1	14	30
4	FP4	C4-Fluoranthenes/Pyrenes	3900	7.9	3300	8.1	16	30
4	NBT0	Naphthobenzothiophenes	31000	D 790	31000	D 810	2	30
4	NBT1	C1-Naphthobenzothiophenes	7000	7.9	5800	8.1	18	30
4	NBT2	C2-Naphthobenzothiophenes	2700	7.9	2300	8.1	18	30
4	NBT3	C3-Naphthobenzothiophenes	1400	7.9	1200	8.1	11	30
4	NBT4	C4-Naphthobenzothiophenes	500	7.9	430	8.1	14	30
4	BA0	Benz[a]anthracene	130000	D 790	130000	D 810	1	30
4	C0	Chrysene/Triphenylene	130000	D 790	100000	D 810	25	30
4	BC1	C1-Chrysenes	20000	7.9	18000	8.1	10	30
4	BC2	C2-Chrysenes	6000	7.9	5600	8.1	7	30
4	BC3	C3-Chrysenes	4200	7.9	3800	8.1	11	30
4	BC4	C4-Chrysenes	1300	7.9	1300	8.1	1	30
5	BBF	Benz[b]fluoranthene	50000	D 790	54000	D 810	7	30
5	BJKF	Benzo[k]fluoranthene	51000	D 790	53000	D 810	3	30
5	BAF	Benzo[a]jfluoranthene	12000	D 790	13000	D 810	8	30
5	BEP	Benzof[e]pyrene	30000	D 790	32000	D 810	5	30
5	BAP	Benz[a]pyrene	50000	D 790	52000	D 810	5	30
5	PER	Perylene	13000	D 790	14000	D 810	7	30
6	IND	Indeno[1,2,3-cd]pyrene	21000	D 790	22000	D 810	6	30
5	DA	Dibenzo[a,h]anthracene	4400	7.9	4000	8.1	10	30
6	GII	Benzog[h,i]perylene	15000	D 790	16000	D 810	4	30
3	4MDT	4-Methylbenzothiophene	2400	7.9	1900	8.1	24	30
3	2MDT	2/3-Methylbenzothiophene	3000	7.9	2400	8.1	25	30
3	1MDT	1-Methylbenzothiophene	750	7.9	580	8.1	26	30
3	3MP	3-Methylphenanthrene	20000	D 790	18000	D 810	9	30
3	2MP	2/4-Methylphenanthrene	24000	D 790	22000	D 810	10	30
3	2MA	2-Methylnaphthalene	12000	D 790	11000	D 810	10	30
3	9MP	9-Methylphenanthrene	14000	D 790	13000	D 810	3	30
3	1MP	1-Methylphenanthrene	10000	D 790	9800	D 810	7	30
	TPAH		2194900		2051790			

Surrogates (% Recovery)				
2-Methylnaphthalene-d10	97	96	1	30
Pyrene-d10	126	115	9	30
Benz[b]fluoranthene-d12	112	110	2	30

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Method Blank
Lab ID	SS021007B01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS021007B01
Date Collected	N/A
Date Received	N/A
Date Prepped	2/10/2007
Date Analyzed	2/13/2007
Sample Size (wet)	30
% Solid	100
File ID	A13033.D
Units	µg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL
2	N0	Naphthalene	0.085	J 0.67
2	N1	C1-Naphthalenes	0.11	J 0.67
2	N2	C2-Naphthalenes		U 0.67
2	N3	C3-Naphthalenes		U 0.67
2	N4	C4-Naphthalenes		U 0.67
2	B	Biphenyl		U 0.67
3	DF	Dibenzofuran		U 0.67
3	AY	Acenaphthylene		U 0.67
3	AE	Acenaphthene		U 0.67
3	F0	Fluorene		U 0.67
3	F1	C1-Fluorenes		U 0.67
3	F2	C2-Fluorenes		U 0.67
3	F3	C3-Fluorenes		U 0.67
3	A0	Anthracene		U 0.67
3	P0	Phenanthrene	0.091	J 0.67
3	PA1	C1-Phenanthrenes/Anthracenes		U 0.67
3	PA2	C2-Phenanthrenes/Anthracenes		U 0.67
3	PA3	C3-Phenanthrenes/Anthracenes		U 0.67
3	PA4	C4-Phenanthrenes/Anthracenes		U 0.67
3	DBT0	Dibenzothiophene		U 0.67
3	DBT1	C1-Dibenzothiophenes		U 0.67
3	DBT2	C2-Dibenzothiophenes		U 0.67
3	DBT3	C3-Dibenzothiophenes		U 0.67
3	DBT4	C4-Dibenzothiophenes		U 0.67
4	BF	Benzo(b)fluorene		U 0.67
4	FL0	Fluoranthene	0.15	J 0.67
4	PY0	Pyrene	0.10	J 0.67
4	FP1	C1-Fluoranthenes/Pyrenes		U 0.67
4	FP2	C2-Fluoranthenes/Pyrenes		U 0.67
4	FP3	C3-Fluoranthenes/Pyrenes		U 0.67
4	FP4	C4-Fluoranthenes/Pyrenes		U 0.67
4	NBT0	Naphthobenzothiophenes		U 0.67
4	NBT1	C1-Naphthobenzothiophenes		U 0.67
4	NBT2	C2-Naphthobenzothiophenes		U 0.67
4	NBT3	C3-Naphthobenzothiophenes		U 0.67
4	NBT4	C4-Naphthobenzothiophenes		U 0.67
4	BA0	Benz[a]anthracene	0.045	J 0.67
4	C0	Chrysene/Triphenylene	0.065	J 0.67
4	BC1	C1-Chrysenes		U 0.67
4	BC2	C2-Chrysenes		U 0.67
4	BC3	C3-Chrysenes		U 0.67
4	BC4	C4-Chrysenes		U 0.67
5	BBF	Benzo[b]fluoranthene		U 0.67
5	BJKF	Benzo[k]fluoranthene		U 0.67
5	BAF	Benzo[a]fluoranthene		U 0.67
5	BEP	Benzo[e]pyrene		U 0.67
5	BAP	Benzo[a]pyrene		U 0.67
5	PER	Perylene		U 0.67
6	IND	Indeno[1,2,3-cd]pyrene		U 0.67
5	DA	Dibenz[a,h]anthracene		U 0.67
6	GHI	Benzo[g,h,i]perylene	0.086	J 0.67
3	4MDT	4-Methyl dibenzothiophene		U 0.67
3	2MDT	2,3-Methyl dibenzothiophene		U 0.67
3	1MDT	1-Methyl dibenzothiophene		U 0.67
3	3MP	3-Methyl phenanthrene		U 0.67
3	2MP	2,4-Methyl phenanthrene		U 0.67
3	2MA	2-Methyl anthracene		U 0.67
3	9MP	9-Methyl phenanthrene		U 0.67
3	1MP	1-Methyl phenanthrene		U 0.67

Surrogates (% Recovery)
 2-Methylnaphthalene-d10
 Pyrene-d10
 Benzo[b]fluoranthene-d12

86
 98
 102

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS021007LCS01
Matrix	Soll
Reference Method	Modified 8270C
Batch ID	SS021007B01
Date Collected	N/A
Date Received	N/A
Date Prepped	2/10/2007
Date Analyzed	2/13/2007
Sample Size (wet)	30
% Solid	100
File ID	A13037.D
Units	$\mu\text{g}/\text{Kg}$
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	32 S	0.67	96	33	50	130
2	N1	C1-Naphthalenes	U	0.67				
2	N2	C2-Naphthalenes	U	0.67				
2	N3	C3-Naphthalenes	U	0.67				
2	N4	C4-Naphthalenes	U	0.67				
2	B	Biphenyl	8.1	0.67				
3	DF	Dibenzofuran	U	0.67				
3	AY	Acenaphthylene	36 S	0.67	108	33	50	130
3	AE	Acenaphthene	34 S	0.67	102	33	50	130
3	F0	Fluorene	35 S	0.67	104	33	50	130
3	F1	C1-Fluorenes	U	0.67				
3	F2	C2-Fluorenes	U	0.67				
3	F3	C3-Fluorenes	U	0.67				
3	A0	Anthracene	40 S	0.67	121	33	50	130
3	P0	Phenanthrene	34 S	0.67	103	33	50	130
3	PA1	C1-Phenanthrenes/Anthracenes	U	0.67				
3	PA2	C2-Phenanthrenes/Anthracenes	U	0.67				
3	PA3	C3-Phenanthrenes/Anthracenes	U	0.67				
3	PA4	C4-Phenanthrenes/Anthracenes	U	0.67				
3	DBT0	Dibenzothiophene	U	0.67				
3	DBT1	C1-Dibenzothiophenes	U	0.67				
3	DBT2	C2-Dibenzothiophenes	U	0.67				
3	DBT3	C3-Dibenzothiophenes	U	0.67				
3	DBT4	C4-Dibenzothiophenes	U	0.67				
4	BF	Benz[b]fluorene	U	0.67				
4	FL0	Fluoranthene	36 S	0.67	107	33	50	130
4	PY0	Pyrene	37 S	0.67	110	33	50	130
4	FP1	C1-Fluoranthenes/Pyrenes	U	0.67				
4	FP2	C2-Fluoranthenes/Pyrenes	U	0.67				
4	FP3	C3-Fluoranthenes/Pyrenes	U	0.67				
4	FP4	C4-Fluoranthenes/Pyrenes	U	0.67				
4	NBT0	Naphthobenzothiophenes	U	0.67				
4	NBT1	C1-Naphthobenzothiophenes	U	0.67				
4	NBT2	C2-Naphthobenzothiophenes	U	0.67				
4	NBT3	C3-Naphthobenzothiophenes	U	0.67				
4	NBT4	C4-Naphthobenzothiophenes	U	0.67				
4	BA0	Benz[a]anthracene	39 S	0.67	116	33	50	130
4	C0	Chrysene/Triphenylene	35 S	0.67	104	33	50	130
4	BC1	C1-Chrysenes	U	0.67				
4	BC2	C2-Chrysenes	U	0.67				
4	BC3	C3-Chrysenes	U	0.67				
4	BC4	C4-Chrysenes	U	0.67				
5	BBF	Benz[b]fluoranthene	36 S	0.67	108	33	50	130
5	BJKF	Benz[k]fluoranthene	36 S	0.67	109	33	50	130
5	BAF	Benz[a]fluoranthene	U	0.67				
5	BEP	Benz[e]pyrene	U	0.67				
5	BAP	Benz[a]pyrene	39 S	0.67	118	33	50	130
5	PER	Perlyene	U	0.67				
6	IND	Indeno[1,2,3-cd]pyrene	37 S	0.67	111	33	50	130
5	DA	Dibenz[a,h]anthracene	38 S	0.67	115	33	50	130
6	GHI	Benzog[h,i]perlyene	35 S	0.67	106	33	50	130

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 92
 Pyrene-d10 97
 Benzo[b]fluoranthene-d12 98

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS021007LCSD01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS021007B01
Date Collected	N/A
Date Received	N/A
Date Prepped	2/10/2007
Date Analyzed	2/13/2007
Sample Size (wet)	30
% Solid	100
File ID	A13039.D
Units	$\mu\text{g}/\text{Kg}$
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
2	N0	Naphthalene	30 S 0.67	91	33		50	130	5	30
2	N1	C1-Naphthalenes	U 0.67							
2	N2	C2-Naphthalenes	U 0.67							
2	N3	C3-Naphthalenes	U 0.67							
2	N4	C4-Naphthalenes	U 0.67							
2	B	Biphenyl	7.7 0.67							
3	DF	Dibenzofuran	U 0.67							
3	AY	Aceanaphthylene	35 S 0.67	105	33	50	130		2	30
3	AE	Aceanaphthene	33 S 0.67	99	33	50	130		3	30
3	F0	Fluorene	34 S 0.67	101	33	50	130		3	30
3	F1	C1-Fluorenes	U 0.67							
3	F2	C2-Fluorenes	U 0.67							
3	F3	C3-Fluorenes	U 0.67							
3	A0	Anthracene	39 S 0.67	118	33	50	130		3	30
3	P0	Phenanthrene	33 S 0.67	99	33	50	130		3	30
3	PA1	C1-Phenanthrenes/Anthracenes	U 0.67							
3	PA2	C2-Phenanthrenes/Anthracenes	U 0.67							
3	PA3	C3-Phenanthrenes/Anthracenes	U 0.67							
3	PA4	C4-Phenanthrenes/Anthracenes	U 0.67							
3	DBT0	Dibenzothiophene	U 0.67							
3	DBT1	C1-Dibenzothiophenes	U 0.67							
3	DBT2	C2-Dibenzothiophenes	U 0.67							
3	DBT3	C3-Dibenzothiophenes	U 0.67							
3	DBT4	C4-Dibenzothiophenes	U 0.67							
4	BF	Benz(b)fluorene	U 0.67							
4	FL0	Fluoranthene	34 S 0.67	102	33	50	130		5	30
4	PY0	Pyrene	36 S 0.67	107	33	50	130		3	30
4	FP1	C1-Fluoranthenes/Pyrenes	U 0.67							
4	FP2	C2-Fluoranthenes/Pyrenes	U 0.67							
4	FP3	C3-Fluoranthenes/Pyrenes	U 0.67							
4	FP4	C4-Fluoranthenes/Pyrenes	U 0.67							
4	NBT0	Naphthobenzothiophene	U 0.67							
4	NBT1	C1-Naphthobenzothiophenes	U 0.67							
4	NBT2	C2-Naphthobenzothiophenes	U 0.67							
4	NBT3	C3-Naphthobenzothiophenes	U 0.67							
4	NBT4	C4-Naphthobenzothiophenes	U 0.67							
4	BA0	Benz(a)anthracene	38 S 0.67	115	33	50	130		1	30
4	C0	Chrysene/Triphenylene	34 S 0.67	102	33	50	130		2	30
4	BC1	C1-Chrysenes	U 0.67							
4	BC2	C2-Chrysenes	U 0.67							
4	BC3	C3-Chrysenes	U 0.67							
4	BC4	C4-Chrysenes	U 0.67							
5	BBF	Benz(b)fluoranthene	35 S 0.67	104	33	50	130		4	30
5	BJKF	Benz(k)fluoranthene	37 S 0.67	110	33	50	130		2	30
5	BAF	Benz(a)fluoranthene	U 0.67							
5	BEP	Benz(e)pyrene	U 0.67							
5	BAP	Benz(a)pyrene	38 S 0.67	114	33	50	130		3	30
5	PER	Perylene	U 0.67							
6	IND	Indeno[1,2,3-cd]pyrene	35 S 0.67	104	33	50	130		7	30
5	DA	Dibenzo[a,i]anthracene	38 S 0.67	113	33	50	130		2	30
6	GHI	Benz(g,h,i)perylene	34 S 0.67	103	33	50	130		3	30

Surrogates (% Recovery)
 2-Methylnaphthalene-d10
 Pyrene-d10
 Benzo[b]fluoranthene-d12

92
 96
 100

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Alaska North Slope Crude								
Lab ID	SO021307AWS01								
Matrix	Oil								
Reference Method	Modified 8270C								
Batch ID	N/A								
Date Collected	N/A								
Date Received	N/A								
Date Prepped	N/A								
Date Analyzed	2/10/2007								
Sample Size (wt)	0.052								
% Solid	100								
File ID	A12945.D								
Units	mg/Kg								
Final Volume	10								
Dilution	1								
Reporting Limit	1.9								
Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	
2	N0	Naphthalene	660	1.9	98	669.92	65	135	
2	N1	C1-Naphthalenes	1500	1.9	102	1432.05	65	135	
2	N2	C2-Naphthalenes	1900	1.9	107	1770.37	65	135	
2	N3	C3-Naphthalenes	1400	1.9	110	1321.83	65	135	
2	N4	C4-Naphthalenes	840	1.9	115	731.84	65	135	
2	B	Biphenyl	220	1.9	114	190.36	65	135	
3	DF	Dibenzofuran	69	1.9					
3	AY	Acenaphthylene	8.4	1.9					
3	AE	Acenaphthene	18	1.9	125	14.71	65	135	
3	F0	Fluorene	86	1.9	111	77.57	65	135	
3	F1	C1-Fluorenes	230	1.9	114	203.54	65	135	
3	F2	C2-Fluorenes	380	1.9	120	314.43	65	135	
3	F3	C3-Fluorenes	390	1.9	134	290.03	65	135	
3	A0	Anthracene	U	1.9					
3	P0	Phenanthrene	280	1.9	108	259.89	65	135	
3	PA1	C1-Phenanthrenes/Anthracenes	630	1.9	116	545.98	65	135	
3	PA2	C2-Phenanthrenes/Anthracenes	770	1.9	131	587.69	65	135	
3	PA3	C3-Phenanthrenes/Anthracenes	530	1.9	124	428.71	65	135	
3	PA4	C4-Phenanthrenes/Anthracenes	200	1.9	128	159.5	65	135	
3	DBT0	Dibenzothiophene	230	1.9	109	210.91	65	135	
3	DBT1	C1-Dibenzothiophenes	460	1.9	116	396.93	65	135	
3	DBT2	C2-Dibenzothiophenes	650	1.9	121	538.82	65	135	
3	DBT3	C3-Dibenzothiophenes	580	1.9	124	464.97	65	135	
3	DBT4	C4-Dibenzothiophenes	300	1.9	123	243.14	65	135	
4	BF	Benzol(b)fluorene	5.1	1.9					
4	FLO	Fluoranthene	2.9	1.9	71	4.14	65	135	
4	PY0	Pyrene	14	1.9	120	12.07	65	135	
4	FP1	C1-Fluoranthenes/Pyrenes	85	1.9	117	72.24	65	135	
4	FP2	C2-Fluoranthenes/Pyrenes	140	1.9	120	120.66	65	135	
4	FP3	C3-Fluoranthenes/Pyrenes	160	1.9	126	130.08	65	135	
4	FP4	C4-Fluoranthenes/Pyrenes	140	1.9					
4	NBT0	Naphthobenzothiophenes	64	1.9					
4	NBT1	C1-Naphthobenzothiophenes	180	1.9					
4	NBT2	C2-Naphthobenzothiophenes	230	1.9					
4	NBT3	C3-Naphthobenzothiophenes	180	1.9					
4	NBT4	C4-Naphthobenzothiophenes	110	1.9					
4	BA0	Benz[a]anthracene	1.9	J	1.9				
4	C0	Chrysene/Triphenylene	49	1.9	99	49.55	65	135	
4	BC1	C1-Chrysenes	87	1.9	105	82.86	65	135	
4	BC2	C2-Chrysenes	110	1.9	103	102.78	65	135	
4	BC3	C3-Chrysenes	130	1.9	119	107.68	65	135	
4	BC4	C4-Chrysenes	76	1.9	121	62.56	65	135	
5	BBF	Benzol[b]fluoranthene	6.4	1.9	110	5.79	65	135	
5	BJKF	Benzol[k]fluoranthene	U	1.9					
5	BAF	Benzol[a]fluoranthene	U	1.9					
5	BEP	Benzol[e]pyrene	13	1.9	109	12.05	65	135	
5	BAP	Benzol[a]pyrene	2.2	1.9					
5	PER	Perylene	1.9	1.9					
6	IND	Indeno[1,2,3-cd]pyrene	U	1.9					
5	DA	Dibenz[a,h]anthracene	1.3	J	1.9	134	0.94	65	135
6	GHI	Benzol[g,h,i]perylene	3.7	1.9	107	3.47	65	135	
3	4MDT	4-Methylbenzothiophene	230	1.9					
3	2MDT	2/3-Methylbenzothiophene	160	1.9					
3	1MDT	1-Methylbenzothiophene	69	1.9					
3	3MP	3-Methylphenanthrene	130	1.9					
3	2MP	2/4-Methylphenanthrene	140	1.9					
3	2MA	2-Methylnaphthalene	3.4	1.9					
3	9MP	9-Methylphenanthrene	210	1.9					
3	1MP	1-Methylphenanthrene	140	1.9					
H30	T19	Hopane	170	1.9	111	155.8	65	135	

NEWFIELDS

List of Potential Qualifiers

- U: The analyte was analyzed for but not detected at the sample specific level reported.
- B: Found in associated blank as well as sample.
- J: Estimated value, below quantitation limit.
- E: Estimated value, exceeds the upper limit of calibration.
- NA: Not Applicable.
- D: Secondary Dilution Performed
- D1: Tertiary Dilution Performed
- : Value outside of QC Limits.
- S: Surrogate value outside of acceptable range.
- X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
- G: Matrix Interference.
- P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
- I: Due to Interference, the lower value is reported.
- N: Spike recovery outside control limits.
- E: Estimated due to Interference. (Metals)
- : Duplicate outside control limits.
- P: Spike compound. (Metals)
- J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
- C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)



NEWFIELDS

new INSIGHT | new DIRECTION | new DECISION

Tronox-Columbus
September 2006 Investigation
Data Deliverable #7

Chain of Custody

NEWFIELDS

Chain of Custody

Environmental Forensics Practice LLC

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Proj. Name Tronox Columbus, MS Proj. No. 0059372

Samplers: Signature

Matthew Keller : Matthew Keller

Client Info: (Name/Address/Phone/Email)

EKM Environmental, Inc.
(225) 202-3001
Jon.Hamilton@EKM.com

ANALYSIS REQUESTED (# of containers)

LAB ID	CLIENT ID	COLLECTION			SAMPLE DESCRIPTION	ANALYSIS REQUESTED (# of containers)	
		DATE	TIME	MATRIX (Soil/Water/ Sediment/Tissue)		GC-FID-TPH (C ₈ +) GCMS-Allyl PAH GCMS-Biomarkers PNAO - VOA Organic Lead METALS PCB Pesticides PRESERVED Other TPH & Heavy metals	Total Number of containers
1	FP3-10	3/1/07	0825	soil		X	1
2	FP3-11	3/1/07	0920	soil		X	1
3	FP3-12	3/1/07	0935	soil		X	1
4	FP3-13	3/1/07	1000	soil		X	1
5	FP3-14	3/1/07	1025	oil		X	1
6	FP3-15	3/1/07	1045	soil		X	1
7	FP3-16	3/1/07	1345	soil		X	1
8	FP3-17	3/1/07	1445	soil		X	1
9	FP3-18	3/1/07	1505	soil		X	1
Relinquished by:					Date 3/1/07 Time 1735 Received by: <u>Feld Ex</u>	Date 3/1/07 Time 1735	
Relinquished by:					Date 3/1/07 Time 0935 Received by: <u>Feld Ex</u>	Date 3/1/07 Time 0935	
Relinquished by:					Date 3/1/07 Time Received by:		
Ship samples to:		Comments:					

Comments:

Alpha Woods Hole Laboratory
375 Paramount Drive, Suite B
Raynham, MA 02767
Tel: (508) 822-9300
Attn: Liz Porta

Contact Robert Pounds w/ Tronox for any questions (605) 615-8886
email report to Robert.Pounds@Tronox.com
Jon.Hamilton@EKM.com

Date 3/1/07	Time 1735
Date 3/1/07	Time 0935
Date 3/1/07	Time 0935
Date 3/1/07	Time

Sample Receipt Checklist

Page 1 of 1

Client: NEWPIE	Receipt Date: 2/8/07
Project: Traex-Columbus	Log-in Date: ↓
ETR #: 0702033	Inspection by: W
	Login by: NAP

ALL SECTIONS BELOW MUST BE COMPLETED

		Comments / Notes
Were samples shipped?	<input checked="" type="checkbox"/> Yes, FedEx <input type="checkbox"/> UPS / Other: _____ <input type="checkbox"/> No, WHG Courier pick-up / Hand delivered	Sample storage refrigerator #: _____
Is bill of lading retained?	<input checked="" type="checkbox"/> Yes, Tracking #: Attached <input type="checkbox"/> No, Unavailable / NA	Sample storage freezer #: _____
Number of coolers received for this project delivery:	1	
Indicate cooler temperature upon opening (if multiple coolers, record <u>all</u> temps):		
<u>Note:</u> If <u>all</u> coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note <u>all</u> samples received <u>above</u> 6°C.		
Cooler 1:		
Temperature(s) taken from: 5° IR Gun, 3° Temp. Blank, / NA		
Were samples received on ice?	<input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	
Chain-of-Custody present?	<input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	
Complete?	<input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	
Custody seals present on Cooler?	<input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	
on Bottles?	<input checked="" type="checkbox"/> Yes / <input checked="" type="checkbox"/> No	
Intact?	<input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No / NA	
<u>Note: Affix custody seals to back of this page.</u>		
Were sample containers intact?	<input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	If No, list samples: →
Did VOA/VPH waters contain headspace (>5mm)? Yes / No / N/A	If Yes, list samples: →	
Were 5035 VOA soils, or VPH soils, covered with MeOH? Yes / No / N/A	If No, list samples: →	
Was a sufficient amount of sample received for each test indicated on the COC?		
<input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	If No, list samples: →	
<i>If chemical preservation is appropriate -</i>		
Were samples field preserved?	<input type="checkbox"/> Yes / <input type="checkbox"/> No / N/A	
<input type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=H ₂ SO ₄		
<input type="checkbox"/> H=NaOH <input type="checkbox"/> N=NHO ₃ <input type="checkbox"/> Other: _____ <input type="checkbox"/> U=Unknown		
Preservation (pH) verified at lab for EVERY bottle? (<u>Not:</u> VOA / VPH / Sulfide)		
YES: <2 or >12 (CN) or NO	NA	
If No, why?: _____		
Were samples received within hold time? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	If No, list samples: →	
Discrepancy between samples rec'd & COC? Yes No	If Yes, list samples: →	
Was the Project Manager notified of any other problems? Yes / No / N/A		
Project Manager Acknowledgement: EWP		Date: 2/8/07
<i>Please use back for any additional notes!</i>		

NEWFIELDS

Chain of Custody

Environmental Forensics Practice LLC

100 Ledgewood Place, Suite 302, Rockland, MA 02370

ph: 781-681-5040 fax: 781-681-5048

Proj. Name TRONOX Columbus, MS
 Samplers: Signature Alvin Hamilton

Client Info: (Name/Address/Phone/Email)

Proj. No. 0059372

(225) 242-3001

Jon. Hamilton@ERNL.com

Total Number of
containers
1

Other EPA
Requester
None

ANALYSIS REQUESTED (# of containers)

GC-FID-TPH (C ₈ +) <u>1</u>
GCMS-Alkyl PAH <u>1</u>
GCMS-Biotmarkers <u>1</u>
PANo - VOA <u>1</u>
Organic Lead <u>1</u>
METALS <u>1</u>
PCB <u>1</u>
Pesticides <u>1</u>
PPESERVE'D <u>1</u>
Other TPH <u>1</u>
Total Number of containers <u>1</u>

LAB ID	CLIENT ID	COLLECTION		MATRIX (Oil/Soil/Water/ Sediment/Tissue)	SAMPLE DESCRIPTION
		DATE	TIME		
- 1	FPS-19	02/15/07	0920	Soil	
- 2	FPS-20	02/15/07	1010	Soil	
- 3	FPS-21	02/15/07	1020	oil & water	
- 4	FPS-22	02/15/07	1305	Soil	
- 5	FPS-23	02/15/07	1415	Soil	

Relinquished by: <u>David Belmont</u>	Date <u>02/15/07</u>	Time <u>1740</u>	Received by: <u>Federal Express</u>	Date <u>02/16/07</u>	Time <u>1741</u>
Relinquished by: <u>TEA Ex</u>	Date <u>2/16/07</u>	Time <u>0930</u>	Received by: <u>None</u>	Date <u>2/16/07</u>	Time <u>0930</u>
Relinquished by:	Date	Time	Received by:	Date	Time

Ship samples to:	Comments: <u>Standard Turnaround - Contact Robert Pounds w/ Tronox for any questions (403)665-8686 email: Robert.Pounds@Tronox.com</u>
Alpha Woods Hole Laboratory 375 Paramount Drive, Suite B Raynham, MA 02767 Tel: (508) 822-9300 Attn: Liz Porta	Date <u>2/16/07</u> Time <u>0930</u>

Sample Receipt Checklist

Page 1 of 1

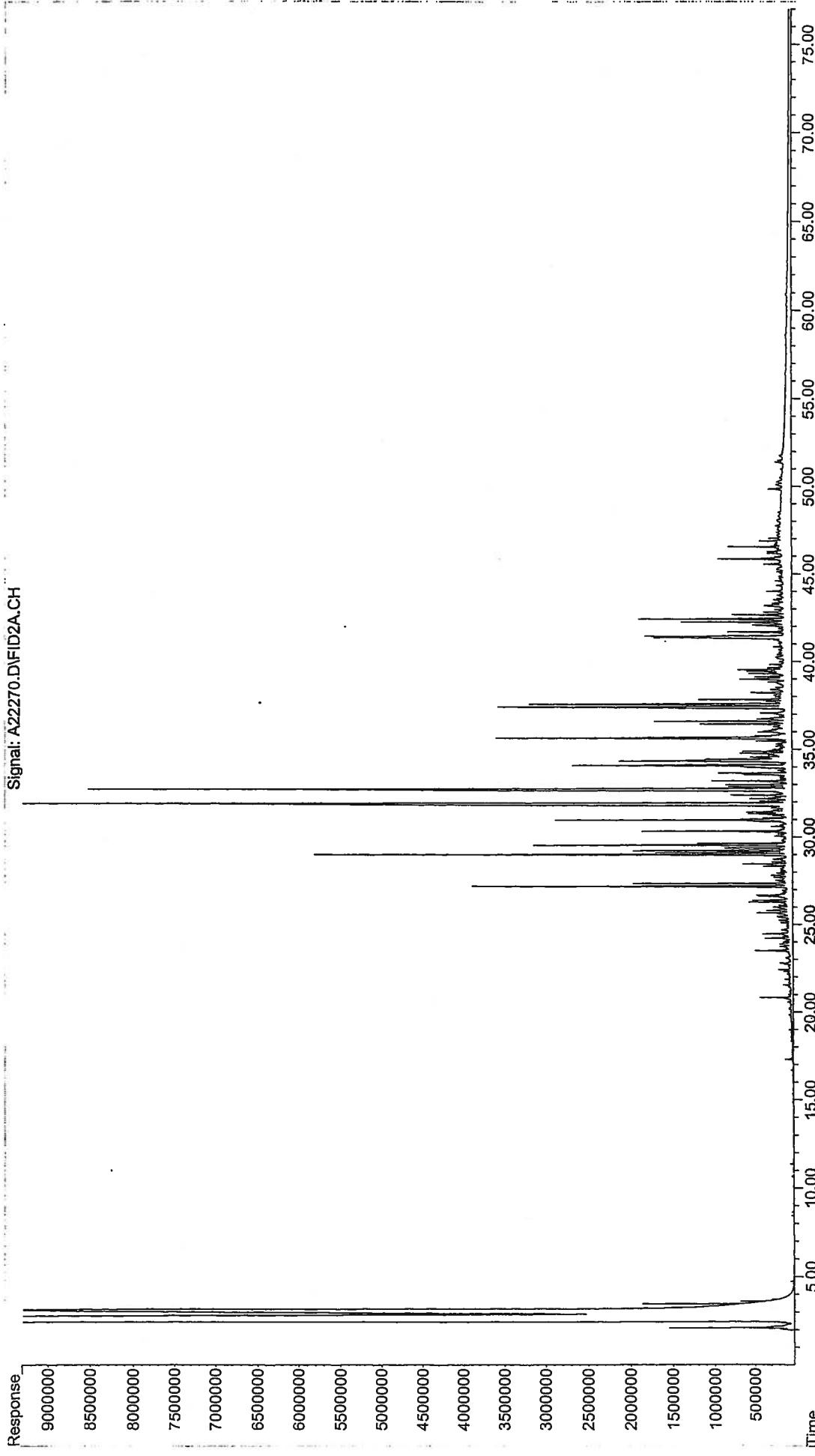
Sent: NEWFIE	Receipt Date: 2/16/07
Project: Tronox Columbus	Log-in Date: ✓
ETR #: 0702071	Inspection by: WR Login by: WR

ALL SECTIONS BELOW MUST BE COMPLETED

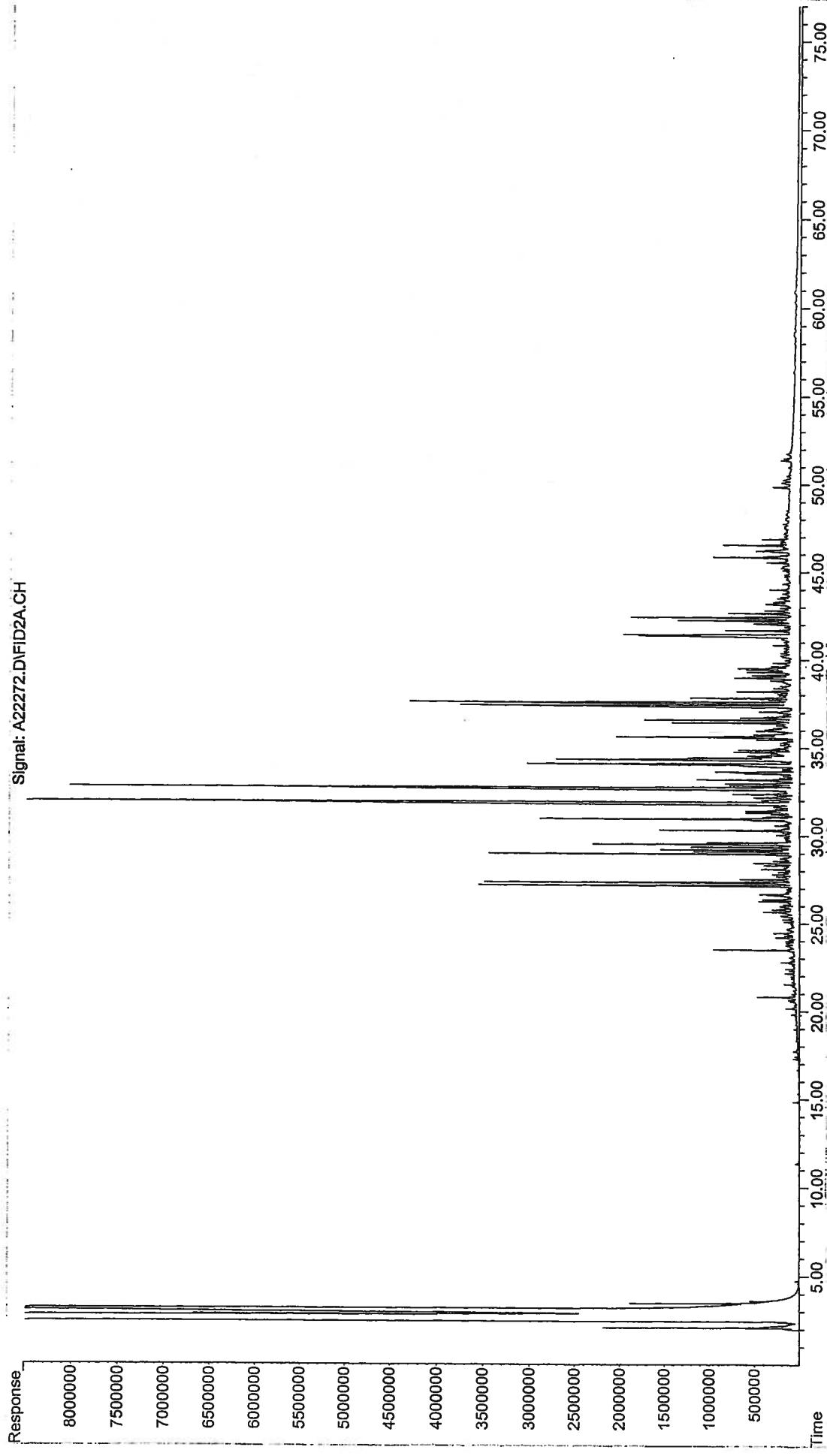
		Comments / Notes
Were samples shipped? Yes, FedEx / UPS / Other:	_____ No, WHG Courier pick-up / Hand delivered	
Is bill of lading retained? Yes, Tracking #: ATTACH	_____ No, Unavailable / NA	
Number of coolers received for this project delivery: 1		
Indicate cooler temperature upon opening (if multiple coolers, record <u>all</u> temps):		
<u>Note:</u> If <u>all</u> coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note <u>all</u> samples received <u>above</u> 6°C.		
Cooler 1: Temperature(s) taken from: 4 IR Gun, Temp. Blank, / NA	Cooler 2: _____ Cooler 3: _____ Cooler 4: _____ Cooler 5: _____ Cooler 6: _____ Cooler 7: _____	
Were samples received on ice? Yes / No	More: _____	
Chain-of-Custody present? Yes / No		
Complete? Yes / No		
Custody seals present on Cooler? Yes / No		
on Bottles? Yes / No		
Intact? Yes / No / NA		
<i>Note: Affix custody seals to back of this page.</i>		
Were sample containers intact? Yes / No	If No, list samples: →	
Did VOA/VPH waters contain headspace (>5mm)? Yes / No NA	If Yes, list samples: →	
Were 5035 VOA soils, or VPH soils, <u>covered</u> with MeOH? Yes / No / NA	If No, list samples: →	
Was a sufficient amount of sample received for each test indicated on the COC? Yes / No	If No, list samples: →	
<i>If chemical preservation is appropriate -</i>		
Were samples field preserved? Yes / No / NA	Chemical preservation OK for ALL samples?	
<input type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=H ₂ SO ₄		
<input type="checkbox"/> H=NaOH <input type="checkbox"/> N=NHO ₃ <input type="checkbox"/> Other: _____ <input type="checkbox"/> U= Unknown		
Preservation (pH) verified at lab for EVERY bottle? (Not: VOA / VPH / Sulfide)		
YES: <2 or >12 (CN) or NO NA		
If No, why?: _____		
Were samples received within hold time? Yes / No	If No, list samples: →	
Discrepancy between samples rec'd & COC? Yes / No	If Yes, list samples: →	
Was the Project Manager notified of any other problems? Yes / No / NA		
Project Manager Acknowledgement:	Date:	<i>Please use back for any additional notes!</i>

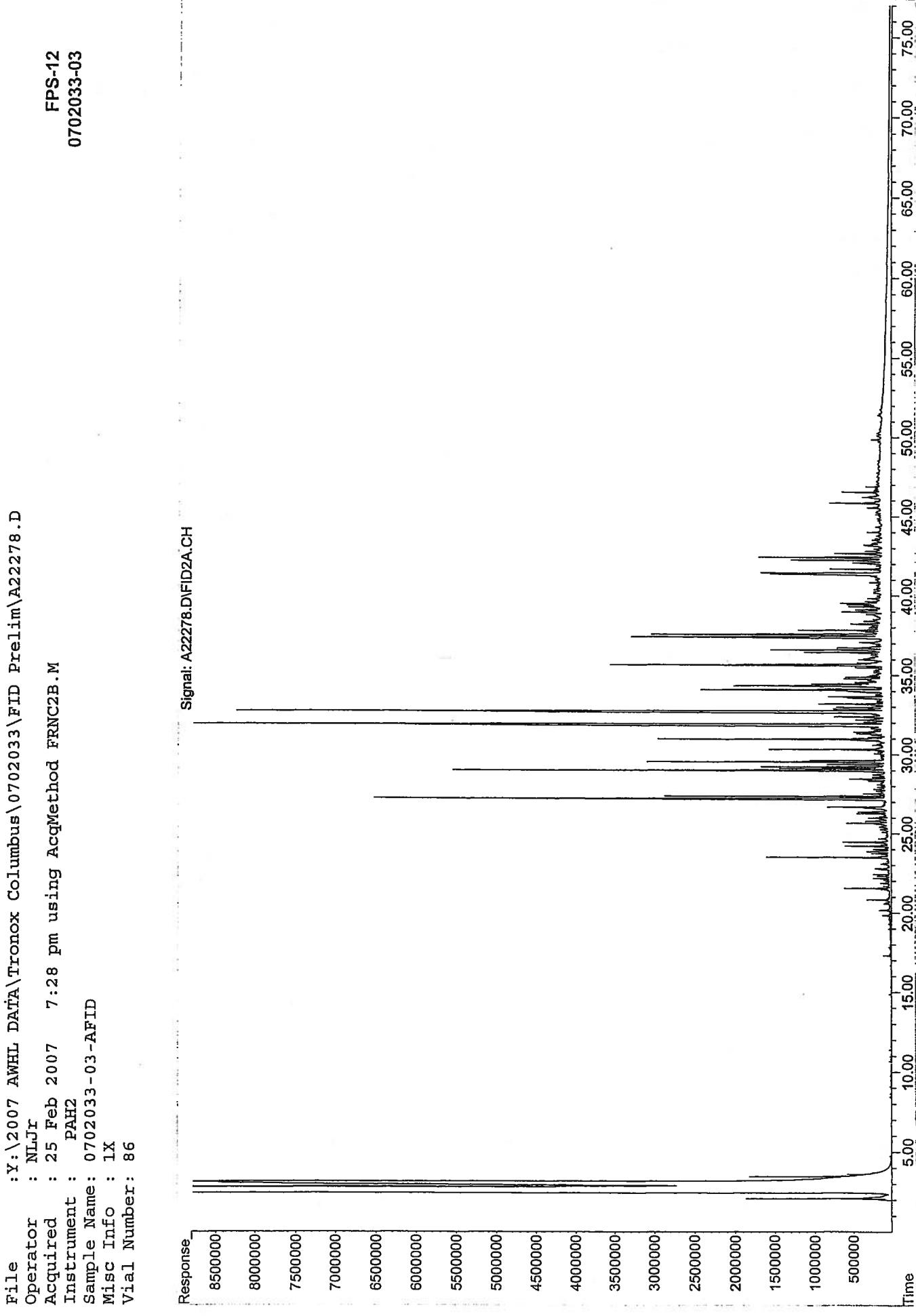
FID Chromatograms

File : Y:\2007 AWHL DATA\Tronox Columbus\0702033\FID Prelim\A22270.D
Operator : NLJR
Acquired : 25 Feb 2007 1:15 pm using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: 0702033-01-AFID
Misc Info : 1X
Vial Number: 82

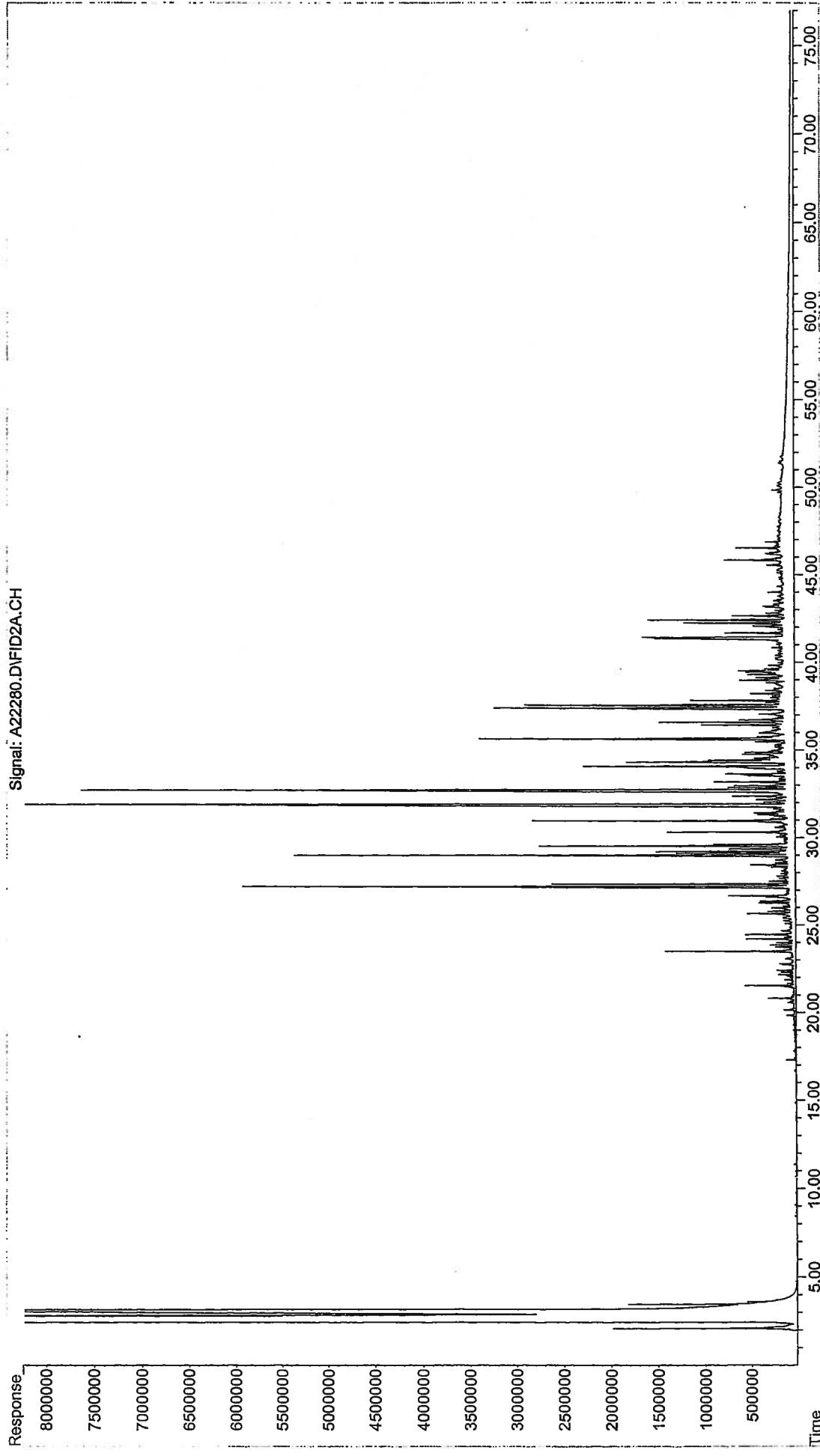


File : Y:\2007 AWHL DATA\tronox Columbus\0702033\FID Prelim\A22272.D
Operator : NLJr
Acquired : 25 Feb 2007 2:47 pm using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name : 0702033-02-AFID
Misc Info : 1X
Vial Number: 83

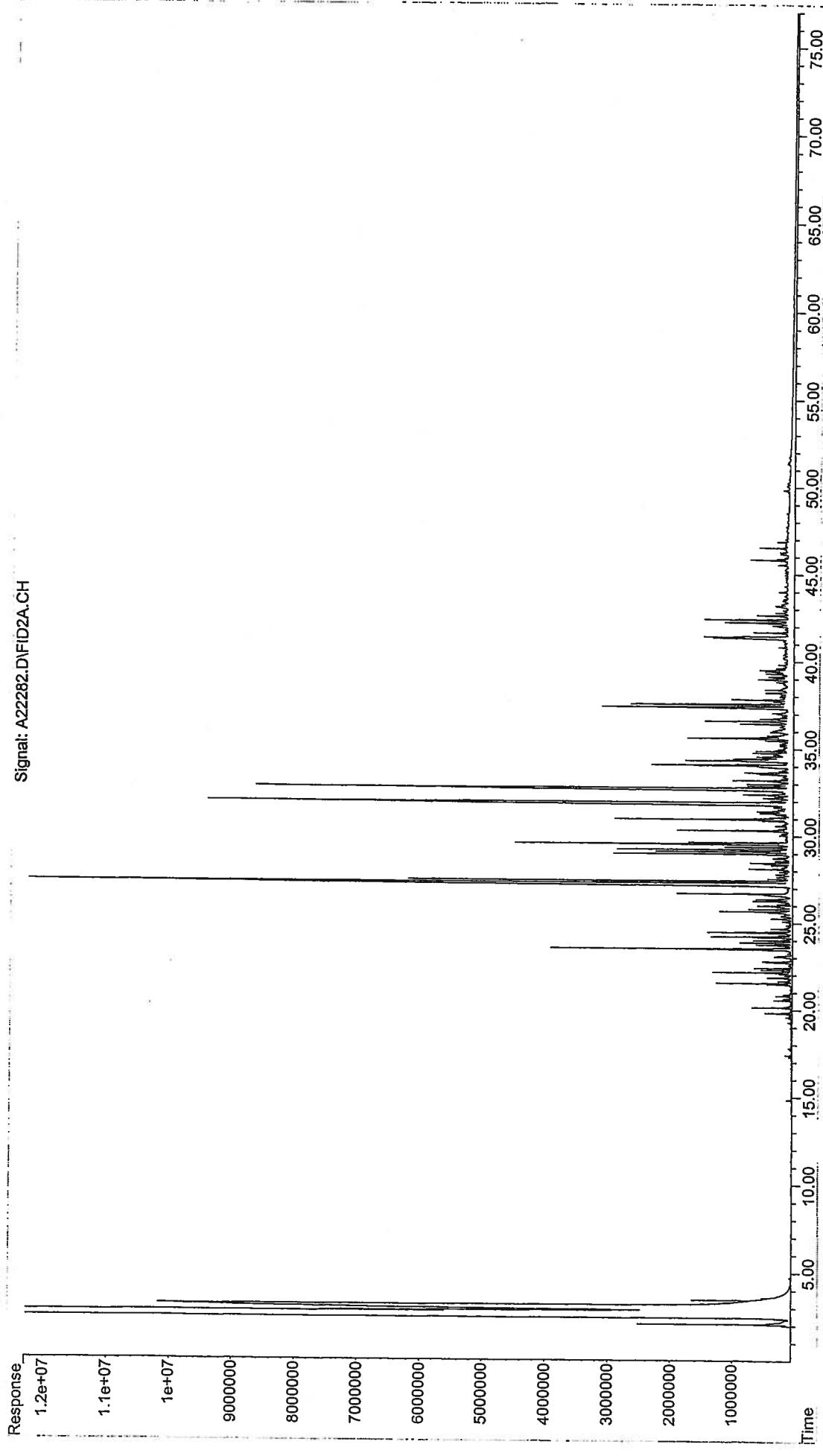




File : Y:\2007 AWHL DATA\Tronox Columbus\0702033\FID Prelim\A22280.D
Operator : NLJr
Acquired : 25 Feb 2007 9:02 pm using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: 0702033-03D-AFID
Misc Info : 1X
Vial Number: 87



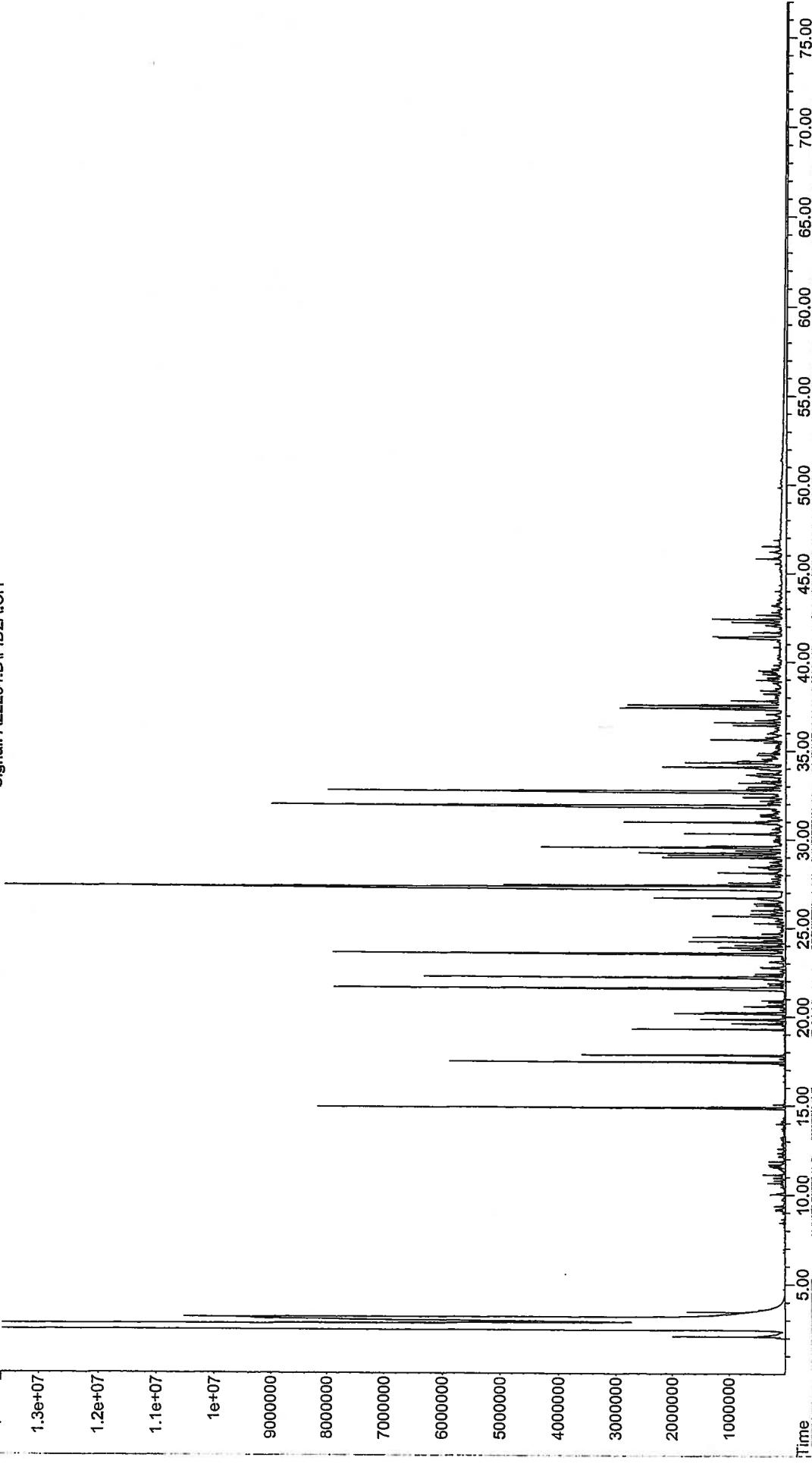
File : Y:\2007 AWHL DATA\Tronox Columbus\0702033\FID Prelim\A22282.D
Operator : NLJ Jr
Acquired : 25 Feb 2007 10:35 pm using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: 0702033-04-AFID
Misc Info : 1X
Vial Number: 88



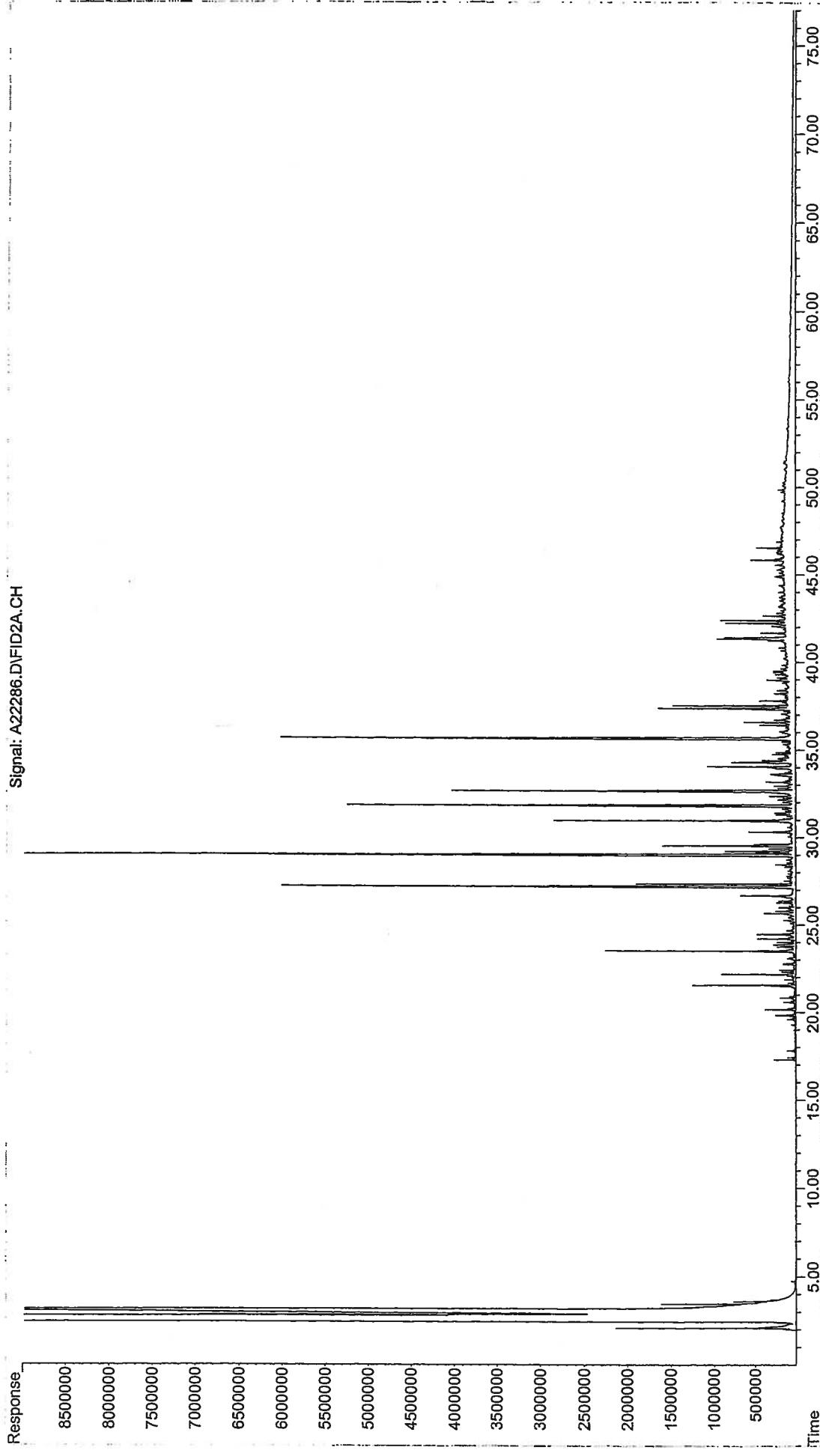
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Operator : NLJr
Acquired : 26 Feb 2007 12:08 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: 0702033-05-AFID
Misc Info : 1X
Vial Number: 89

Response

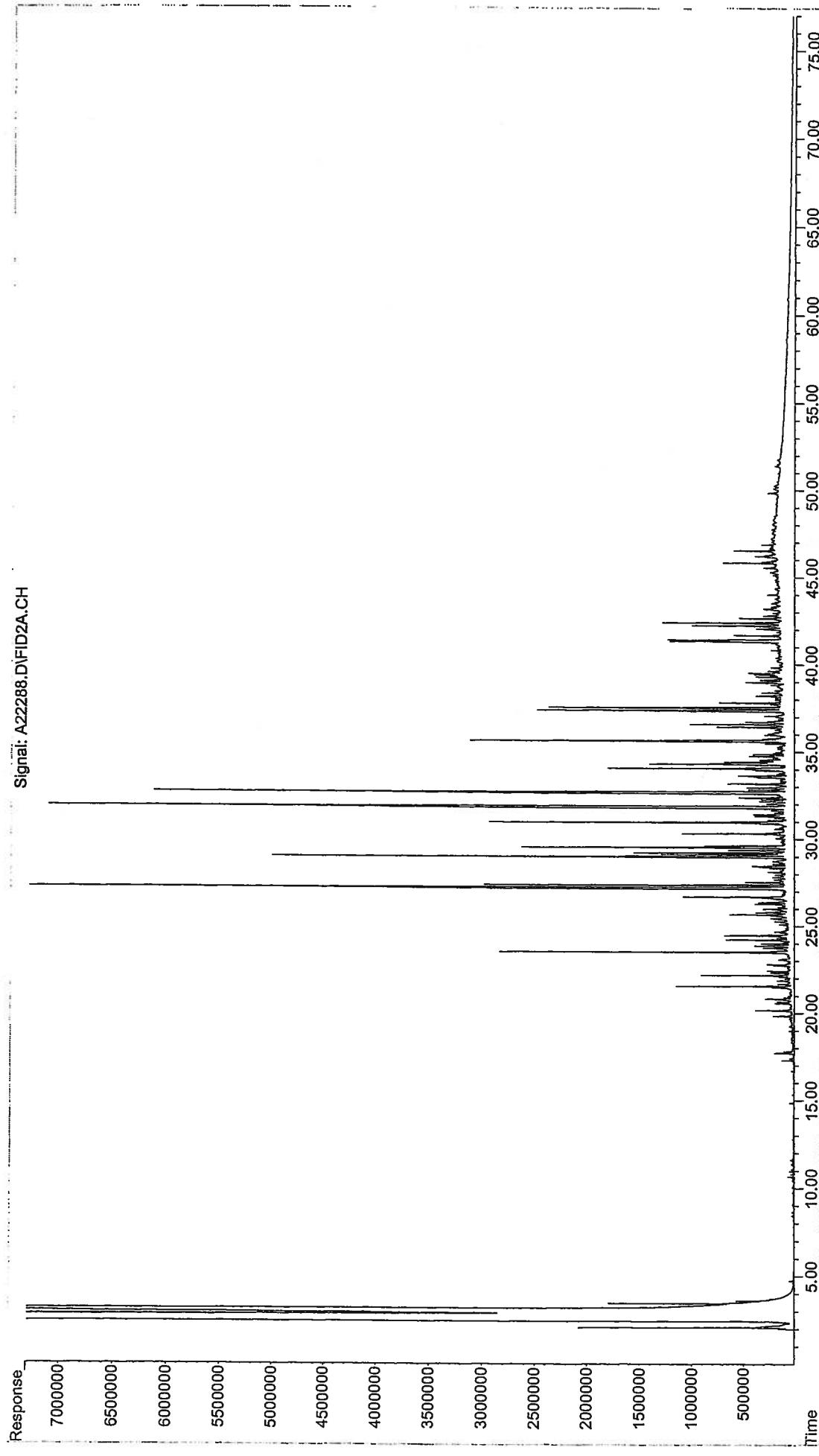
Signal: A22284.D\FID2A.CH



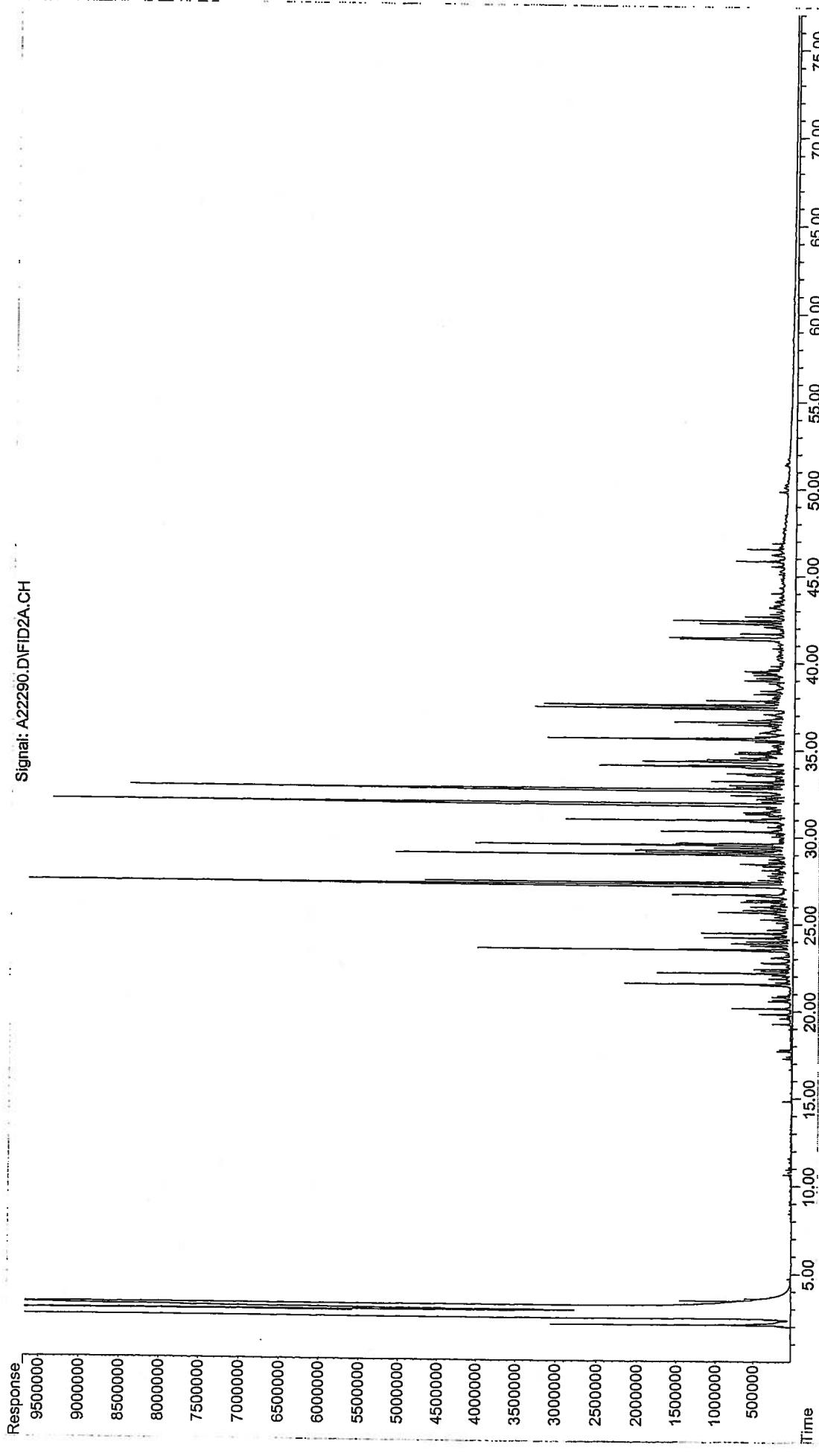
File : Y:\2007 AWHL DATA\Tronox Columbus\0702033\FID Prelim\A22286.D
Operator : NLJr
Acquired : 26 Feb 2007 1:41 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: 0702033-06-AFID
Misc Info : 1X
Vial Number: 90



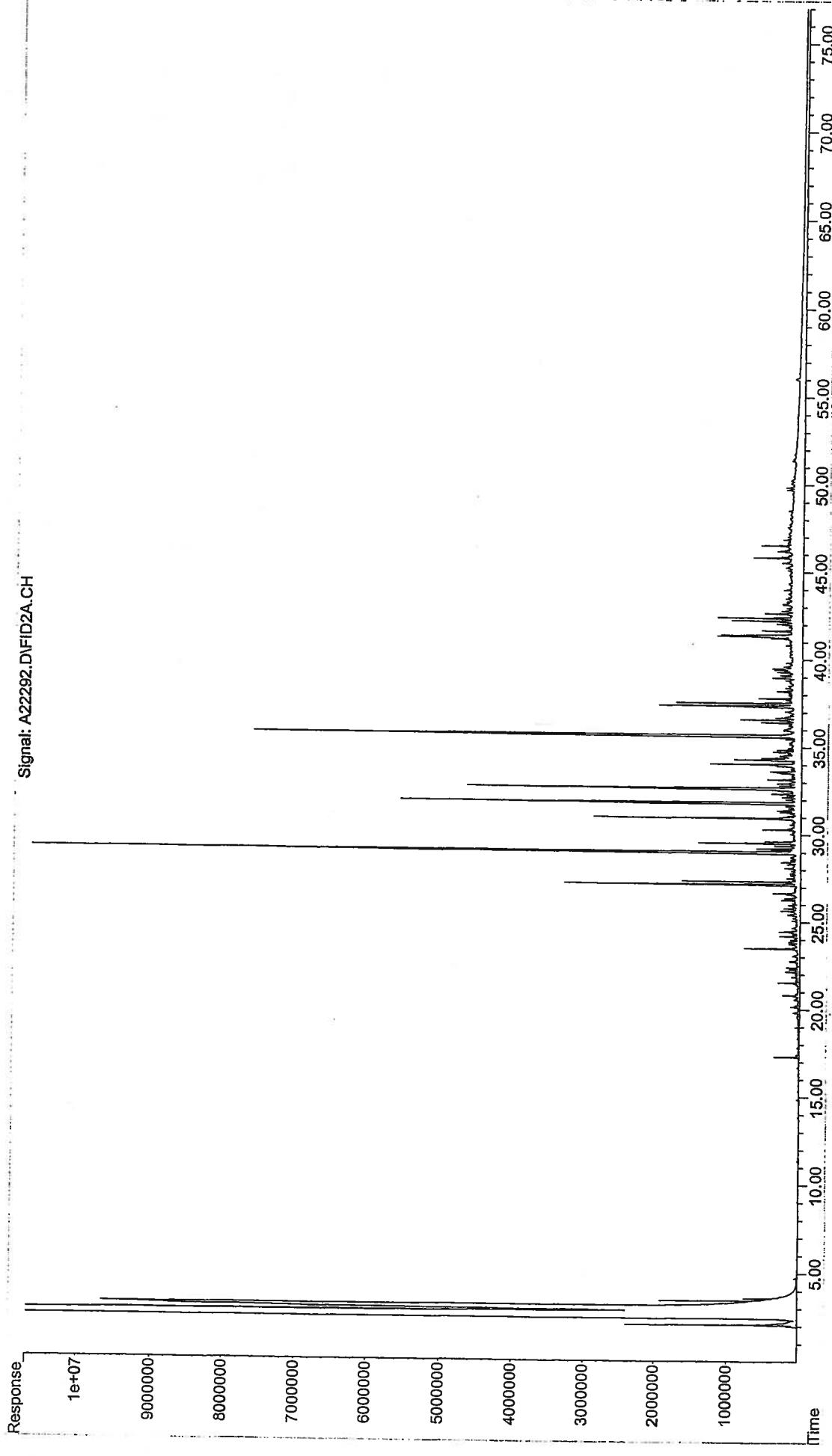
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Operator : NLJr
Acquired : 26 Feb 2007 3:14 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name : 0702033-07-AFID
Misc Info : 1X
Vial Number: 91



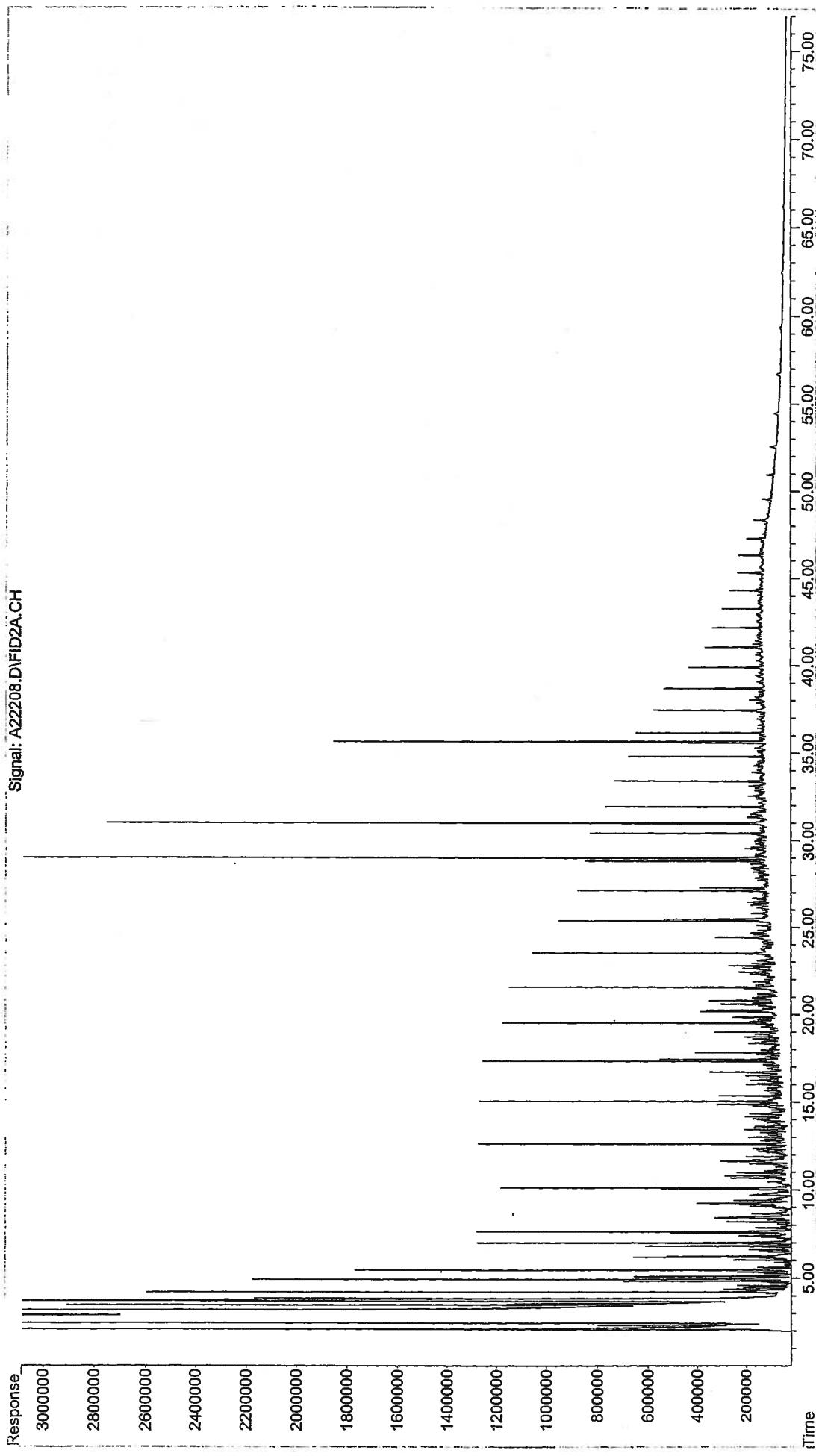
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Operator : NLJr
Acquired : 26 Feb 2007 7:08 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: 0702033-08-AFID
Misc Info : 1X
Vial Number: 92



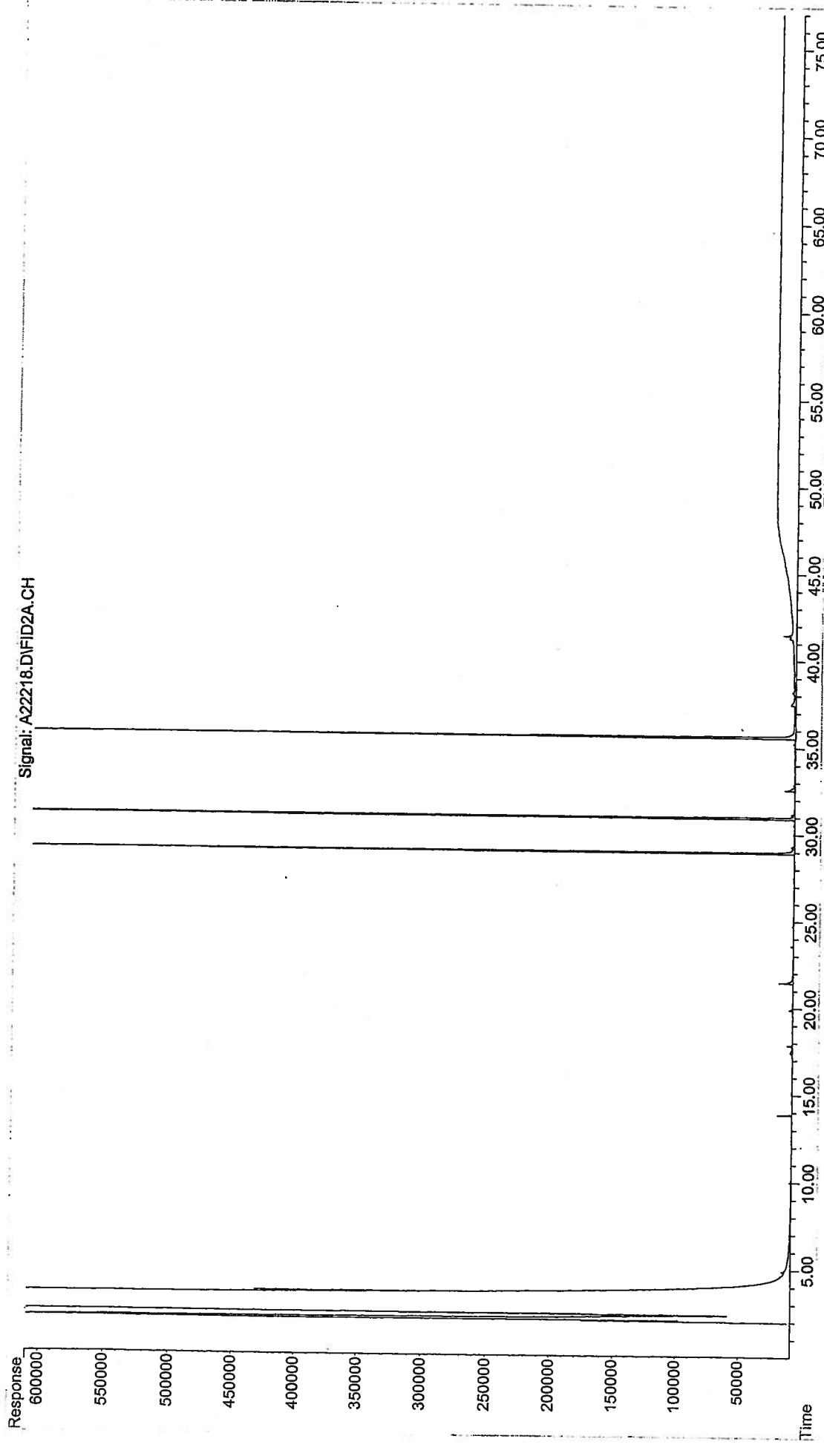
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Operator : NLJR
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Instrument : PAH2
Sample Name: 0702033-09-AFID
Misc Info : 1X
Vial Number: 93



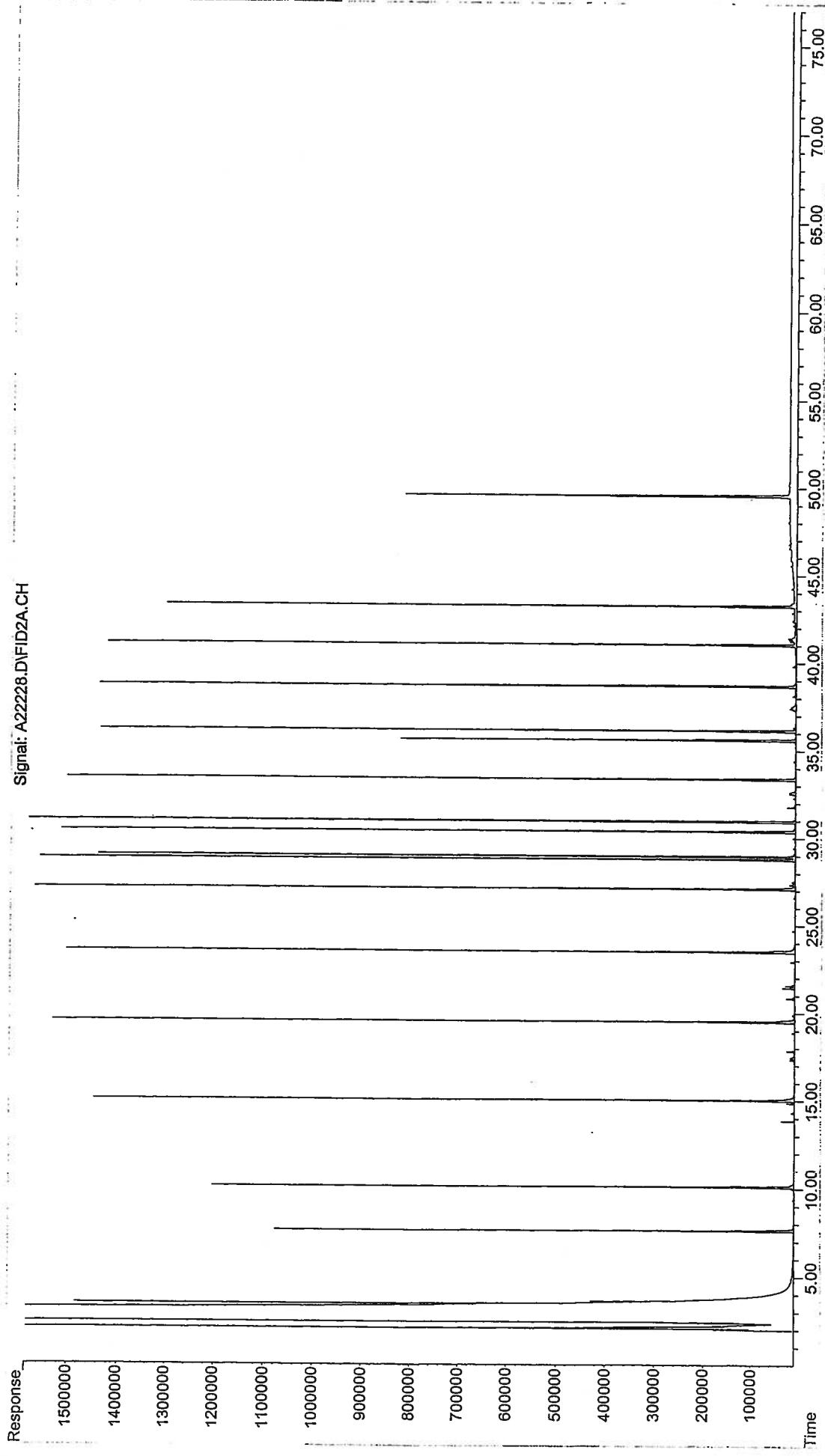
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Operator : NLJr
Acquired : 23 Feb 2007 2:22 pm using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: TW022707AWS04
Misc Info : 1X ANS
Vial Number: 52



File : Y:\2007 AWHL DATA\Tronox Columbus\0702033\FID Prelim\A22218.D
Operator : NLJR
Acquired : 23 Feb 2007 10:14 pm using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: SO021307B01-AFID
Misc Info : LX0702033
Vial Number: 57

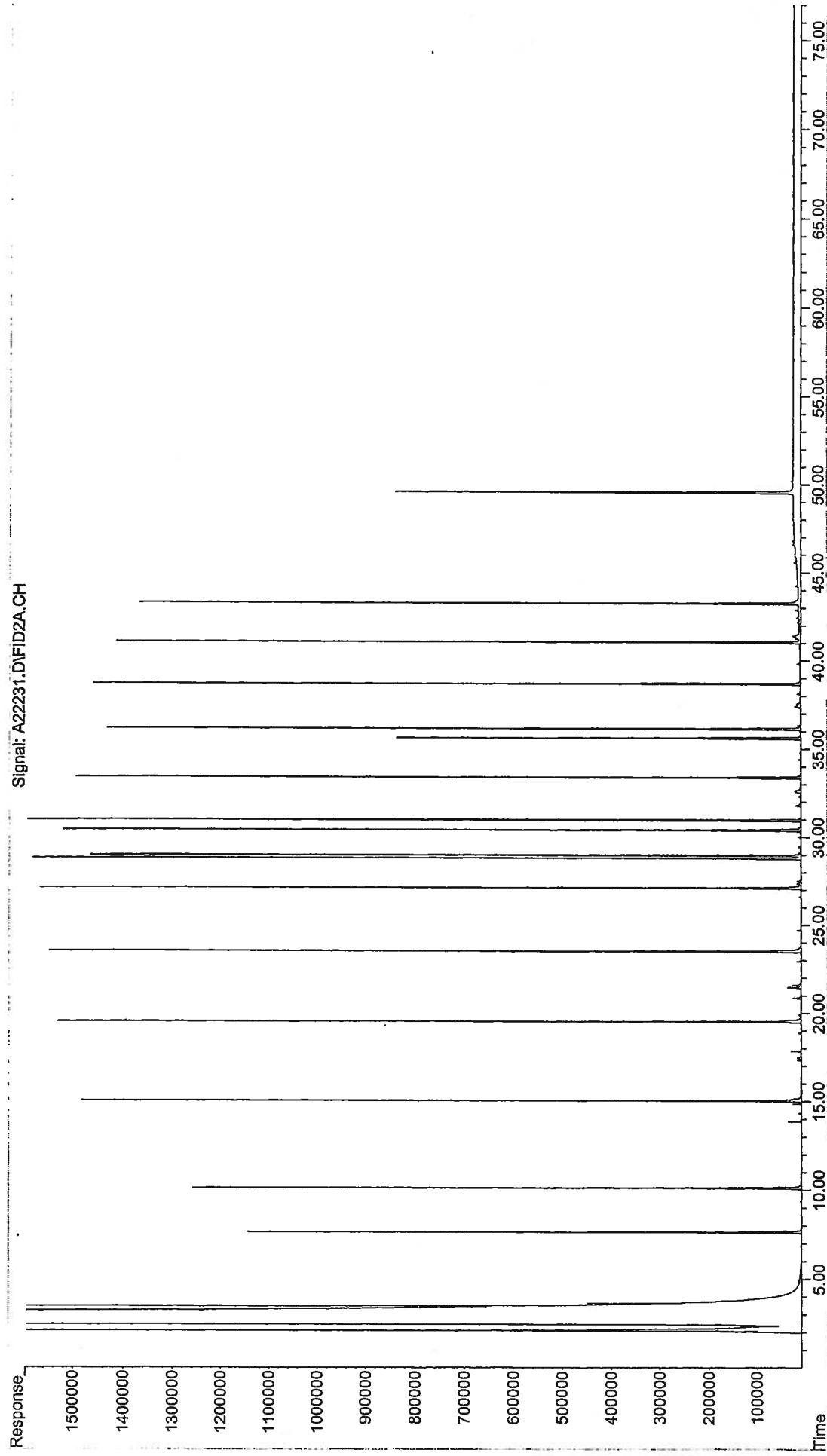


File : Y:\2007 AWHL DATA\Tronox Columbus\0702033\FID Prelim\A22228.D
Operator : NLJr
Acquired : 24 Feb 2007 6:03 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: S0021307LCS01-AFID
Misc Info : IX0702033
Vial Number: 62

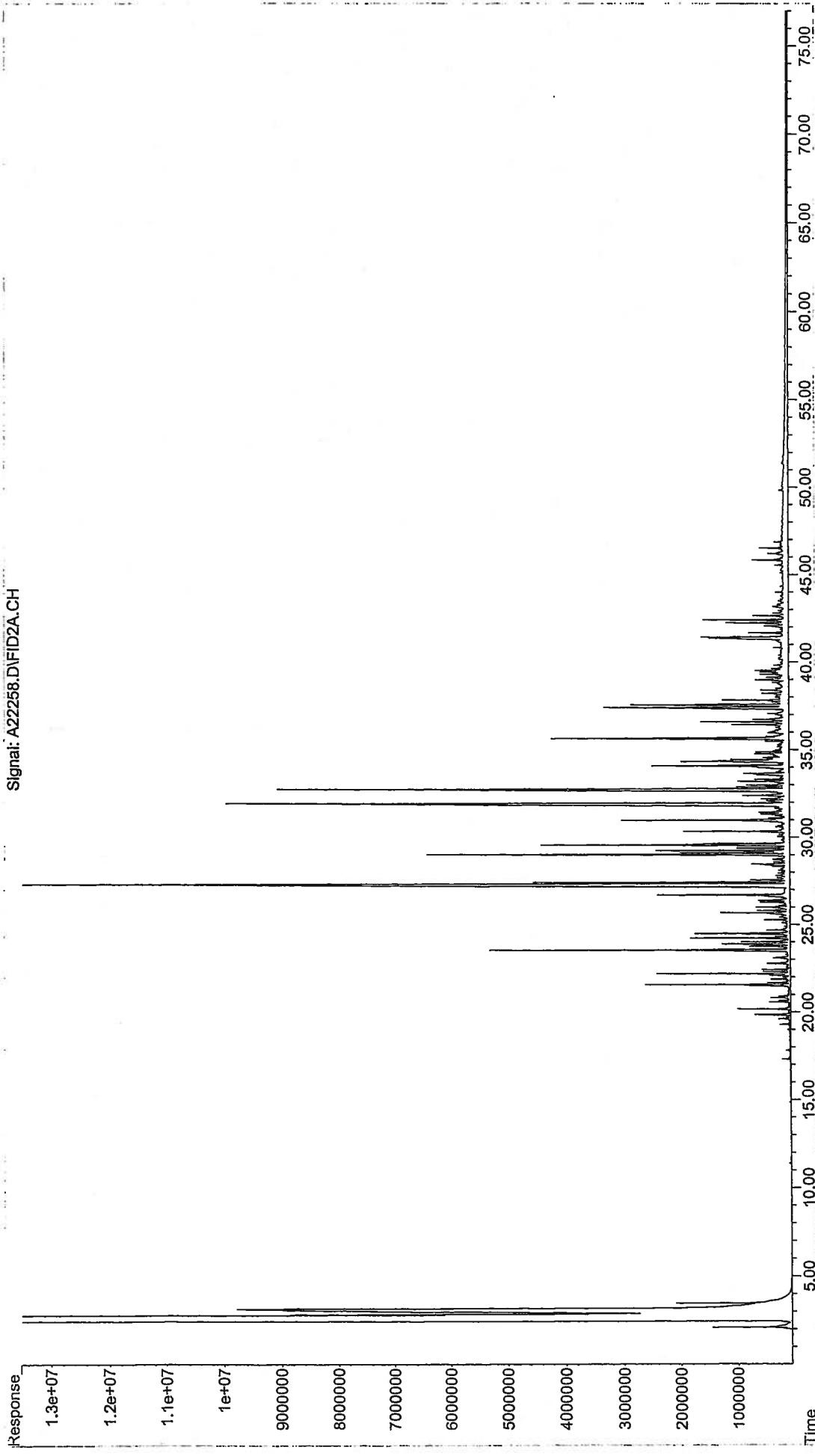


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Operator : NLJR
Acquired : 24 Feb 2007 7:37 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: SO021307LCSD01-AFID
Misc Info : 1X0702033
Vial Number: 63

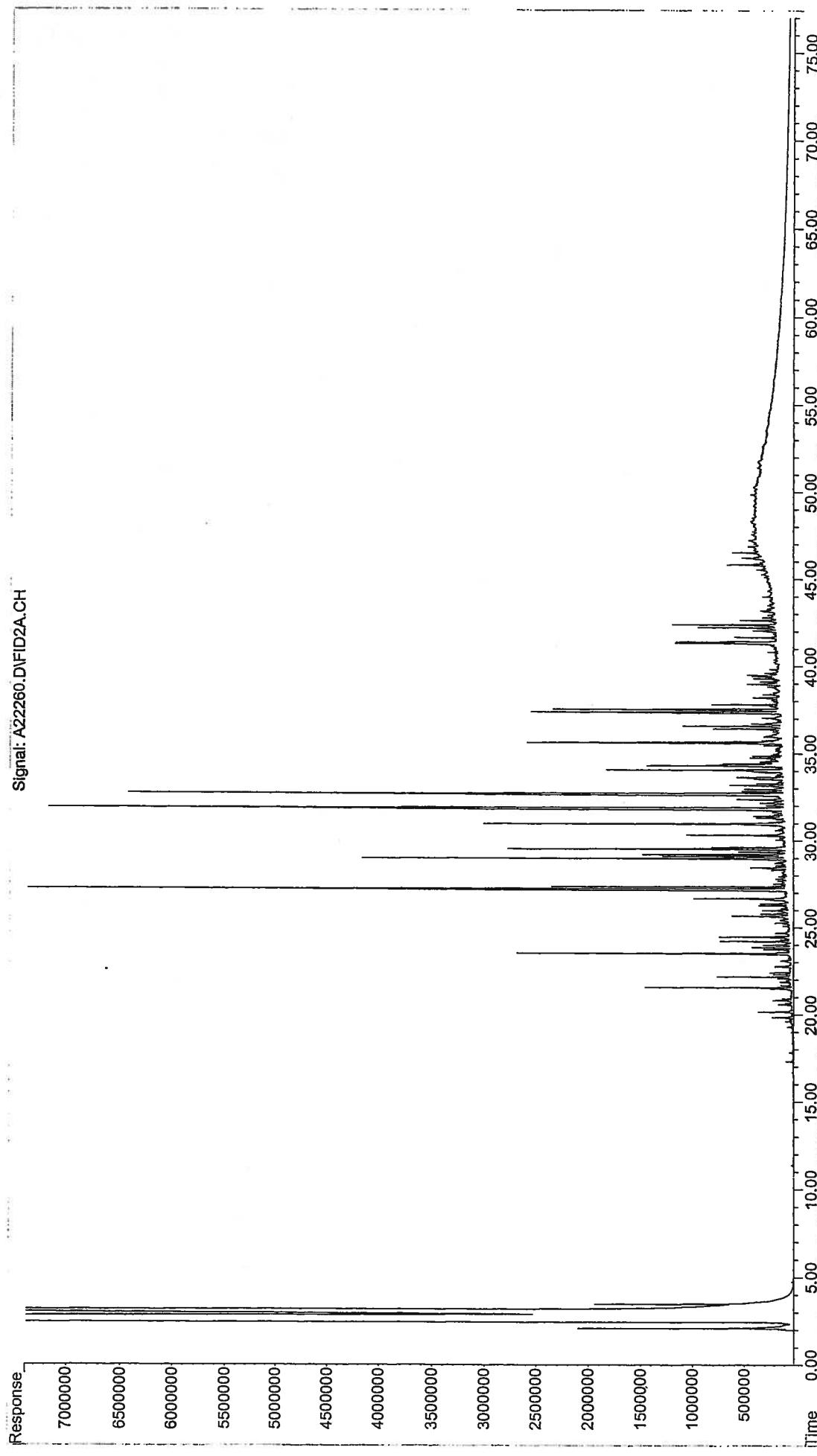
Lab Control Sample Duplicate
SO021307LCSD01



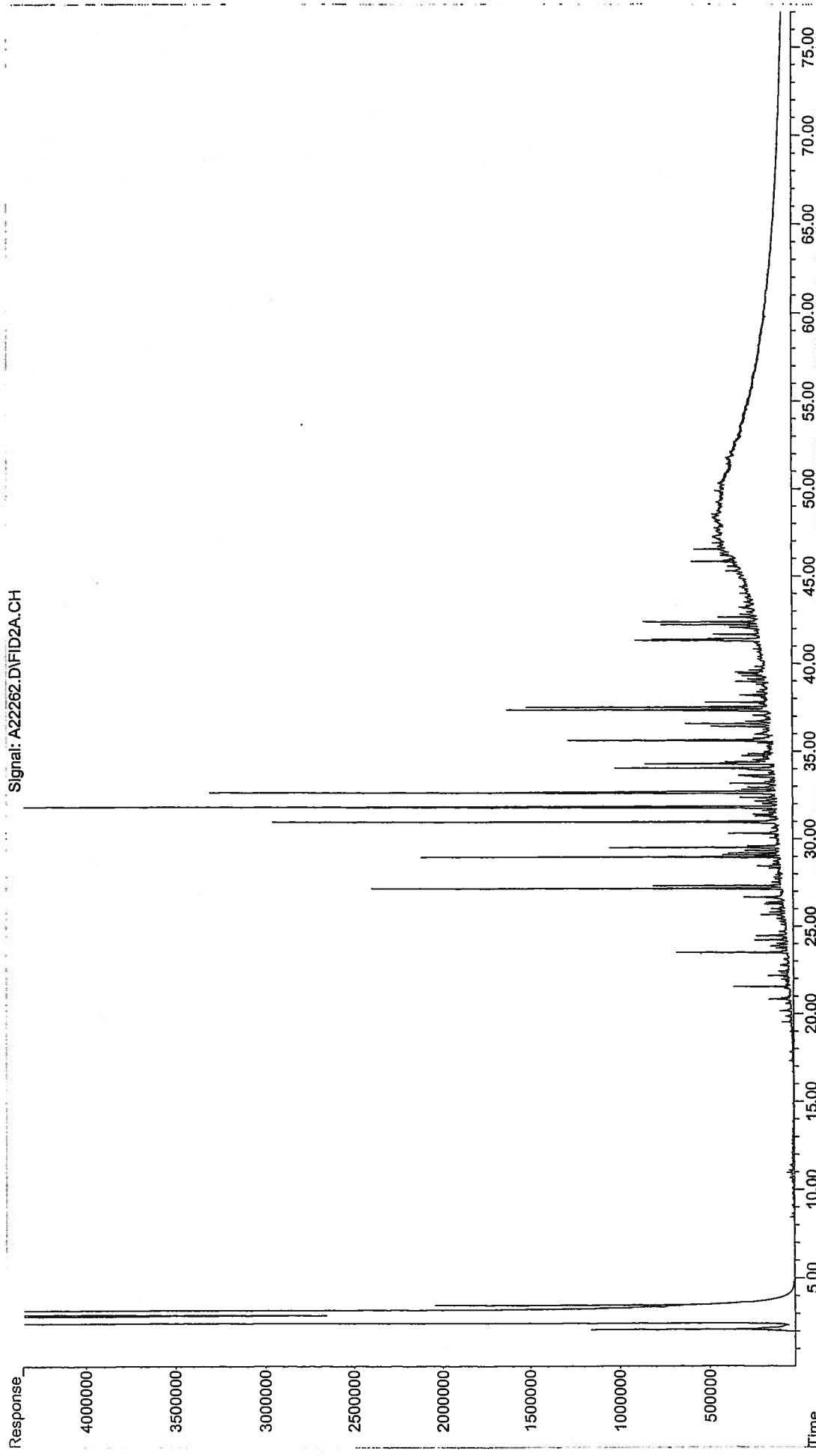
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Operator : NLJR
Acquired : 25 Feb 2007 3:55 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: 0702071-01-AFID
Misc Info : 1X
Vial Number: 76



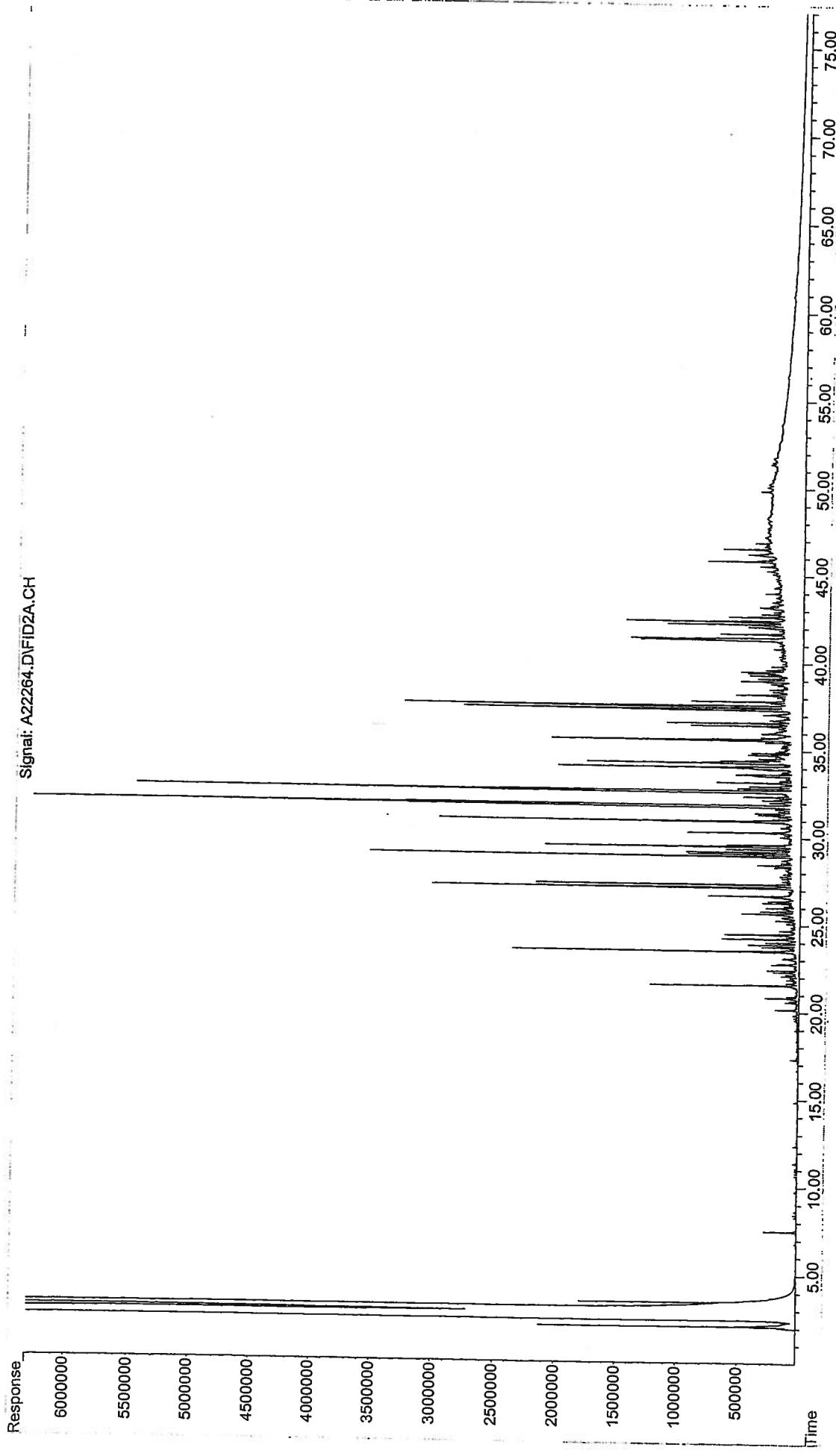
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Operator : NLJR
Acquired : 25 Feb 2007 5:28 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: 0702071-02-AFID
Misc Info : 1X
Vial Number: 77



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Operator : NLJr
Acquired : 25 Feb 2007 7:01 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: 0702071-03-AFID
Misc Info : 1X
Vial Number: 78

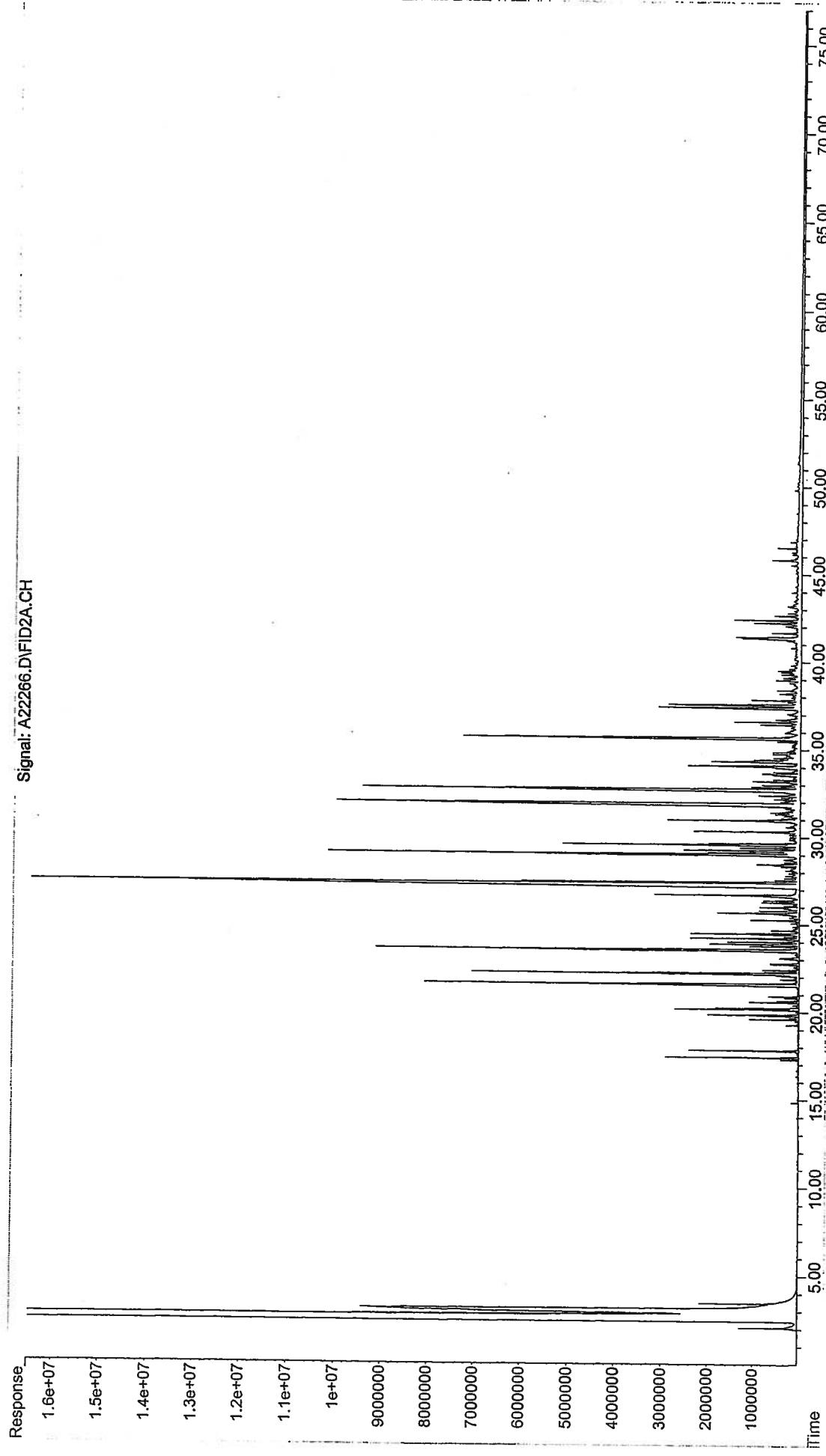


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Operator : NLJR
Acquired : 25 Feb 2007 8:35 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name : 0702071-04-AFID
Misc Info : 1X
Vial Number: 79



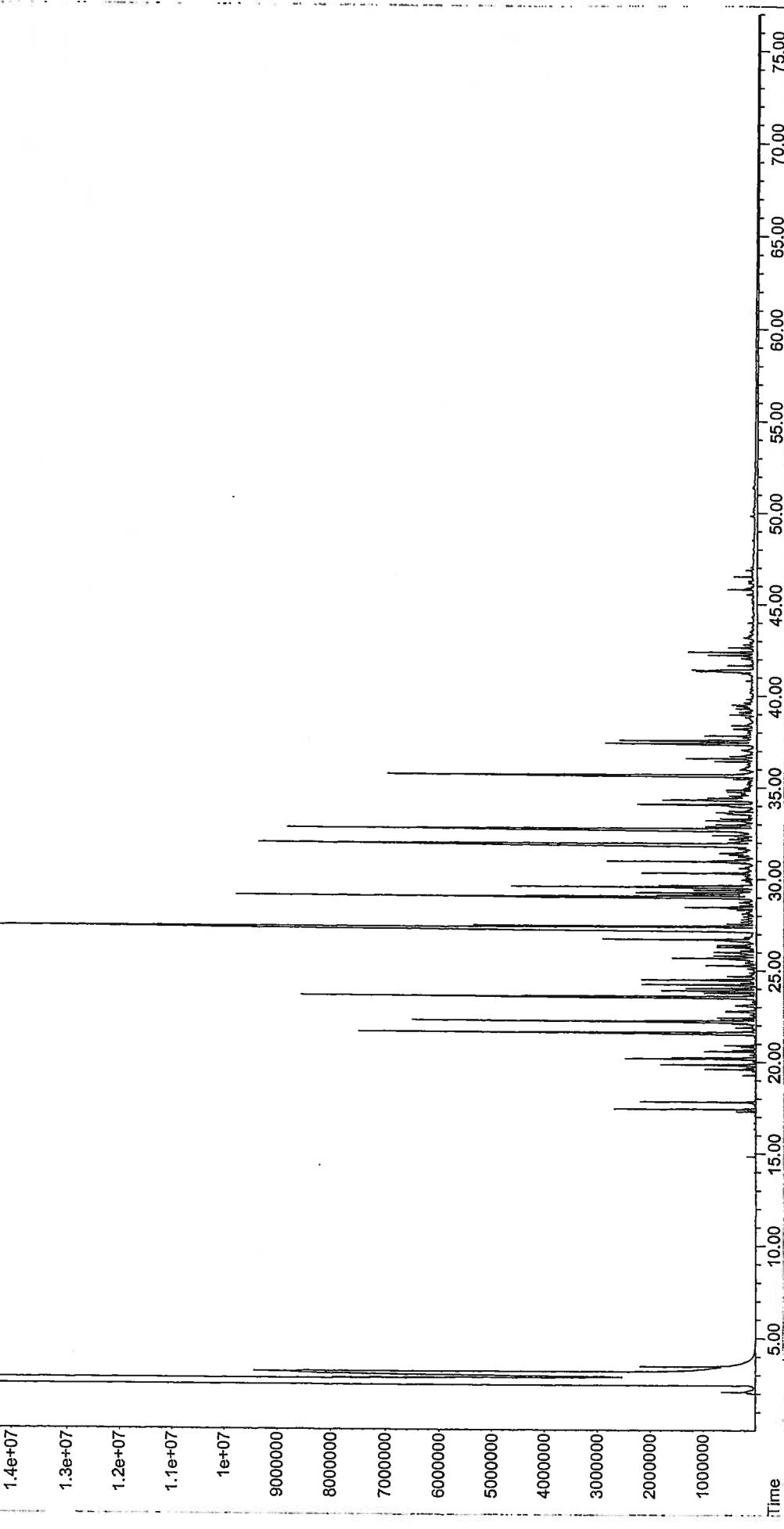
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Operator : NLJR
Acquired : 25 Feb 2007 10:08 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name : 0702071-05-AFID
Misc Info : 1X
Vial Number: 80

Signal: A22266.D\FID2A.CH



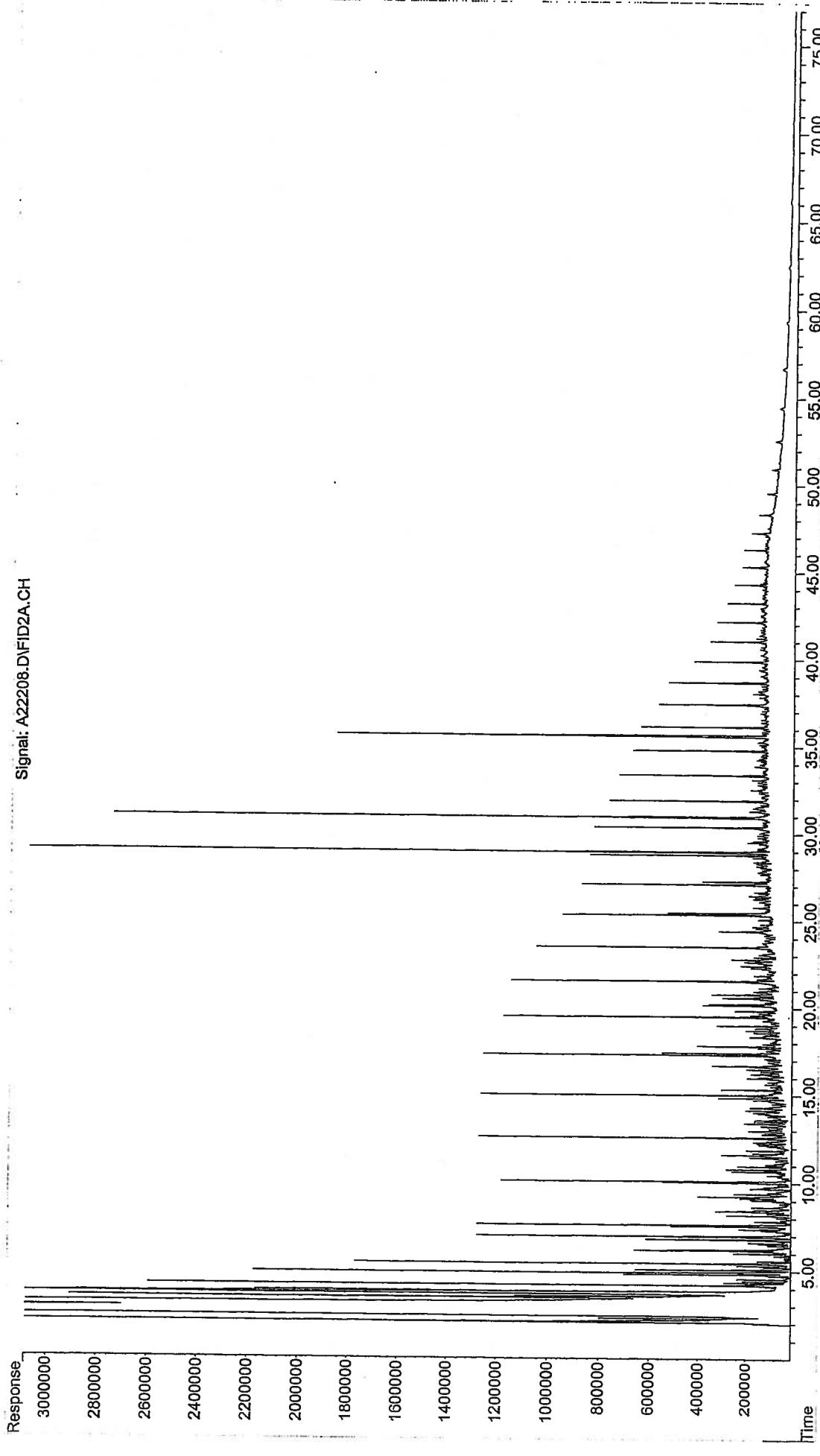
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Operator : NLLJr
Acquired : 25 Feb 2007 11:42 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: 0702071-05D-AFID
Misc Info : 1X
Vial Number: 81

Response
1.5e+07

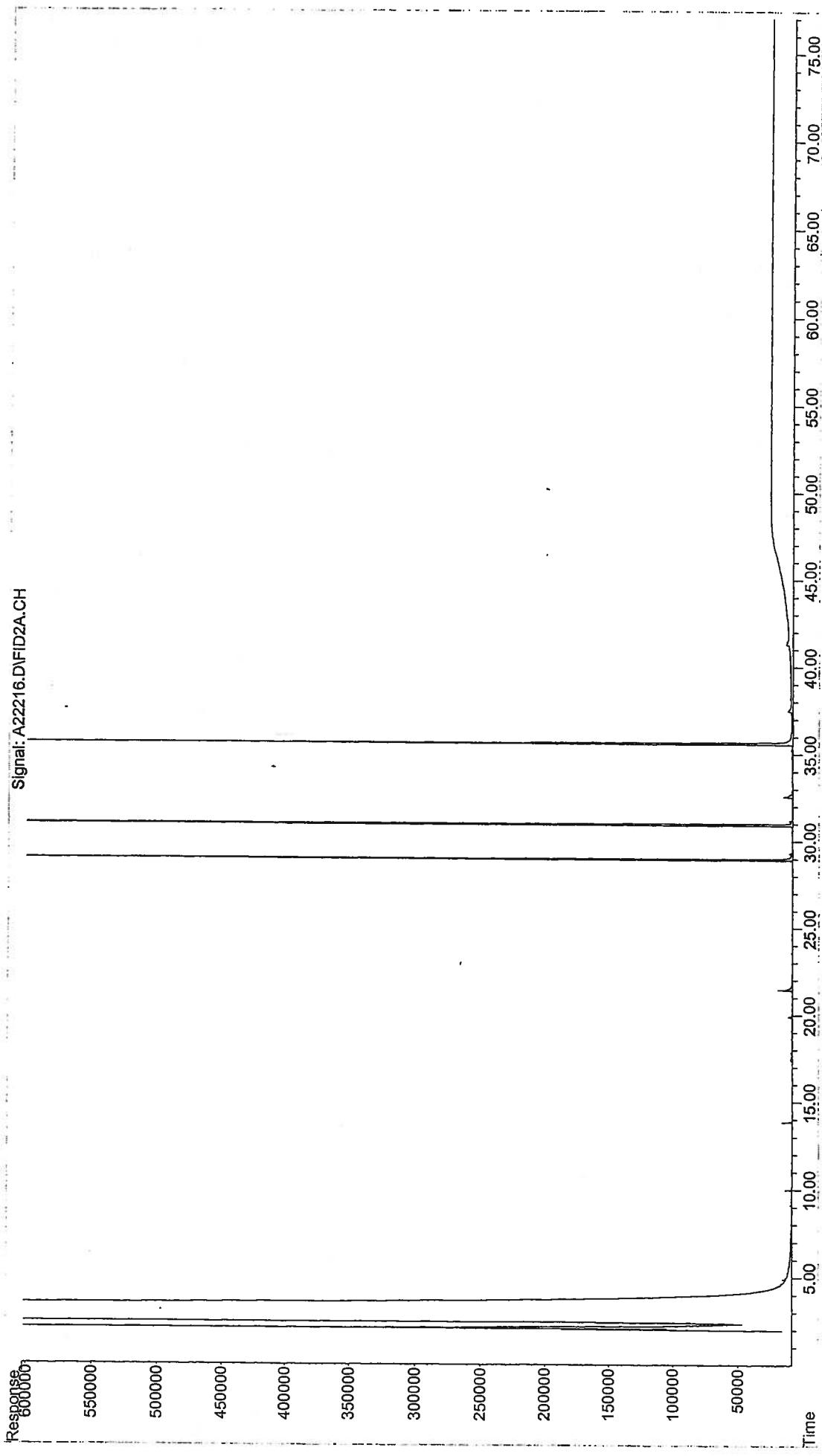


File : Y:\2007 AWHL DATA\Tronox Columbus\0702071\FID Prelim\A22208.D
Operator : NLJR
Acquired : 23 Feb 2007 2:22 pm using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name : TW022707AWS04
Misc Info : 1X ANS
Vial Number : 52

Signal: A22208.D\FID2A.CH

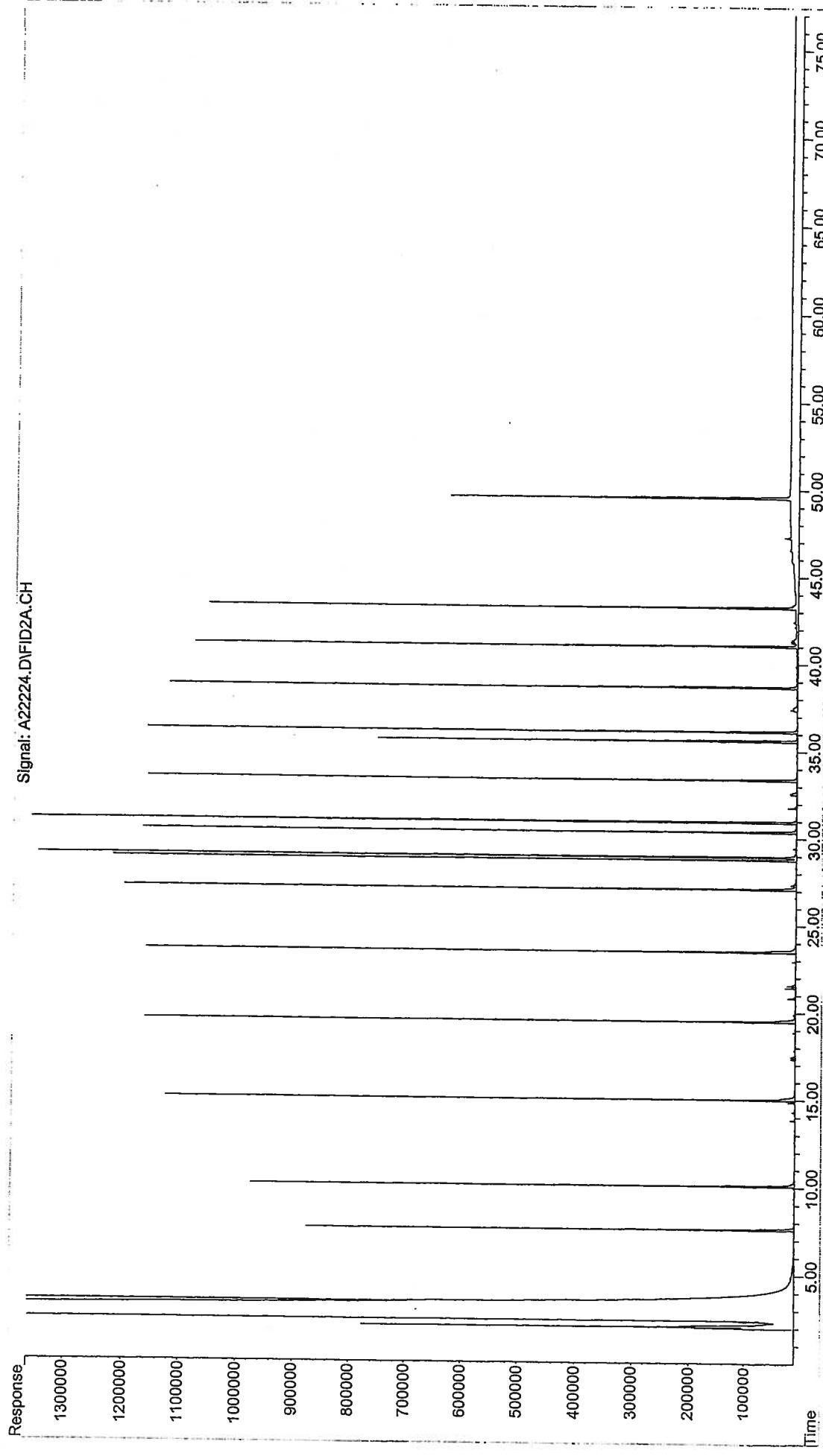


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Operator : NLJr
Acquired : 23 Feb 2007 8:39 pm using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name : SO022007B17-AFID
Misc Info : 1X0702071
Vial Number: 56

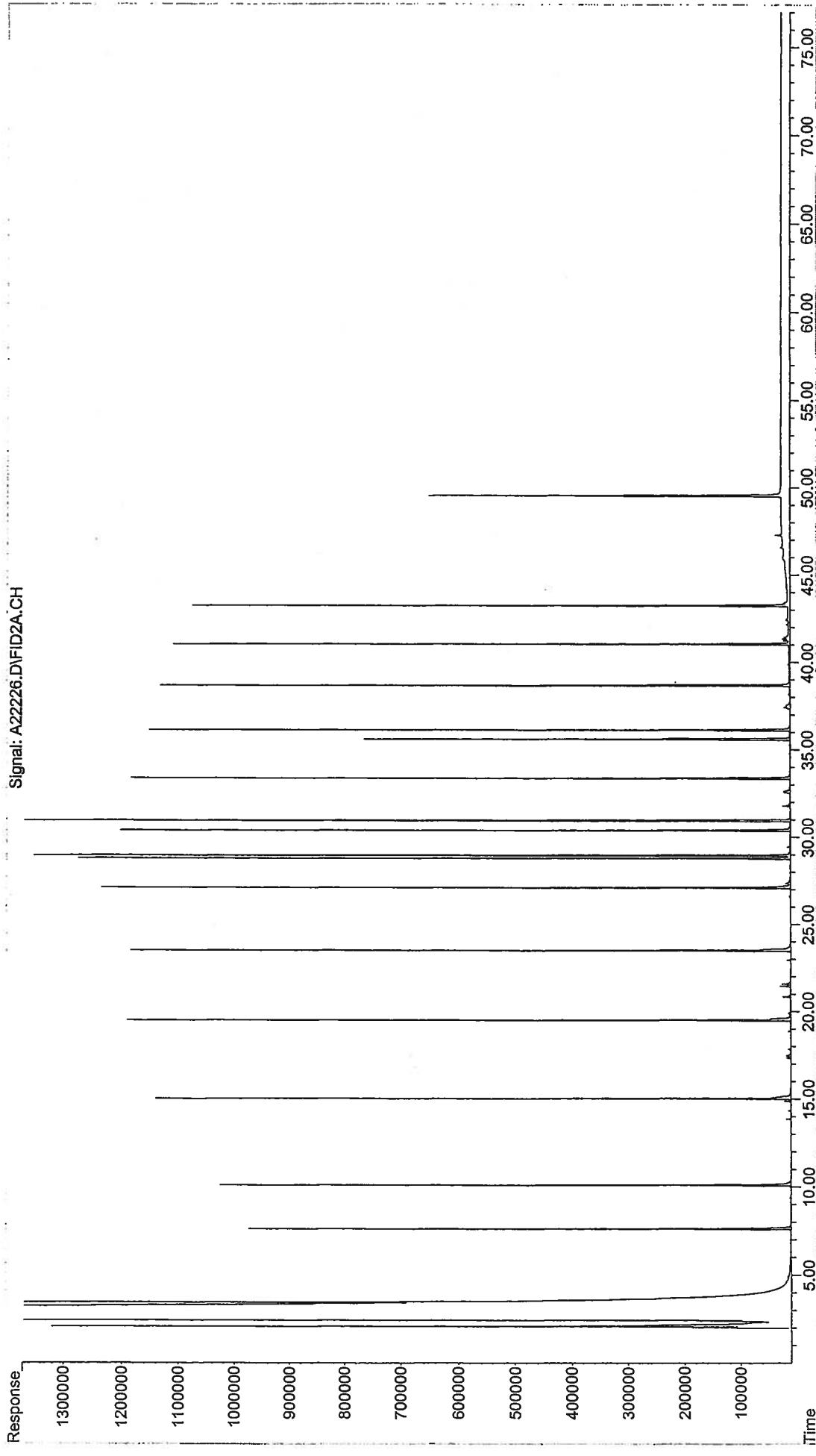


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Operator : NLJR
Acquired : 24 Feb 2007 2:56 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name : SO022007LCS11-AFID
Misc Info : 1X0702071
Vial Number: 60

Lab Control Sample
SO022007LCS11



File : Y:\2007 AWHL DATA\Tronox Columbus\0702071\FID Prelim\A22226.D
Operator : NLJ Jr
Acquired : 24 Feb 2007 4:29 am using AcqMethod FRNC2B.M
Instrument : PAH2
Sample Name: SO022007LCSD11-APID
Misc Info : 1X0702071
Vial Number: 61



Data Tables

Saturated Hydrocarbon Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-10	FPS-11	FPS-12					
Lab ID	0702033-01	0702033-02	0702033-03					
Matrix	Soil	Soil	Soil					
Reference Method	SHC	SHC	SHC					
Batch ID	SS021307B01	SS021307B01	SS021307B01					
Date Collected	2/7/2007	2/7/2007	2/7/2007					
Date Received	2/8/2007	2/8/2007	2/8/2007					
Date Prepped	2/13/2007	2/13/2007	2/13/2007					
Date Analyzed	2/25/2007	2/25/2007	2/25/2007					
Sample Size (wet)	5.38	10.3	10.09					
% Solid	78.71	84.64	84.83					
File ID	A22270.D	A22272.D	A22278.D					
Units	mg/Kg	mg/Kg	mg/Kg					
Final Volume	8	16.67	8.33					
Dilution	1	1	1					
Reporting Limit	62	63	32					
Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	6300	62	6700	63	4300	32

Surrogates (% Recovery)

ortho-Terphenyl	93	98	90
d50-Tetracosane	97	105	95

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

	FPS-13	FPS-14	FPS-15				
Client ID	0702033-04	0702033-05	0702033-06				
Lab ID	Soil	Soil	Soil				
Matrix	SHC	SHC	SHC				
Reference Method							
Batch ID	SS021307B01	SS021307B01	SS021307B01				
Date Collected	2/7/2007	2/7/2007	2/7/2007				
Date Received	2/8/2007	2/8/2007	2/8/2007				
Date Prepped	2/13/2007	2/13/2007	2/13/2007				
Date Analyzed	2/25/2007	2/26/2007	2/26/2007				
Sample Size (wet)	10.29	1.12	10.82				
% Solid	79.81	57.85	76.05				
File ID	A22282.D	A22284.D	A22286.D				
Units	mg/Kg	mg/Kg	mg/Kg				
Final Volume	20	28.57	3.85				
Dilution	1	1	1				
Reporting Limit	80	1500	15				
Class	Abbrev	Analytes					
SHC	TPH	Total Petroleum Hydrocarbons					
		Result	SSRL	Result	SSRL	Result	SSRL
		12000	80	250000	1500	1300	15

Surrogates (% Recovery)			
ortho-Terphenyl	94	96	97
d50-Tetracosane	99	102	97

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-16	FPS-17	FPS-18					
Lab ID	0702033-07	0702033-08	0702033-09					
Matrix	Soil	Soil	Soil					
Reference Method	SHC	SHC	SHC					
Batch ID	SS021307B01	SS021307B01	SS021307B01					
Date Collected	2/7/2007	2/7/2007	2/7/2007					
Date Received	2/8/2007	2/8/2007	2/8/2007					
Date Prepped	2/13/2007	2/13/2007	2/13/2007					
Date Analyzed	2/26/2007	2/26/2007	2/26/2007					
Sample Size (wet)	10.42	5.79	5.51					
% Solid	81.45	76.83	79.03					
File ID	A22288.D	A22290.D	A22292.D					
Units	mg/Kg	mg/Kg	mg/Kg					
Final Volume	10	10	2.78					
Dilution	1	1	1					
Reporting Limit	39	74	21					
Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	4800	39	12000	74	2200	21

Surrogates (% Recovery)

ortho-Terphenyl	93	92	100
d50-Tetracosane	100	96	101

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	FPS-12	FPS-12
Lab ID	0702033-03	0702033-03D
Matrix	Soil	Soil
Reference Method	SHC	SHC
Batch ID	SS021307B01	SS021307B01
Date Collected	2/7/2007	2/7/2007
Date Received	2/8/2007	2/8/2007
Date Prepped	2/13/2007	2/13/2007
Date Analyzed	2/25/2007	2/25/2007
Sample Size (wet)	10.09	10.16
% Solid	84.83	84.83
File ID	A22278.D	A22280.D
Units	mg/Kg	mg/Kg
Final Volume	8.33	8.33
Dilution	1	1
Reporting Limit	32	32

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit*
SHC	TPH	Total Petroleum Hydrocarbons	4300	32	4000	32	6	30

Surrogates (% Recovery)

ortho-Terphenyl	90	89	1	30
d50-Tetracosane	95	93	2	30

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	Method Blank
Lab ID	SS021307B01
Matrix	Soil
Reference Method	SHC
Batch ID	SS021307B01
Date Collected	N/A
Date Received	N/A
Date Prepped	2/13/2007
Date Analyzed	2/23/2007
Sample Size (wet)	30
% Solid	100
File ID	A22218.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	2.2

Class	Abbrev	Analytes	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	U 2.2	

Surrogates (% Recovery)	
ortho-Terphenyl	87
d50-Tetracosane	86

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS021307LCS01
Matrix	Soil
Reference Method	SHC
Batch ID	SS021307B01
Date Collected	N/A
Date Received	N/A
Date Prepped	2/13/2007
Date Analyzed	2/24/2007
Sample Size (wet)	30
% Solid	100
File ID	A22228.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.067

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	C9	n-Nonane (C9)	1.1 S	0.067	67	1.6	50	130
SHC	C10	n-Decane (C10)	1.4 S	0.067	83	1.6	50	130
SHC	C12	n-Dodecane (C12)	1.6 S	0.067	94	1.6	50	130
SHC	C14	n-Tetradecane (C14)	1.6 S	0.067	97	1.6	50	130
SHC	C16	n-Hexadecane (C16)	1.7 S	0.067	100	1.6	50	130
SHC	C18	n-Octadecane (C18)	1.7 S	0.067	103	1.6	50	130
SHC	C19	n-Nonadecane (C19)	1.7 S	0.067	105	1.6	50	130
SHC	C20	n-Eicosane (C20)	1.8 S	0.067	105	1.6	50	130
SHC	C22	n-Docosane (C22)	1.8 S	0.067	108	1.6	50	130
SHC	C24	n-Tetracosane (C24)	1.7 S	0.067	103	1.6	50	130
SHC	C26	n-Hexacosane (C26)	1.7 S	0.067	102	1.6	50	130
SHC	C28	n-Octacosane (C28)	1.6 S	0.067	99	1.6	50	130
SHC	C30	n-Triacontane (C30)	1.6 S	0.067	97	1.6	50	130
SHC	C36	n-Hexatriacontane (C36)	1.4 S	0.067	85	1.6	50	130
SHC	TPH	Total Petroleum Hydrocarbons	19		2.2			

Surrogates (% Recovery)
 ortho-Terphenyl 88
 d50-Tetracosane 90

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS021307LCS001
Matrix	Soil
Reference Method	SHC
Batch ID	SS021307B01
Date Collected	N/A
Date Received	N/A
Date Prepped	2/13/2007
Date Analyzed	2/24/2007
Sample Size (wet)	30
% Solid	100
File ID	A22231.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.067

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
SHC	C9	n-Nonane (C9)	1.2 S	0.067	71	1.6	50	130	5	30
SHC	C10	n-Decane (C10)	1.4 S	0.067	85	1.6	50	130	2	30
SHC	C12	n-Dodecane (C12)	1.6 S	0.067	94	1.6	50	130	1	30
SHC	C14	n-Tetradecane (C14)	1.6 S	0.067	97	1.6	50	130	1	30
SHC	C16	n-Hexadecane (C16)	1.7 S	0.067	100	1.6	50	130	1	30
SHC	C18	n-Octadecane (C18)	1.7 S	0.067	104	1.6	50	130	1	30
SHC	C19	n-Nonadecane (C19)	1.8 S	0.067	105	1.6	50	130	1	30
SHC	C20	n-Eicosane (C20)	1.8 S	0.067	106	1.6	50	130	1	30
SHC	C22	n-Docosane (C22)	1.8 S	0.067	109	1.6	50	130	1	30
SHC	C24	n-Tetracosane (C24)	1.7 S	0.067	104	1.6	50	130	1	30
SHC	C26	n-Hexacosane (C26)	1.7 S	0.067	103	1.6	50	130	1	30
SHC	C28	n-Octacosane (C28)	1.7 S	0.067	100	1.6	50	130	1	30
SHC	C30	n-Triacontane (C30)	1.6 S	0.067	98	1.6	50	130	1	30
SHC	C36	n-Hexatriacontane (C36)	1.5 S	0.067	89	1.6	50	130	5	30
SHC	TPH	Total Petroleum Hydrocarbons	20		2.2					

Surrogates (% Recovery)	
ortho-Terphenyl	89
d50-Tetracosane	90

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	Alaska North Slope Crude
Lab ID	TW022707AWS04
Matrix	Oil
Reference Method	SHC
Batch ID	N/A
Date Collected	N/A
Date Received	N/A
Date Prepped	N/A
Date Analyzed	2/23/2007
Sample Size (wet)	0.052
% Solid	100
File ID	A22208.D
Units	mg/Kg
Final Volume	10
Dilution	1
Reporting Limit	190

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	TPH	Total Petroleum Hydrocarbons	590000	6400	94	623913	65	135

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-19	FPS-20	FPS-21					
Lab ID	0702071-01	0702071-02	0702071-03					
Matrix	Soil	Soil	Soil					
Reference Method	SHC	SHC	SHC					
Batch ID	SS022007B17	SS022007B17	SS022007B17					
Date Collected	2/15/2007	2/15/2007	2/15/2007					
Date Received	2/16/2007	2/16/2007	2/16/2007					
Date Prepped	2/20/2007	2/20/2007	2/20/2007					
Date Analyzed	2/25/2007	2/25/2007	2/25/2007					
Sample Size (wet)	5.52	5.56	20.2					
% Solid	78.97	82.3	50.24					
File ID	A22258.D	A22260.D	A22262.D					
Units	mg/Kg	mg/Kg	mg/Kg					
Final Volume	6.67	12.5	28.57					
Dilution	1	1	1					
Reporting Limit	50	90	93					
Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	7400	50	14000	90	12000	93

Surrogates (% Recovery)			
ortho-Terphenyl	87	88	85
d50-Tetracosane	93	91	88

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	FPS-22	FPS-23
Lab ID	0702071-04	0702071-05
Matrix	Soil	Soil
Reference Method	SHC	SHC
Batch ID	SS022007B17	SS022007B17
Date Collected	2/15/2007	2/15/2007
Date Received	2/16/2007	2/16/2007
Date Prepped	2/20/2007	2/20/2007
Date Analyzed	2/25/2007	2/25/2007
Sample Size (wet)	5.81	5.45
% Solid	78.23	78.91
File ID	A22264.D	A22266.D
Units	mg/Kg	mg/Kg
Final Volume	15.38	2.94
Dilution	1	1
Reporting Limit	110	23

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	15000	110	4200	23

Surrogates (% Recovery)
ortho-Terphenyl 88 100
d50-Tetracosane 91 101

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	FPS-23	FPS-23
Lab ID	0702071-05	0702071-05D
Matrix	Soil	Soil
Reference Method	SHC	SHC
Batch ID	SS022007B17	SS022007B17
Date Collected	2/15/2007	2/15/2007
Date Received	2/16/2007	2/16/2007
Date Prepped	2/20/2007	2/20/2007
Date Analyzed	2/25/2007	2/25/2007
Sample Size (wet)	5.45	5.3
% Solid	78.91	78.91
File ID	A22266.D	A22268.D
Units	mg/Kg	mg/Kg
Final Volume	2.94	2.94
Dilution	1	1
Reporting Limit	23	23

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
SHC	TPH	Total Petroleum Hydrocarbons	4200	23	3800	23	8	30

Surrogates (% Recovery)
ortho-Terphenyl 100 96 4 30
d50-Tetracosane 101 97 4 30

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	Method Blank
Lab ID	SS022007B17
Matrix	Soil
Reference Method	SHC
Batch ID	SS022007B17
Date Collected	N/A
Date Received	N/A
Date Prepped	2/20/2007
Date Analyzed	2/23/2007
Sample Size (wet)	30
% Solid	100
File ID	A22216.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	2.2

Class	Abbrev	Analytes	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	U	2.2

Surrogates (% Recovery)
ortho-Terphenyl 79
d50-Tetracosane 79

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS022007LCS11
Matrix	Soil
Reference Method	SHC
Batch ID	SS022007B17
Date Collected	N/A
Date Received	N/A
Date Prepped	2/20/2007
Date Analyzed	2/24/2007
Sample Size (wet)	30
% Solid	100
File ID	A22224.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.067

Class	Abbrev	Analyses	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	
SHC	C9	n-Nonane (C9)	0.95	S	0.067	57	1.6	50	130
SHC	C10	n-Decane (C10)	1.1	S	0.067	67	1.6	50	130
SHC	C12	n-Dodecane (C12)	1.2	S	0.067	73	1.6	50	130
SHC	C14	n-Tetradecane (C14)	1.2	S	0.067	75	1.6	50	130
SHC	C16	n-Hexadecane (C16)	1.3	S	0.067	77	1.6	50	130
SHC	C18	n-Octadecane (C18)	1.4	S	0.067	81	1.6	50	130
SHC	C19	n-Nonadecane (C19)	1.4	S	0.067	83	1.6	50	130
SHC	C20	n-Eicosane (C20)	1.4	S	0.067	84	1.6	50	130
SHC	C22	n-Docosane (C22)	1.4	S	0.067	86	1.6	50	130
SHC	C24	n-Tetracosane (C24)	1.4	S	0.067	82	1.6	50	130
SHC	C26	n-Hexacosane (C26)	1.4	S	0.067	81	1.6	50	130
SHC	C28	n-Octacosane (C28)	1.3	S	0.067	77	1.6	50	130
SHC	C30	n-Triacontane (C30)	1.3	S	0.067	77	1.6	50	130
SHC	C36	n-Hexatriacontane (C36)	1.1	S	0.067	67	1.6	50	130
SHC	TPH	Total Petroleum Hydrocarbons	15		2.2				

Surrogates (% Recovery)
 ortho-Terphenyl 83
 d50-Tetracosane 84

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS022007LCSD11
Matrix	Soil
Reference Method	SHC
Batch ID	SS022007B17
Date Collected	N/A
Date Received	N/A
Date Prepped	2/20/2007
Date Analyzed	2/24/2007
Sample Size (wet)	30
% Solid	100
File ID	A22226.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.067

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
SHC	C9	n-Nonane (C9)	1.0 S	0.067	62	1.6	50	130	8	30
SHC	C10	n-Decane (C10)	1.2 S	0.067	69	1.6	50	130	3	30
SHC	C12	n-Dodecane (C12)	1.2 S	0.067	73	1.6	50	130	0	30
SHC	C14	n-Tetradecane (C14)	1.2 S	0.067	75	1.6	50	130	0	30
SHC	C16	n-Hexadecane (C16)	1.3 S	0.067	77	1.6	50	130	0	30
SHC	C18	n-Octadecane (C18)	1.4 S	0.067	82	1.6	50	130	0	30
SHC	C19	n-Nonadecane (C19)	1.4 S	0.067	83	1.6	50	130	0	30
SHC	C20	n-Eicosane (C20)	1.4 S	0.067	83	1.6	50	130	0	30
SHC	C22	n-Docosane (C22)	1.4 S	0.067	85	1.6	50	130	0	30
SHC	C24	n-Tetracosane (C24)	1.4 S	0.067	82	1.6	50	130	0	30
SHC	C26	n-Hexacosane (C26)	1.4 S	0.067	81	1.6	50	130	0	30
SHC	C28	n-Octacosane (C28)	1.3 S	0.067	77	1.6	50	130	1	30
SHC	C30	n-Triacontane (C30)	1.3 S	0.067	77	1.6	50	130	1	30
SHC	C36	n-Hexatriacontane (C36)	1.1 S	0.067	67	1.6	50	130	0	30
SHC	TPH	Total Petroleum Hydrocarbons	t5		2.2					

Surrogates (% Recovery)	
ortho-Terphenyl	82
d50-Tetracosane	84

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Project Gutenberg

Client ID	Alaska North Slope crude
Lab ID	TW022707AWS04
Matrix	Oil
Reference Method	SHC
Batch ID	N/A
Date Collected	N/A
Date Received	N/A
Date Prepped	N/A
Date Analyzed	2/23/2007
Sample Size (wet)	0.052
% Solid	100
File ID	A22208.D
Units	mg/Kg
Final Volume	10
Dilution	1
Reporting Limit	t90

Class	Abbrev	Analytes	Result	33RL	% Rec.	Spike	Curc.	Lower Limit	Upper Limit
SHC	IPH	Total Petroleum Hydrocarbons	590000	6400	94	623913	65	135	

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
*: Value outside of QC Limits.
S: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
G: Matrix interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to interference. (Metals)
o: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

Priority Pollutant PAH Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

	FPS-10	FPS-11	FPS-12
Client ID	0702033-01	0702033-02	0702033-03
Lab ID	Soll	Soll	Soll
Matrix	Modified 8270C	Modified 8270C	Modified 8270C
Reference Method	SS021307B01	SS021307B01	SS021307B01
Batch ID			
Date Collected	2/7/2007	2/7/2007	2/7/2007
Date Received	2/8/2007	2/8/2007	2/8/2007
Date Prepped	2/13/2007	2/13/2007	2/13/2007
Date Analyzed	2/25/2007	2/25/2007	2/25/2007
Sample Size (wet)	5.38	10.3	10.09
% Solid	78.71	84.64	84.83
File ID	A22263.D	A22265.D	A22267.D
Units	µg/Kg	µg/Kg	µg/Kg
Final Volume	8	16.67	8.33
Dilution	1	1	1
Reporting Limit	19	19	9.7

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
2	N0	Naphthalene	830	19	3700	19	970	9.7
3	AY	Acenaphthylene	16000	19	17000	19	6200	9.7
3	AE	Acenaphthene	2600	19	3200	19	8200	9.7
3	F0	Fluorene	11000	19	27000 D	3800	23000 D	2000
3	A0	Anthracene	68000 D	3800	160000 D	3800	53000 D	2000
3	P0	Phenanthrene	180000 D	3800	150000 D	3800	210000 D	2000
4	FL0	Fluoranthene	1200000 D	3800	950000 D	3800	500000 D	2000
4	PY0	Pyrene	760000 D	3800	670000 D	3800	340000 D	2000
4	BA0	Benz[a]anthracene	260000 D	3800	280000 D	3800	110000 D	2000
4	C0	Chrysene/Triphenylene	210000 D	3800	300000 D	3800	95000 D	2000
5	BBF	Benz[b]fluoranthene	110000 D	3800	110000 D	3800	50000 D	2000
5	BJKF	Benz[k]fluoranthene	110000 D	3800	120000 D	3800	46000 D	2000
5	BAP	Benz[a]pyrene	100000 D	3800	100000 D	3800	42000 D	2000
5	IND	Indeno[1,2,3-cd]pyrene	43000 D	3800	47000 D	3800	14000 D	2000
5	DA	Dibenz[a,h]anthracene	14000	19	15000	19	5700	9.7
6	GHI	Benz[g,h,i]perylene	30000 D	3800	33000 D	3800	11000 D	2000
	TPAH		3115430		2985900		1515070	

Surrogates (% Recovery)			
2-Methylnaphthalene-d10	107	109	107
Pyrene-d10	62	58	59
Benzo[b]fluoranthene-d12	102	97	94

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-13	FPS-14	FPS-15
Lab ID	0702033-04	0702033-05	0702033-06
Matrix	Soil	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C	Modified 8270C
Batch ID	SS021307B01	SS021307B01	SS021307B01
Date Collected	2/7/2007	2/7/2007	2/7/2007
Date Received	2/8/2007	2/8/2007	2/8/2007
Date Prepped	2/13/2007	2/13/2007	2/13/2007
Date Analyzed	2/25/2007	3/1/2007	2/25/2007
Sample Size (wt)	10.29	1.12	10.82
% Solid	79.81	57.85	76.05
File ID	A22273.D	A22391.D	A22277.D
Units	µg/Kg	µg/Kg	µg/Kg
Final Volume	20	28.57	3.85
Dilution	1	10	1
Reporting Limit	24	4400	4.7

Class	Abbrev	Analytics	Result	SSRL	Result	SSRL	Result	SSRL
2	N0	Naphthalene	5500	24	7000000	D 44000	220	4.7
3	AY	Acenaphthylene	12000	24	190000	4400	1800	4.7
3	AE	Acenaphthene	40000	D 4900	9400000	D 44000	8500	D 230
3	F0	Fluorene	170000	D 4900	10000000	D 44000	17000	D 230
3	A0	Anthracene	390000	D 4900	4800000	D 44000	15000	D 230
3	P0	Phenanthrene	1500000	D 4900	34000000	D 44000	83000	D 230
4	FL0	Fluoranthene	1200000	D 4900	23000000	D 44000	88000	D 230
4	PY0	Pyrene	830000	D 4900	15000000	D 44000	58000	D 230
4	BA0	Benz[a]anthracene	210000	D 4900	4200000	D 4400	17000	D 230
4	C0	Chrysene/Triphenylene	170000	D 4900	3600000	D 4400	14000	D 230
5	BBF	Benz[b]fluoranthene	86000	D 4900	1800000	D 4400	11000	D 230
5	BJKF	Benzo[k]fluoranthene	90000	D 4900	1600000	D 4400	8500	D 230
5	BAP	Benz[a]pyrene	76000	D 4900	1600000	D 4400	8000	D 230
6	IND	Indeno[1,2,3-cd]pyrene	270000	D 4900	670000	D 4400	4600	D 230
5	DA	Dibenz[a,h]anthracene	12000	24	170000	D 4400	1300	4.7
6	GHI	Benzog[h,i]perylene	22000	D 4900	440000	D 4400	3300	4.7
	TPAH		4840500		117470000		339220	

Surrogates (% Recovery)

2-Methylnaphthalene-d10	102	102	102
Pyrene-d10	56	119	71
Benz[b]fluoranthene-d12	91	124	93

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

	FPS-16	FPS-17	FPS-18
Client ID	0702033-07	0702033-08	0702033-09
Lab ID		Soil	Soil
Matrix		Modified 8270C	Modified 8270C
Reference Method	Modified B270C	Modified 8270C	Modified 8270C
Batch ID	SS021307B01	SS021307B01	SS021307B01
Date Collected	2/7/2007	2/7/2007	2/7/2007
Date Received	2/8/2007	2/8/2007	2/8/2007
Date Prepped	2/13/2007	2/13/2007	2/13/2007
Date Analyzed	2/25/2007	2/25/2007	2/25/2007
Sample Size (wet)	10.42	5.79	5.51
% Solid	81.45	76.83	79.03
File ID	A22279.D	A22281.D	A22283.D
Units	µg/Kg	µg/Kg	µg/Kg
Final Volume	10	10	2.78
Dilution	1	1	1
Reporting Limit	t2	22	6.4

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
2	N0	Naphthalene	1400	12	6000	22	590	6.4
3	AY	Acenaphthylene	5900	12	11000	22	2900	6.4
3	AE	Acenaphthene	18000	D 1200	82000	D 4500	2300	6.4
3	F0	Fluorene	53000	D 1200	190000	D 4500	6200	6.4
3	A0	Anthracene	61000	D 1200	260000	D 4500	17000	D 320
3	P0	Phenanthrene	280000	D 1200	990000	D 4500	43000	D 320
4	FL0	Fluoranthene	370000	D 1200	1300000	D 4500	130000	D 320
4	PY0	Pyrene	250000	D 1200	890000	D 4500	97000	D 320
4	BA0	Benz[a]anthracene	77000	D 1200	230000	D 4500	30000	D 320
4	C0	Chrysene/Triphenylene	71000	D 1200	220000	D 4500	26000	D 320
5	BBF	Benz[b]fluoranthene	39000	D 1200	88000	D 4500	19000	D 320
5	BJKF	Benzo[k]fluoranthene	34000	D 1200	100000	D 4500	19000	D 320
5	BAP	Benz[a]pyrene	31000	D 1200	81000	D 4500	17000	D 320
6	IND	Indeno[1,2,3-cd]pyrene	14000	D 1200	32000	D 4500	8700	D 320
5	DA	Dibenz[a,h]anthracene	4400	12	11000	22	2400	6.4
6	GHI	Benzof[g,h,i]perylene	10000	12	24000	D 4500	5500	6.4
	TPAH		1319700		4515000		426590	

Surrogates (% Recovery)			
2-Methylnaphthalene-d10	108	114	97
Pyrene-d10	58	63	71
Benz[b]fluoranthene-d12	96	94	93

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-12	FPS-12
Lab ID	0702033-03	0702033-03D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS021307B01	SS021307B01
Date Collected	2/7/2007	2/7/2007
Date Received	2/8/2007	2/8/2007
Date Prepped	2/13/2007	2/13/2007
Date Analyzed	2/25/2007	2/25/2007
Sample Size (wet)	10.09	10.16
% Solid	84.83	84.83
File ID	A22267.D	A22269.D
Units	$\mu\text{g}/\text{kg}$	$\mu\text{g}/\text{kg}$
Final Volume	8.33	8.33
Dilution	1	1
Reporting Limit	9.7	9.7

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	970	9.7	510	9.7	63	30
3	AY	Acenaphthylene	6200	9.7	6000	9.7	4	30
3	AE	Acenaphthene	8200	9.7	7400	9.7	10	30
3	F0	Fluorene	23000	D 2000	19000	D 1900	20	30
3	A0	Anthracene	53000	D 2000	41000	D 1900	26	30
3	P0	Phenanthrene	210000	D 2000	170000	D 1900	20	30
4	FL0	Fluoranthene	500000	D 2000	440000	D 1900	12	30
4	PY0	Pyrene	340000	D 2000	300000	D 1900	11	30
4	BA0	Benz[a]anthracene	110000	D 2000	96000	D 1900	15	30
4	C0	Chrysene/Triphenylene	95000	D 2000	85000	D 1900	11	30
5	BBF	Benz[b]fluoranthene	50000	D 2000	37000	D 1900	30	30
5	BJKF	Benzo[b]fluoranthene	46000	D 2000	45000	D 1900	1	30
5	BAP	Benzo[a]pyrene	42000	D 2000	36000	D 1900	15	30
6	IND	Indeno[1,2,3-cd]pyrene	14000	D 2000	11000	D 1900	23	30
5	DA	Dibenz[a,h]anthracene	5700	9.7	4800	9.7	17	30
6	GHI	Benzo[g,h,i]perylene	11000	D 2000	9000	D 1900	21	30
	TPAH		1515070		1307710			

Surrogates (% Recovery)				
2-Methylnaphthalene-d10	107	104	3	30
Pyrene-d10	59	61	3	30
Benzo[b]fluoranthene-d12	94	84	11	30

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

	FPS-19	FPS-20	FPS-21
Client ID	0702071-01	0702071-02	0702071-03
Lab ID	Soll	Soll	Soil
Matrix			
Reference Method	Modified 8270C	Modified 8270C	Modified 8270C
Batch ID	SS022007B17	SS022007B17	SS022007B17
Date Collected	2/15/2007	2/15/2007	2/15/2007
Date Received	2/16/2007	2/16/2007	2/16/2007
Date Prepped	2/20/2007	2/20/2007	2/20/2007
Date Analyzed	2/24/2007	2/24/2007	2/25/2007
Sample Size (wet)	5.52	5.56	20.2
% Solid	78.97	82.3	50.24
File ID	A22250.D	A22253.D	A22255.D
Units	µg/Kg	µg/Kg	µg/Kg
Final Volume	6.67	12.5	28.57
Dilution	1	1	1
Reporting Limit	15	27	28

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
2	N0	Naphthalene	830	15	640	27	550	28
3	AY	Acenaphthylene	9500	15	11000	27	7600	28
3	AE	Acenaphthene	64000	D 3800	53000	D 2700	13000	28
3	F0	Fluorene	180000	D 3800	110000	D 2700	25000	28
3	A0	Anthracene	120000	D 3800	100000	D 2700	37000	D 700
3	P0	Phenanthrene	1200000	D 3800	620000	D 2700	130000	D 700
4	FLO	Fluoranthene	860000	D 3800	860000	D 2700	380000	D 700
4	PY0	Pyrene	550000	D 3800	570000	D 2700	260000	D 700
4	BA0	Benz[a]anthracene	160000	D 3800	170000	D 2700	110000	D 700
4	C0	Chrysene/Triphenylene	120000	D 3800	150000	D 2700	100000	D 700
5	BBF	Benz[b]fluoranthene	63000	D 3800	75000	D 2700	59000	D 700
5	BJKF	Benz[bf]fluoranthene	65000	D 3800	67000	D 2700	50000	D 700
5	BAP	Benz[a]pyrene	55000	D 3800	62000	D 2700	47000	D 700
6	IND	Indeno[1,2,3-cd]pyrene	20000	D 3800	25000	27	19000	28
5	DA	Dibenz[a,h]anthracene	7600	15	7500	27	5300	28
6	GHI	Benzof[g,h,i]perylene	14000	D 3800	17000	27	13000	28
	TPAH		3488930		2898140		1256450	

Surrogates (% Recovery)			
2-Methylnaphthalene-d10	88	90	88
Pyrene-d10	67	58	75
Benz[b]fluoranthene-d12	80	76	77

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-22	FPS-23
Lab ID	0702071-04	0702071-05
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS022007B17	SS022007B17
Date Collected	2/15/2007	2/15/2007
Date Received	2/16/2007	2/16/2007
Date Prepped	2/20/2007	2/20/2007
Date Analyzed	2/25/2007	2/27/2007
Sample Size (wet)	5.81	5.45
% Solid	78.23	78.91
File ID	A22257.D	A22335.D
Units	µg/Kg	µg/Kg
Final Volume	15.38	2.94
Dilution	1	5
Reporting Limit	34	34

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	NU	Naphthalene	2700	34	2000	34
3	AY	Acenaphthylene	19000	34	3500	34
3	AE	Acenaphthene	58000	D 3400	160000	D 1400
3	F0	Fluorene	120000	D 3400	220000	D 1400
3	A0	Anthracene	110000	D 3400	87000	D 1400
3	P0	Phenanthrene	170000	D 3400	720000	D 1400
4	FL0	Fluoranthene	750000	D 3400	380000	D 1400
4	PY0	Pyrene	510000	D 3400	250000	D 1400
4	BA0	Benz[a]anthracene	260000	D 3400	69000	D 1400
4	C0	Chrysene/Triphenylene	300000	D 3400	56000	D 1400
5	BBF	Benz[b]fluoranthene	110000	D 3400	26000	34
5	BJKF	Benz[k]fluoranthene	110000	D 3400	26000	34
5	BAP	Benz[a]pyrene	96000	D 3400	27000	34
6	IND	Indeno[1,2,3-cd]pyrene	41000	D 3400	13000	34
5	DA	Dibenz[a,h]anthracene	14000	34	3400	34
6	GHI	Benz[g,h]perylene	32000	34	8900	34
		TPAH	2702700		2051800	

Surrogates (% Recovery)		
2-Methylnaphthalene-d10	94	101
Pyrene-d10	54	96
Benz[b]fluoranthene-d12	76	99

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-23	FPS-23
Lab ID	0702071-05	0702071-05D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS022007B17	SS022007B17
Date Collected	2/15/2007	2/15/2007
Date Received	2/16/2007	2/16/2007
Date Prepped	2/20/2007	2/20/2007
Date Analyzed	2/27/2007	2/27/2007
Sample Size (wet)	5.45	5.3
% Solid	78.91	78.91
File ID	A22335.D	A22339.D
Units	µg/Kg	µg/Kg
Final Volume	2.94	2.94
Dilution	5	5
Reporting Limit	34	35

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	2000	34	2200	35	11	30
3	AY	Acenaphthylene	3500	34	3200	35	9	30
3	AE	Acenaphthene	160000	D 1400	150000	D 1400	7	30
3	F0	Fluorene	220000	D 1400	200000	D 1400	8	30
3	A0	Anthracene	87000	D 1400	82000	D 1400	6	30
3	P0	Phenanthrene	720000	D 1400	660000	D 1400	8	30
4	FL0	Fluoranthene	380000	D 1400	350000	D 1400	9	30
4	PY0	Pyrene	250000	D 1400	230000	D 1400	9	30
4	BA0	Benz[a]anthracene	69000	D 1400	63000	D 1400	9	30
4	C0	Chrysene/Triphenylene	56000	D 1400	51000	D 1400	8	30
5	BBF	Benz[b]fluoranthene	26000	34	26000	35	3	30
5	BJKF	Benzol[k]fluoranthene	26000	34	24000	35	7	30
5	BAP	Benzol[a]pyrene	27000	34	26000	35	4	30
6	IND	Indeno[1,2,3-cd]pyrene	13000	34	12000	35	5	30
5	DA	Dibenz[a,h]anthracene	3400	34	3100	35	10	30
6	GHI	Benzol[g,h]perylene	8900	34	8400	35	5	30
	TPAH		2051800		1890900			

Surrogates (% Recovery)

2-Methylnaphthalene-d10	101	99	2	30
Pyrene-d10	96	92	4	30
Benzol[b]fluoranthene-d12	99	99	0	30

NEWFIELDS

List of Potential Qualifiers

- U: The analyte was analyzed for but not detected at the sample specific level reported.
- B: Found in associated blank as well as sample.
- J: Estimated value, below quantitation limit.
- E: Estimated value, exceeds the upper limit of calibration.
- NA: Not Applicable
- D: Secondary Dilution Performed
- DT: Tertiary Dilution Performed
- X: Value outside of QC Limits.
- S: Surrogate value outside of acceptable range.
- X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
- G: Matrix Interference.
- P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
- I: Due to Interference, the lower value is reported.
- N: Spike recovery outside control limits.
- E: Estimated due to Interference (Metals)
- U: Duplicate outside control limits.
- P: Spike compound. (Metals)
- J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
- C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

Parent and Alkylated PAH Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-10	FPS-11	FPS-12
Lab ID	0702033-01	0702033-02	0702033-03
Matrix	Soil	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C	Modified 8270C
Batch ID	SS021307B01	SS021307B01	SS021307B01
Date Collected	2/7/2007	2/7/2007	2/7/2007
Date Received	2/8/2007	2/8/2007	2/8/2007
Date Prepped	2/13/2007	2/13/2007	2/13/2007
Date Analyzed	2/25/2007	2/25/2007	2/25/2007
Sample Size (wet)	5.38	10.3	10.09
% Solid	78.71	84.64	84.83
File ID	A22263.D	A22265.D	A22267.D
Units	µg/Kg	µg/Kg	µg/Kg
Final Volume	8	16.67	8.33
Dilution	1	1	1
Reporting Limit	19	19	9.7

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
2	N0	Naphthalene	830	19	3700	19	970	9.7
2	N1	C1-Naphthalenes	400	19	2000	19	640	9.7
2	N2	C2-Naphthalenes	2000	19	4700	19	4100	9.7
2	N3	C3-Naphthalenes	11000	19	10000	19	8800	9.7
2	N4	C4-Naphthalenes	11000	19	12000	19	4300	9.7
2	B	Biphenyl	230	19	640	19	650	9.7
3	DF	Dibenzofuran	1500	19	3600	19	3500	9.7
3	AY	Acenaphthylene	16000	19	17000	19	6200	9.7
3	AE	Acenaphthene	2500	19	3200	19	8200	9.7
3	F0	Fluorene	11000	19	27000 D 3800		23000 D 2000	
3	F1	C1-Fluorenes	15000	19	11000	19	9700	9.7
3	F2	C2-Fluorenes	19000	19	19000	19	7300	9.7
3	F3	C3-Fluorenes	13000	19	16000	19	5000	9.7
3	A0	Anthracene	68000 D 3800		160000 D 3800		53000 D 2000	
3	P0	Phenanthrene	180000 D 3800		150000 D 3800		210000 D 2000	
3	PA1	C1-Phenanthrenes/Anthracenes	210000 D 3800		170000 D 3800		87000 D 2000	
3	PA2	C2-Phenanthrenes/Anthracenes	70000	19	75000	19	28000	9.7
3	PA3	C3-Phenanthrenes/Anthracenes	23000	19	28000	19	8800	9.7
3	PA4	C4-Phenanthrenes/Anthracenes	5400	19	6200	19	2100	9.7
3	DBT0	Dibenzothiophene	11000	19	10000	19	14000 D 2000	
3	DBT1	C1-Dibenzothiophenes	15000	19	12000	19	7100	9.7
3	DBT2	C2-Dibenzothiophenes	12000	19	13000	19	5900	9.7
3	DBT3	C3-Dibenzothiophenes	8700	19	9000	19	5300	9.7
3	DBT4	C4-Dibenzothiophenes	2700	19	2600	19	2100	9.7
4	BF	Benz[b]fluorene	120000 D 3800		180000 D 3800		64000 D 2000	
4	FL0	Fluoranthene	1200000 D 3800		950000 D 3800		500000 D 2000	
4	PY0	Pyrene	760000 D 3800		670000 D 3800		340000 D 2000	
4	FP1	C1-Fluoranthenes/Pyrenes	360000 D 3800		400000 D 3800		150000 D 2000	
4	FP2	C2-Fluoranthenes/Pyrenes	41000	19	50000	19	18000	9.7
4	FP3	C3-Fluoranthenes/Pyrenes	17000	19	20000	19	7300	9.7
4	FP4	C4-Fluoranthenes/Pyrenes	7200	19	8300	19	3400	9.7
4	NBT0	Naphthobenzothiophenes	91000 D 3800		110000 D 3800		39000 D 2000	
4	NBT1	C1-Naphthobenzothiophenes	12000	19	14000	19	5400	9.7
4	NBT2	C2-Naphthobenzothiophenes	4500	19	4900	19	2000	9.7
4	NBT3	C3-Naphthobenzothiophenes	2200	19	2400	19	1100	9.7
4	NBT4	C4-Naphthobenzothiophenes	780	19	910	19	410	9.7
4	BA0	Benz[a]anthracene	260000 D 3800		280000 D 3800		110000 D 2000	
4	C0	Chrysene/Triphenylene	210000 D 3800		300000 D 3800		95000 D 2000	
4	BC1	C1-Chrysenes	51000	19	54000	19	22000	9.7
4	BC2	C2-Chrysenes	16000	19	16000	19	6400	9.7
4	BC3	C3-Chrysenes	11000	19	12000	19	4700	9.7
4	BC4	C4-Chrysenes	3400	19	4000	19	1600	9.7
5	BBF	Benz[b]fluoranthene	110000 D 3800		110000 D 3800		50000 D 2000	
5	BJKF	Benz[k]fluoranthene	110000 D 3800		120000 D 3800		46000 D 2000	
5	8AF	Benz[a]fluoranthene	22000 D 3800		22000 D 3800		9100	9.7
5	BEP	Benz[e]pyrene	65000 D 3800		65000 D 3800		28000 D 2000	
5	8AP	Benz[a]pyrene	100000 D 3800		100000 D 3800		42000 D 2000	
5	PER	Perylene	24000 D 3800		24000 D 3800		11000 D 2000	
6	IND	Indeno[1,2,3-cd]pyrene	43000 D 3800		47000 D 3800		14000 D 2000	
5	DA	Dibenz[a,h]anthracene	14000	19	15000	19	5700	9.7
6	GHI	Benz[g,h,i]perylene	30000 D 3800		33000 D 3800		11000 D 2000	
3	4MDT	4-Methylbenzothiophene	5200	19	4500	19	2400	9.7
3	2MDT	2,3-Methylbenzothiophene	6800	19	5100	19	3100	9.7
3	1MDT	1-Methylbenzothiophene	1600	19	1000	19	740	9.7
3	3MP	3-Methylphenanthrene	52000 D 3800		31000 D 3800		21000 D 2000	
3	2MP	2,4-Methylphenanthrene	57000 D 3800		41000 D 3800		23000 D 2000	
3	2MA	2-Methylanthracene	19000	19	31000 D 3800		9000	9.7
3	9MP	9-Methylphenanthrene	34000 D 3800		26000 D 3800		13000 D 2000	
3	1MP	1-Methylphenanthrene	18000	19	15000	19	7900	9.7
	TPAH		4588040		4532750		2170910	

Surrogates (% Recovery)			
2-Methylnaphthalene-d10	107	109	107
Pyrene-d10	62	58	59
Benz[b]fluoranthene-d12	102	97	94

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

		FPS-13	FPS-14	FPS-15				
Client ID								
Lab ID	0702033-04	0702033-05	0702033-06					
Matrix	Soil	Soil	Soil					
Reference Method	Modified 8270C	Modified 8270C	Modified 8270C					
Batch ID	SS021307B01	SS021307B01	SS021307B01					
Date Collected	2/7/2007	2/7/2007	2/7/2007					
Date Received	2/8/2007	2/8/2007	2/8/2007					
Date Prepped	2/13/2007	2/13/2007	2/13/2007					
Date Analyzed	2/25/2007	3/1/2007	2/25/2007					
Sample Size (wet)	10.29	1.12	10.82					
% Solid	79.81	57.85	76.05					
File ID	A22273.D	A22391.D	A22277.D					
Units	µg/Kg	µg/Kg	µg/Kg					
Final Volume	20	28.57	3.85					
Dilution	1	10	1					
Reporting Limit	24	4400	4.7					
Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
2	N0	Naphthalene	5500	24	7000000	D 44000	220	4.7
2	N1	C1-Naphthalenes	5100	24	4800000	D 44000	1200	4.7
2	N2	C2-Naphthalenes	39000	24	3200000	4400	4600	4.7
2	N3	C3-Naphthalenes	64000	24	1300000	4400	3800	4.7
2	N4	C4-Naphthalenes	21000	24	340000	4400	1400	4.7
2	B	Biphenyl	2400	24	2000000	4400	420	4.7
3	DF	Dibenzofuran	37000	D 4900	7800000	D 44000	7000	D 230
3	AY	Acenaphthylene	12000	24	190000	4400	1800	4.7
3	AE	Acenaphthene	40000	D 4900	9400000	D 44000	8500	D 230
3	F0	Fluorene	170000	D 4900	10000000	D 44000	17000	D 230
3	F1	C1-Fluorenes	54000	24	1400000	4400	3200	4.7
3	F2	C2-Fluorenes	32000	24	530000	4400	1800	4.7
3	F3	C3-Fluorenes	20000	24	400000	4400	1200	4.7
3	A0	Anthracene	390000	D 4900	4800000	D 44000	15000	D 230
3	P0	Phenanthrene	1500000	D 4900	34000000	D 44000	83000	D 230
3	PA1	C1-Phenanthrenes/Anthracenes	340000	D 4900	6000000	4400	14000	4.7
3	PA2	C2-Phenanthrenes/Anthracenes	89000	24	1700000	4400	5300	4.7
3	PA3	C3-Phenanthrenes/Anthracenes	31000	24	480000	4400	1700	4.7
3	PA4	C4-Phenanthrenes/Anthracenes	7100	24	100000	4400	510	4.7
3	DBT0	Dibenzothiophene	90000	D 4900	2600000	4400	4600	4.7
3	DBT1	C1-Dibenzothiophenes	30000	24	670000	4400	1600	4.7
3	DBT2	C2-Dibenzothiophenes	18000	24	340000	4400	990	4.7
3	DBT3	C3-Dibenzothiophenes	13000	24	200000	4400	620	4.7
3	DBT4	C4-Dibenzothiophenes	4000	24	80000	4400	220	4.7
4	BF	Benz[b]fluorene	100000	D 4900	2400000	4400	8700	D 230
4	FL0	Fluoranthene	120000	D 4900	23000000	D 44000	88000	D 230
4	PY0	Pyrene	830000	D 4900	15000000	D 44000	58000	D 230
4	FP1	C1-Fluoranthenes/Pyrenes	330000	D 4900	5500000	4400	24000	D 230
4	FP2	C2-Fluoranthenes/Pyrenes	46000	24	1000000	4400	3700	4.7
4	FP3	C3-Fluoranthenes/Pyrenes	21000	24	320000	4400	1600	4.7
4	FP4	C4-Fluoranthenes/Pyrenes	9400	24	200000	4400	910	4.7
4	NBT0	Naphthobenzothiophenes	71000	D 4900	1300000	4400	3400	4.7
4	NBT1	C1-Naphthobenzothiophenes	12000	24	330000	4400	1000	4.7
4	NBT2	C2-Naphthobenzothiophenes	4500	24	110000	4400	480	4.7
4	NBT3	C3-Naphthobenzothiophenes	2300	24	58000	4400	340	4.7
4	NBT4	C4-Naphthobenzothiophenes	740	24	23000	4400	210	4.7
4	BA0	Benz[a]anthracene	210000	D 4900	4200000	4400	17000	D 230
4	C0	Chrysene/Triphenylene	170000	D 4900	3600000	4400	14000	D 230
4	BC1	C1-Chrysenes	51000	24	960000	4400	4200	4.7
4	BC2	C2-Chrysenes	17000	24	300000	4400	1600	4.7
4	BC3	C3-Chrysenes	12000	24	190000	4400	1300	4.7
4	BC4	C4-Chrysenes	4400	24	78000	4400	490	4.7
5	BBF	Benz[b]fluoranthene	86000	D 4900	1800000	4400	11000	D 230
5	BJKF	Benz[j,k]fluoranthene	90000	D 4900	1600000	4400	8500	D 230
5	BAF	Benz[a]jfluoranthene	18000	24	360000	4400	1800	4.7
5	BEP	Benz[e]pyrene	51000	D 4900	970000	4400	6400	D 230
5	BAP	Benz[a]pyrene	76000	D 4900	1600000	4400	8000	D 230
5	PER	Perylene	20000	24	410000	4400	2000	4.7
6	IND	Indeno[1,2,3-cd]pyrene	27000	D 4900	670000	4400	4600	D 230
5	DA	Dibenzo[a,h]anthracene	12000	24	170000	4400	1300	4.7
6	GHI	Benz[g,h,i]perylene	22000	D 4900	440000	4400	3300	4.7
3	4MDT	4-Methyldibenzothiophene	9300	24	200000	4400	500	4.7
3	2MDT	2/3-Methyldibenzothiophene	13000	24	300000	4400	750	4.7
3	1MDT	1-Methyldibenzothiophene	3900	24	71000	4400	150	4.7
3	3MP	3-Methylphenanthrene	81000	D 4900	1600000	4400	3400	4.7
3	2MP	2/4-Methylphenanthrene	100000	D 4900	1900000	4400	4300	4.7
3	2MA	2-Methylnaphthalene	31000	D 4900	640000	4400	1500	4.7
3	9MP	9-Methylnaphthalene	50000	D 4900	980000	4400	2800	4.7
3	1MP	1-Methylnaphthalene	40000	D 4900	680000	4400	1700	4.7
	TPAH		6835640		172290000		470610	

Surrogates (% Recovery)				
2-Methylnaphthalene-d10	102	102	102	
Pyrene-d10	56	119	71	
Benz[b]fluoranthene-d12	91	124	93	

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-16	FPS-17	FPS-18
Lab ID	0702033-07	0702033-08	0702033-09
Matrix	Soil	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C	Modified 8270C
Batch ID	SS021307B01	SS021307B01	SS021307B01
Date Collected	2/7/2007	2/7/2007	2/7/2007
Date Received	2/8/2007	2/8/2007	2/8/2007
Date Prepped	2/13/2007	2/13/2007	2/13/2007
Date Analyzed	2/25/2007	2/25/2007	2/25/2007
Sample Size (wet)	10.42	5.79	5.51
% Solid	81.45	76.83	79.03
File ID	A22279.D	A22281.D	A22283.D
Units	µg/Kg	µg/Kg	µg/Kg
Final Volume	10	10	2.78
Dilution	1	1	1
Reporting Limit	12	22	6.4

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
2	N0	Naphthalene	1400	12	6000	22	590	6.4
2	N1	C1-Naphthalenes	2100	12	6600	22	390	6.4
2	N2	C2-Naphthalenes	9000	12	43000	22	2000	6.4
2	N3	C3-Naphthalenes	12000	12	53000	22	4200	6.4
2	N4	C4-Naphthalenes	5800	12	25000	22	2700	6.4
2	B	Biphenyl	580	12	9100	22	120	6.4
3	DF	Dibenzofuran	130000	D 1200	53000	D 4500	1900	6.4
3	AY	Acenaphthylene	5900	12	11000	22	2900	6.4
3	AE	Acenaphthene	18000	D 1200	82000	D 4500	2300	6.4
3	F0	Fluorene	53000	D 1200	190000	D 4500	6200	6.4
3	F1	C1-Fluorenes	12000	12	44000	22	2800	6.4
3	F2	C2-Fluorenes	8300	12	33000	22	2600	6.4
3	F3	C3-Fluorenes	5500	12	25000	22	2000	6.4
3	A0	Anthracene	61000	D 1200	260000	D 4500	17000	D 320
3	P0	Phenanthrene	280000	D 1200	990000	D 4500	43000	D 320
3	PA1	C1-Phenanthrenes/Anthracenes	81000	D 1200	280000	D 4500	16000	6.4
3	PA2	C2-Phenanthrenes/Anthracenes	25000	12	99000	22	8300	6.4
3	PA3	C3-Phenanthrenes/Anthracenes	8400	12	39000	22	3200	6.4
3	PA4	C4-Phenanthrenes/Anthracenes	2100	12	12000	22	1200	6.4
3	DBT0	Dibenzothiophene	210000	D 1200	75000	D 4500	3100	6.4
3	DBT1	C1-Dibenzothiophenes	7200	12	26000	22	2400	6.4
3	DBT2	C2-Dibenzothiophenes	5300	12	19000	22	2200	6.4
3	DBT3	C3-Dibenzothiophenes	3900	12	16000	22	1700	6.4
3	DBT4	C4-Dibenzothiophenes	1400	12	5200	22	710	6.4
4	BF	Benzo(b)fluorene	40000	D 1200	130000	D 4500	13000	D 320
4	FLO	Fluoranthene	370000	D 1200	1300000	D 4500	130000	D 320
4	PY0	Pyrene	250000	D 1200	890000	D 4500	97000	D 320
4	FP1	C1-Fluoranthenes/Pyrenes	110000	D 1200	380000	D 4500	43000	D 320
4	FP2	C2-Fluoranthenes/Pyrenes	15000	12	54000	22	6200	6.4
4	FP3	C3-Fluoranthenes/Pyrenes	6000	12	26000	22	2700	6.4
4	FP4	C4-Fluoranthenes/Pyrenes	3000	12	12000	22	1400	6.4
4	NBT0	Naphthobenzothiophenes	29000	D 1200	82000	D 4500	5700	6.4
4	NBT1	C1-Naphthobenzothiophenes	4600	12	13000	22	1900	6.4
4	NBT2	C2-Naphthobenzothiophenes	1900	12	5300	22	810	6.4
4	NBT3	C3-Naphthobenzothiophenes	1000	12	2900	22	470	6.4
4	NBT4	C4-Naphthobenzothiophenes	460	12	1200	22	200	6.4
4	BA0	Benz[a]anthracene	77000	D 1200	230000	D 4500	30000	D 320
4	C0	Chrysene/Triphenylene	71000	D 1200	220000	D 4500	26000	D 320
4	BC1	C1-Chrysenes	18000	12	54000	22	7600	6.4
4	BC2	C2-Chrysenes	5900	12	20000	22	2800	6.4
4	BC3	C3-Chrysenes	4200	12	15000	22	2100	6.4
4	BC4	C4-Chrysenes	1400	12	6200	22	800	6.4
5	BBF	Benzo[b]fluoranthene	39000	D 1200	88000	D 4500	19000	D 320
5	BJKF	Benzo[k]fluoranthene	34000	D 1200	100000	D 4500	19000	D 320
5	BAF	Benzo[a]fluoranthene	6900	12	18000	22	3400	6.4
5	BEP	Benzo[e]pyrene	22000	D 1200	58000	D 4500	12000	D 320
5	BAP	Benzo[a]pyrene	31000	D 1200	81000	D 4500	17000	D 320
5	PER	Perylene	7400	12	19000	22	3800	6.4
6	IND	Indeno[1,2,3-cd]pyrene	14000	D 1200	32000	D 4500	8700	D 320
5	DA	Dibenzo[a,h]anthracene	4400	12	11000	22	2400	6.4
6	GHI	Benzo[g,h,i]perylene	10000	12	24000	D 4500	5500	6.4
3	4MDT	4-Methyldibenzothiophene	2400	12	6500	22	830	6.4
3	2MDT	2/3-Methyldibenzothiophene	3300	12	11000	22	1100	6.4
3	1MDT	1-Methyldibenzothiophene	710	12	3000	22	220	6.4
3	3MP	3-Methylphenanthrene	20000	D 1200	72000	D 4500	3700	6.4
3	2MP	2/4-Methylphenanthrene	22000	D 1200	76000	D 4500	4200	6.4
3	2MA	2-Methylnaphthalene	7800	12	33000	D 4500	2200	6.4
3	9MP	9-Methylnaphthalene	11000	D 1200	46000	D 4500	3400	6.4
3	1MP	1-Methylnaphthalene	7800	12	40000	D 4500	2000	6.4
	TPAH		1895050		6564000		609640	

Surrogates (% Recovery)			
2-Methylnaphthalene-d10	108	114	97
Pyrene-d10	58	63	71
Benz[b]fluoranthene-d12	96	94	93

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-12	FPS-12
Lab ID	0702033-03	0702033-03D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS021307B01	SS021307B01
Date Collected	2/7/2007	2/7/2007
Date Received	2/8/2007	2/8/2007
Date Prepped	2/13/2007	2/13/2007
Date Analyzed	2/25/2007	2/25/2007
Sample Size (wet)	10.09	10.16
% Solid	84.83	84.83
File ID	A22267.D	A22269.D
Units	µg/Kg	µg/Kg
Final Volume	8.33	8.33
Dilution	1	1
Reporting Limit	9.7	9.7

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	970	9.7	510	9.7	63	30
2	N1	C1-Naphthalenes	640	9.7	450	9.7	34	30
2	N2	C2-Naphthalenes	4100	9.7	3500	9.7	16	30
2	N3	C3-Naphthalenes	8800	9.7	7600	9.7	14	30
2	N4	C4-Naphthalenes	4300	9.7	3800	9.7	13	30
2	B	Biphenyl	650	9.7	480	9.7	31	30
3	DF	Dibenzofuran	3500	9.7	2900	9.7	19	30
3	AY	Acenaphthylene	6200	9.7	6000	9.7	4	30
3	AE	Acenaphthene	8200	9.7	7400	9.7	10	30
3	F0	Fluorene	23000 D	2000	18000 D	1900	20	30
3	F1	C1-Fluorenes	9700	9.7	8500	9.7	13	30
3	F2	C2-Fluorenes	7300	9.7	6600	9.7	11	30
3	F3	C3-Fluorenes	5000	9.7	4600	9.7	10	30
3	A0	Anthracene	53000 D	2000	41000 D	1900	26	30
3	P0	Phenanthrene	210000 D	2000	170000 D	1900	20	30
3	PA1	C1-Phenanthrenes/Anthracenes	87000 D	2000	72000 D	1900	18	30
3	PA2	C2-Phenanthrenes/Anthracenes	26000	9.7	23000	9.7	10	30
3	PA3	C3-Phenanthrenes/Anthracenes	8800	9.7	8400	9.7	5	30
3	PA4	C4-Phenanthrenes/Anthracenes	2100	9.7	2200	9.7	1	30
3	DBT0	Dibenzothiophene	14000 D	2000	12000 D	1900	14	30
3	DBT1	C1-Dibenzothiophenes	7100	9.7	6400	9.7	11	30
3	DBT2	C2-Dibenzothiophenes	5900	9.7	5400	9.7	8	30
3	DBT3	C3-Dibenzothiophenes	5300	9.7	5100	9.7	3	30
3	DBT4	C4-Dibenzothiophenes	2100	9.7	2100	9.7	2	30
4	BF	Benz[b]fluorene	64000 D	2000	66000 D	1900	3	30
4	FL0	Fluoranthene	500000 D	2000	440000 D	1900	12	30
4	PY0	Pyrene	340000 D	2000	300000 D	1900	11	30
4	FP1	C1-Fluoranthenes/Pyrenes	150000 D	2000	130000 D	1900	9	30
4	FP2	C2-Fluoranthenes/Pyrenes	18000	9.7	16000	9.7	11	30
4	FP3	C3-Fluoranthenes/Pyrenes	7300	9.7	6600	9.7	9	30
4	FP4	C4-Fluoranthenes/Pyrenes	3400	9.7	3300	9.7	4	30
4	NBT0	Naphthobenzothiophenes	39000 D	2000	37000 D	1900	7	30
4	NBT1	C1-Naphthobenzothiophenes	5400	9.7	5100	9.7	6	30
4	NBT2	C2-Naphthobenzothiophenes	2000	9.7	1900	9.7	6	30
4	NBT3	C3-Naphthobenzothiophenes	1100	9.7	1000	9.7	8	30
4	NBT4	C4-Naphthobenzothiophenes	410	9.7	370	9.7	10	30
4	BA0	Benz[a]anthracene	110000 D	2000	96000 D	1900	15	30
4	C0	Chrysene/Triphenylene	95000 D	2000	85000 D	1900	11	30
4	BC1	C1-Chrysenes	22000	9.7	19000	9.7	14	30
4	BC2	C2-Chrysenes	6400	9.7	5500	9.7	16	30
4	BC3	C3-Chrysenes	4700	9.7	4000	9.7	16	30
4	BC4	C4-Chrysenes	1600	9.7	1400	9.7	20	30
5	BBF	Benz[b]fluoranthene	50000 D	2000	37000 D	1900	30	30
5	BJKF	Benz[k]fluoranthene	46000 D	2000	45000 D	1900	1	30
5	BAF	Benz[a]fluoranthene	9100	9.7	8000	9.7	13	30
5	BEP	Benz[e]pyrene	28000 D	2000	26000 D	1900	11	30
5	BAP	Benz[a]pyrene	42000 D	2000	36000 D	1900	15	30
5	PER	Perylene	11000 D	2000	10000 D	1900	10	30
6	IND	Indeno[1,2,3-cd]pyrene	14000 D	2000	11000 D	1900	23	30
5	DA	Dibenz[a,h]anthracene	5700	9.7	4800	9.7	17	30
6	GHI	Benz[g,h,i]perylene	11000 D	2000	9000 D	1900	21	30
3	4MDT	4-Methylbenzothiophene	2400	9.7	2200	9.7	11	30
3	2MDT	2/3-Methylbenzothiophene	3100	9.7	2800	9.7	11	30
3	1MDT	1-Methylbenzothiophene	740	9.7	660	9.7	11	30
3	3MP	3-Methylphenanthrene	21000 D	2000	17000 D	1900	22	30
3	2MP	2/4-Methylphenanthrene	23000 D	2000	18000 D	1900	22	30
3	2MA	2-Methylnaphthalene	9000	9.7	7800	9.7	14	30
3	9MP	9-Methylphenanthrene	13000 D	2000	12000 D	1900	10	30
3	1MP	1-Methylphenanthrene	7900	9.7	6500	9.7	20	30

TPAH	2170910	1890870
Surrogates (% Recovery)		
2-Methylnaphthalene-d10	107	104
Pyrene-d10	59	61
Benzo[b]fluoranthene-d12	94	84
		11 30

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Method Blank
Lab ID	SS021307B01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS021307B01
Date Collected	N/A
Date Received	N/A
Date Prepped	2/13/2007
Date Analyzed	2/23/2007
Sample Size (wet)	30
% Solid	100
File ID	A22213.D
Units	µg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL
2	N0	Naphthalene	U 0.67	
2	N1	C1-Naphthalenes	U 0.67	
2	N2	C2-Naphthalenes	U 0.67	
2	N3	C3-Naphthalenes	U 0.67	
2	N4	C4-Naphthalenes	U 0.67	
2	B	Biphenyl	U 0.67	
3	DF	Dibenzofuran	U 0.67	
3	AY	Acenaphthylene	U 0.67	
3	AE	Acenaphthene	U 0.67	
3	F0	Fluorene	U 0.67	
3	F1	C1-Fluorenes	U 0.67	
3	F2	C2-Fluorenes	U 0.67	
3	F3	C3-Fluorenes	U 0.67	
3	A0	Anthracene	U 0.67	
3	P0	Phenanthrene	0.16 J 0.67	
3	PA1	C1-Phenanthrenes/Anthracenes	U 0.67	
3	PA2	C2-Phenanthrenes/Anthracenes	U 0.67	
3	PA3	C3-Phenanthrenes/Anthracenes	U 0.67	
3	PA4	C4-Phenanthrenes/Anthracenes	U 0.67	
3	DBT0	Dibenzothiophene	U 0.67	
3	DBT1	C1-Dibenzothiophenes	U 0.67	
3	DBT2	C2-Dibenzothiophenes	U 0.67	
3	DBT3	C3-Dibenzothiophenes	U 0.67	
3	DBT4	C4-Dibenzothiophenes	U 0.67	
4	BF	Benz[b]fluorene	U 0.67	
4	FL0	Fluoranthene	U 0.67	
4	PY0	Pyrene	0.081 J 0.67	
4	FP1	C1-Fluoranthenes/Pyrenes	U 0.67	
4	FP2	C2-Fluoranthenes/Pyrenes	U 0.67	
4	FP3	C3-Fluoranthenes/Pyrenes	U 0.67	
4	FP4	C4-Fluoranthenes/Pyrenes	U 0.67	
4	NBT0	Naphthobenzothiophenes	U 0.67	
4	NBT1	C1-Naphthobenzothiophenes	U 0.67	
4	NBT2	C2-Naphthobenzothiophenes	U 0.67	
4	NBT3	C3-Naphthobenzothiophenes	U 0.67	
4	NBT4	C4-Naphthobenzothiophenes	U 0.67	
4	BA0	Benz[a]anthracene	U 0.67	
4	C0	Chrysene/Triphenylene	U 0.67	
4	BC1	C1-Chrysenes	U 0.67	
4	BC2	C2-Chrysenes	U 0.67	
4	BC3	C3-Chrysenes	U 0.67	
4	BC4	C4-Chrysenes	U 0.67	
5	BBF	Benz[b]fluoranthene	U 0.67	
5	BJKF	Benzo[k]fluoranthene	U 0.67	
5	BAF	Benzo[a]fluoranthene	U 0.67	
5	BEP	Benz[e]pyrene	U 0.67	
5	BAP	Benzo[a]pyrene	U 0.67	
5	PER	Perylene	U 0.67	
6	IND	Indeno[1,2,3-cd]pyrene	U 0.67	
5	DA	Dibenzo[a,h]anthracene	U 0.67	
6	GHI	Benzo[g,h,i]perylene	U 0.67	
3	4MDT	4-Methyldibenzothiophene	U 0.67	
3	2MDT	2,3-Methyldibenzothiophene	U 0.67	
3	1MDT	1-Methyldibenzothiophene	U 0.67	
3	3MP	3-Methylphenanthrene	U 0.67	
3	2MP	2,4-Methylphenanthrene	U 0.67	
3	2MA	2-Methylanthracene	U 0.67	
3	9MP	9-Methylphenanthrene	U 0.67	
3	1MP	1-Methylphenanthrene	U 0.67	

Surrogates (% Recovery)	
2-Methylnaphthalene-d10	70
Pyrene-d10	89
Benzo[b]fluoranthene-d12	97

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS021307LCS01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS021307B01
Date Collected	N/A
Date Received	N/A
Date Prepped	2/13/2007
Date Analyzed	2/24/2007
Sample Size (wet)	30
% Solid	100
File ID	A22223.D
Units	µg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	28 S	0.67	83	33	50	130
2	N1	C1-Naphthalenes		U	0.67			
2	N2	C2-Naphthalenes		U	0.67			
2	N3	C3-Naphthalenes		U	0.67			
2	N4	C4-Naphthalenes		U	0.67			
2	B	Biphenyl		U	0.67			
3	DF	Dibenzofuran		U	0.67			
3	AY	Acenaphthylene	31 S	0.67	93	33	50	130
3	AE	Acenaphthene	31 S	0.67	93	33	50	130
3	F0	Fluorene	32 S	0.67	95	33	50	130
3	F1	C1-Fluorenes		U	0.67			
3	F2	C2-Fluorenes		U	0.67			
3	F3	C3-Fluorenes		U	0.67			
3	A0	Anthracene	35 S	0.67	105	33	50	130
3	P0	Phenanthrene	34 S	0.67	103	33	50	130
3	PA1	C1-Phenanthrenes/Anthracenes		U	0.67			
3	PA2	C2-Phenanthrenes/Anthracenes		U	0.67			
3	PA3	C3-Phenanthrenes/Anthracenes		U	0.67			
3	PA4	C4-Phenanthrenes/Anthracenes		U	0.67			
3	DBT0	Dibenzothiophene		U	0.67			
3	DBT1	C1-Dibenzothiophenes		U	0.67			
3	DBT2	C2-Dibenzothiophenes		U	0.67			
3	DBT3	C3-Dibenzothiophenes		U	0.67			
3	DBT4	C4-Dibenzothiophenes		U	0.67			
4	BF	Benzo(b)fluorene		U	0.67			
4	FL0	Fluoranthene	34 S	0.67	103	33	50	130
4	PY0	Pyrene	35 S	0.67	106	33	50	130
4	FP1	C1-Fluoranthenes/Pyrenes		U	0.67			
4	FP2	C2-Fluoranthenes/Pyrenes		U	0.67			
4	FP3	C3-Fluoranthenes/Pyrenes		U	0.67			
4	FP4	C4-Fluoranthenes/Pyrenes		U	0.67			
4	NBT0	Naphthobenzothiophenes		U	0.67			
4	NBT1	C1-Naphthobenzothiophenes		U	0.67			
4	NBT2	C2-Naphthobenzothiophenes		U	0.67			
4	NBT3	C3-Naphthobenzothiophenes		U	0.67			
4	NBT4	C4-Naphthobenzothiophenes		U	0.67			
4	BA0	Benz[a]anthracene	33 S	0.67	100	33	50	130
4	C0	Chrysene/Triphenylene	32 S	0.67	97	33	50	130
4	BC1	C1-Chrysenes		U	0.67			
4	BC2	C2-Chrysenes		U	0.67			
4	BC3	C3-Chrysenes		U	0.67			
4	BC4	C4-Chrysenes		U	0.67			
5	BBF	Benzo[b]fluoranthene	32 S	0.67	96	33	50	130
5	BJKF	Benzo[k]fluoranthene	33 S	0.67	99	33	50	130
5	BAF	Benzo[a]fluoranthene		U	0.67			
5	BEP	Benzo[e]pyrene		U	0.67			
5	BAP	Benzo[a]pyrene	34 S	0.67	102	33	50	130
5	PER	Perylene		U	0.67			
6	IND	Indeno[1,2,3-cd]pyrene	33 S	0.67	99	33	50	130
5	DA	Dibenz[a,h]anthracene	36 S	0.67	108	33	50	130
6	GHI	Benzo[g,h,i]perylene	31 S	0.67	93	33	50	130

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 85
 Pyrene-d10 92
 Benzo[b]fluoranthene-d12 92

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS021307LCSD01
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS021307B01
Date Collected	N/A
Date Received	N/A
Date Prepped	2/13/2007
Date Analyzed	2/24/2007
Sample Size (wet)	30
% Solid	100
File ID	A22225.D
Units	$\mu\text{g}/\text{Kg}$
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
2	N0	Naphthalene	28 S	0.67	85	33	50	130	2	30
2	N1	C1-Naphthalenes		U	0.67					
2	N2	C2-Naphthalenes		U	0.67					
2	N3	C3-Naphthalenes		U	0.67					
2	N4	C4-Naphthalenes		U	0.67					
2	B	Biphenyl		U	0.67					
3	DF	Dibenzofuran		U	0.67					
3	AY	Acenaphthylene	31 S	0.67	92	33	50	130	1	30
3	AE	Acenaphthene	31 S	0.67	93	33	50	130	0	30
3	F0	Fluorene	30 S	0.67	91	33	50	130	4	30
3	F1	C1-Fluorenes		U	0.67					
3	F2	C2-Fluorenes		U	0.67					
3	F3	C3-Fluorenes		U	0.67					
3	A0	Anthracene	35 S	0.67	105	33	50	130	0	30
3	P0	Phenanthrene	31 S	0.67	93	33	50	130	11	30
3	PA1	C1-Phenanthrenes/Anthracenes		U	0.67					
3	PA2	C2-Phenanthrenes/Anthracenes		U	0.67					
3	PA3	C3-Phenanthrenes/Anthracenes		U	0.67					
3	PA4	C4-Phenanthrenes/Anthracenes		U	0.67					
3	DBT0	Dibenzothiophene		U	0.67					
3	DBT1	C1-Dibenzothiophenes		U	0.67					
3	DBT2	C2-Dibenzothiophenes		U	0.67					
3	DBT3	C3-Dibenzothiophenes		U	0.67					
3	DBT4	C4-Dibenzothiophenes		U	0.67					
4	BF	Benzo(b)fluorene		U	0.67					
4	FL0	Fluoranthene	34 S	0.67	102	33	50	130	1	30
4	PY0	Pyrene	35 S	0.67	105	33	50	130	1	30
4	FP1	C1-Fluoranthenes/Pyrenes		U	0.67					
4	FP2	C2-Fluoranthenes/Pyrenes		U	0.67					
4	FP3	C3-Fluoranthenes/Pyrenes		U	0.67					
4	FP4	C4-Fluoranthenes/Pyrenes		U	0.67					
4	NBT0	Naphthobenzothiophenes		U	0.67					
4	NBT1	C1-Naphthobenzothiophenes		U	0.67					
4	NBT2	C2-Naphthobenzothiophenes		U	0.67					
4	NBT3	C3-Naphthobenzothiophenes		U	0.67					
4	NBT4	C4-Naphthobenzothiophenes		U	0.67					
4	BA0	Benz[a]anthracene	34 S	0.67	102	33	50	130	2	30
4	C0	Chrysene/Triphenylene	33 S	0.67	99	33	50	130	3	30
4	BC1	C1-Chrysenes		U	0.67					
4	BC2	C2-Chrysenes		U	0.67					
4	BC3	C3-Chrysenes		U	0.67					
4	BC4	C4-Chrysenes		U	0.67					
5	BBF	Benzo[b]fluoranthene	32 S	0.67	98	33	50	130	2	30
5	BJKF	Benzo[k]fluoranthene	34 S	0.67	101	33	50	130	1	30
5	BAF	Benzo[a]fluoranthene		U	0.67					
5	BEP	Benzo[e]pyrene		U	0.67					
5	BAP	Benzo[a]pyrene	35 S	0.67	106	33	50	130	4	30
5	PER	Perylene		U	0.67					
6	IND	Indeno[1,2,3-cd]pyrene	35 S	0.67	104	33	50	130	5	30
5	DA	Dibenzo[a,h]anthracene	38 S	0.67	113	33	50	130	4	30
6	GHI	Benzo[g,h,i]perylene	32 S	0.67	97	33	50	130	4	30

Surrogates (% Recovery)
 2-Methylnaphthalene-d10
 Pyrene-d10
 Benzo[b]fluoranthene-d12

82
 92
 94

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Alaska North Slope Crude
Lab ID	SS012407AWS01
Matrix	Oil
Reference Method	Modified 8270C
Batch ID	N/A
Date Collected	N/A
Date Received	N/A
Date Prepped	N/A
Date Analyzed	1/23/2007
Sample Size (wet)	0.052
% Solid	100
File ID	A21502.D
Units	mg/Kg
Final Volume	10
Dilution	1
Reporting Limit	1.9

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	660	1.9	98	669.92	65	135
2	N1	C1-Naphthalenes	1400	1.9	101	1432.05	65	135
2	N2	C2-Naphthalenes	1800	1.9	102	1770.37	65	135
2	N3	C3-Naphthalenes	1400	1.9	108	1321.83	65	135
2	N4	C4-Naphthalenes	750	1.9	102	731.64	65	135
2	B	Biphenyl	220	1.9	113	190.36	65	135
3	DF	Dibenzofuran	69	1.9				
3	AY	Acenaphthylene	9.7	1.9				
3	AE	Acenaphthene	19	1.9	127	14.71	65	135
3	F0	Fluorene	88	1.9	113	77.57	65	135
3	F1	C1-Fluorenes	200	1.9	100	203.54	65	135
3	F2	C2-Fluorenes	330	1.9	104	314.43	65	135
3	F3	C3-Fluorenes	310	1.9	107	290.03	65	135
3	A0	Anthracene	U	1.9				
3	P0	Phenanthrene	270	1.9	102	259.89	65	135
3	PA1	C1-Phenanthrenes/Anthracenes	570	1.9	105	545.98	65	135
3	PA2	C2-Phenanthrenes/Anthracenes	630	1.9	106	587.69	65	135
3	PA3	C3-Phenanthrenes/Anthracenes	440	1.9	102	428.71	65	135
3	PA4	C4-Phenanthrenes/Anthracenes	160	1.9	100	159.5	65	135
3	DBT0	Dibenzothiophene	220	1.9	105	210.91	65	135
3	DBT1	C1-Dibenzothiophenes	450	1.9	113	396.93	65	135
3	DBT2	C2-Dibenzothiophenes	560	1.9	104	538.82	65	135
3	DBT3	C3-Dibenzothiophenes	510	1.9	110	464.97	65	135
3	DBT4	C4-Dibenzothiophenes	270	1.9	109	243.14	65	135
4	BF	Benz(b)fluorene	U	1.9				
4	FL0	Fluoranthene	4.7	1.9	113	4.14	65	135
4	PY0	Pyrene	13	1.9	106	12.07	65	135
4	FP1	C1-Fluoranthenes/Pyrenes	75	1.9	104	72.24	65	135
4	FP2	C2-Fluoranthenes/Pyrenes	120	1.9	102	120.66	65	135
4	FP3	C3-Fluoranthenes/Pyrenes	140	1.9	111	130.08	65	135
4	FP4	C4-Fluoranthenes/Pyrenes	130	1.9				
4	NBT0	Naphthobenzothiophenes	60	1.9				
4	NBT1	C1-Naphthobenzothiophenes	150	1.9				
4	NBT2	C2-Naphthobenzothiophenes	200	1.9				
4	NBT3	C3-Naphthobenzothiophenes	150	1.9				
4	NBT4	C4-Naphthobenzothiophenes	100	1.9				
4	BA0	Benz[a]anthracene	1.7 J	1.9				
4	C0	Chrysene/Triphenylene	48	1.9	96	49.55	65	135
4	BC1	C1-Chrysenes	82	1.9	99	82.86	65	135
4	BC2	C2-Chrysenes	110	1.9	107	102.78	65	135
4	BC3	C3-Chrysenes	110	1.9	103	107.68	65	135
4	BC4	C4-Chrysenes	68	1.9	108	62.56	65	135
5	BBF	Benzo[b]fluoranthene	5.9	1.9	102	5.79	65	135
5	BJKF	Benzo[k]fluoranthene	U	1.9				
5	BAF	Benzo[a]jfluoranthene	U	1.9				
5	BEP	Benzo[e]pyrene	12	1.9	100	12.05	65	135
5	BAP	Benzo[a]pyrene	1.7 J	1.9				
5	PER	Perylene	1.4 J	1.9				
6	IND	Indeno[1,2,3-cd]pyrene	1.2 J	1.9				
5	DA	Dibenz[a,h]anthracene	1.1 J	1.9	115	0.94	65	135
6	GHI	Benzog[h,i]perylene	3.8	1.9	109	3.47	65	135
3	4MDT	4-Methyldibenzothiophene	220	1.9				
3	2MDT	2/3-Methyldibenzothiophene	160	1.9				
3	1MDT	1-Methyldibenzothiophene	65	1.9				
3	3MP	3-Methylphenanthrene	120	1.9				
3	2MP	2/4-Methylphenanthrene	130	1.9				
3	2MA	2-Methylnaphthalene	3.9	1.9				
3	9MP	9-Methylphenanthrene	180	1.9				
3	1MP	1-Methylphenanthrene	130	1.9				

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-19	FPS-20	FPS-21
Lab ID	0702071-01	0702071-02	0702071-03
Matrix	Soil	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C	Modified 8270C
Batch ID	SS022007B17	SS022007B17	SS022007B17
Date Collected	2/15/2007	2/15/2007	2/15/2007
Date Received	2/16/2007	2/16/2007	2/16/2007
Date Prepped	2/20/2007	2/20/2007	2/20/2007
Date Analyzed	2/24/2007	2/24/2007	2/25/2007
Sample Size (wet)	5.52	5.56	20.2
% Solid	78.97	82.3	50.24
File ID	A22250.D	A22253.D	A22255.D
Units	µg/Kg	µg/Kg	µg/Kg
Final Volume	6.67	12.5	28.57
Dilution	1	1	1
Reporting Limit	15	27	28

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	Result	SSRL
2	N0	Naphthalene	830	15	640	27	550	28
2	N1	C1-Naphthalenes	1500	15	1300	27	820	28
2	N2	C2-Naphthalenes	39000	D 3800	22000	27	4800	28
2	N3	C3-Naphthalenes	41000	15	25000	27	7700	28
2	N4	C4-Naphthalenes	12000	15	10000	27	5200	28
2	B	Biphenyl	4100	15	2600	27	490	28
3	DF	Dibenzofuran	58000	D 3800	28000	D 2700	6800	28
3	AY	Acenaphthylene	9500	15	11000	27	7600	28
3	AE	Acenaphthene	64000	D 3800	53000	D 2700	13000	28
3	F0	Fluorene	180000	D 3800	110000	D 2700	25000	28
3	F1	C1-Fluorenes	43000	15	29000	27	8600	28
3	F2	C2-Fluorenes	22000	15	16000	27	7100	28
3	F3	C3-Fluorenes	12000	15	10000	27	6000	28
3	A0	Anthracene	120000	D 3800	100000	D 2700	37000	D 700
3	P0	Phenanthrene	1200000	D 3800	620000	D 2700	130000	D 700
3	PA1	C1-Phenanthrenes/Anthracenes	190000	D 3800	160000	D 2700	40000	28
3	PA2	C2-Phenanthrenes/Anthracenes	65000	15	52000	27	21000	28
3	PA3	C3-Phenanthrenes/Anthracenes	19000	15	16000	27	8200	28
3	PA4	C4-Phenanthrenes/Anthracenes	4200	15	3800	27	2100	28
3	DBT0	Dibenzothiophene	83000	D 3800	44000	D 2700	11000	28
3	DBT1	C1-Dibenzothiophenes	21000	15	16000	27	6300	28
3	DBT2	C2-Dibenzothiophenes	13000	15	13000	27	7800	28
3	DBT3	C3-Dibenzothiophenes	10000	15	10000	27	6700	28
3	DBT4	C4-Dibenzothiophenes	3800	15	4500	27	3400	28
4	BF	Benz(b)fluorene	59000	D 3800	110000	D 2700	51000	D 700
4	FL0	Fluoranthene	860000	D 3800	860000	D 2700	380000	D 700
4	PY0	Pyrene	550000	D 3800	570000	D 2700	260000	D 700
4	FP1	C1-Fluoranthenes/Pyrenes	210000	D 3800	240000	D 2700	130000	D 700
4	FP2	C2-Fluoranthenes/Pyrenes	35000	15	32000	27	17000	28
4	FP3	C3-Fluoranthenes/Pyrenes	12000	15	12000	27	6200	28
4	FP4	C4-Fluoranthenes/Pyrenes	6400	15	5700	27	3600	28
4	NBT0	Naphthobenzothiophenes	49000	D 3800	59000	D 2700	19000	28
4	NBT1	C1-Naphthobenzothiophenes	11000	15	10000	27	5500	28
4	NBT2	C2-Naphthobenzothiophenes	4100	15	4000	27	2700	28
4	NBT3	C3-Naphthobenzothiophenes	2100	15	2300	27	1800	28
4	NBT4	C4-Naphthobenzothiophenes	740	15	1000	27	960	28
4	BA0	Benz(a)anthracene	160000	D 3800	170000	D 2700	110000	D 700
4	CO	Chrysene/Triphenylene	120000	D 3800	150000	D 2700	100000	D 700
4	BC1	C1-Chrysenes	30000	15	34000	27	20000	28
4	BC2	C2-Chrysenes	8900	15	9700	27	6300	28
4	BC3	C3-Chrysenes	6400	15	6600	27	4900	28
4	BC4	C4-Chrysenes	1800	15	2000	27	1700	28
5	BBF	Benz(b)fluoranthene	63000	D 3800	75000	D 2700	59000	D 700
5	BJKF	Benz(k)fluoranthene	65000	D 3800	67000	D 2700	50000	D 700
5	BAF	Benz(a)fluoranthene	13000	15	14000	27	9500	28
5	BEP	Benz(e)pyrene	36000	D 3800	40000	D 2700	25000	28
5	BAP	Benz(a)pyrene	55000	D 3800	62000	D 2700	47000	D 700
5	PER	Perylene	14000	15	15000	27	9600	28
6	IND	Indeno[1,2,3-cd]pyrene	20000	D 3800	25000	27	19000	28
5	DA	Dibenz[a,h]anthracene	7600	15	7500	27	5300	28
6	GHI	Benz[g,h,i]perylene	14000	D 3800	17000	27	13000	28
3	4MDT	4-Methylbenzothiophene	6400	15	5400	27	2200	28
3	2MDT	2/3-Methylbenzothiophene	9400	15	7300	27	2700	28
3	1MDT	1-Methylbenzothiophene	2600	15	1900	27	680	28
3	3MP	3-Methylphenanthrene	48000	D 3800	42000	D 2700	10000	28
3	2MP	2/4-Methylphenanthrene	56000	D 3800	46000	D 2700	9300	28
3	2MA	2-Methylnaphthalene	18000	D 3800	16000	27	7200	28
3	9MP	9-Methylphenanthrene	30000	D 3800	25000	D 2700	8600	28
3	1MP	1-Methylphenanthrene	27000	D 3800	17000	27	4600	28
	TPAH		4827370		4119240		1770500	

Surrogates (% Recovery)			
2-Methylnaphthalene-d10	88	90	88
Pyrene-d10	67	58	75
Benz(b)fluoranthene-d12	80	76	77

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-22	FPS-23
Lab ID	0702071-04	0702071-05
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS022007B17	SS022007B17
Date Collected	2/15/2007	2/15/2007
Date Received	2/16/2007	2/16/2007
Date Prepped	2/20/2007	2/20/2007
Date Analyzed	2/25/2007	2/27/2007
Sample Size (wet)	5.81	5.45
% Solid	78.23	78.91
File ID	A22257.D	A22335.D
Units	µg/Kg	µg/Kg
Final Volume	15.38	2.94
Dilution	1	5
Reporting Limit	34	34

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	N0	Naphthalene	2700	34	2000	34
2	N1	C1-Naphthalenes	1200	34	36000 D	1400
2	N2	C2-Naphthalenes	14000	34	65000 D	1400
2	N3	C3-Naphthalenes	35000	34	31000	34
2	N4	C4-Naphthalenes	14000	34	7900	34
2	B	Biphenyl	290	34	3100	34
3	DF	Dibenzofuran	5600	34	150000 D	1400
3	AY	Acenaphthylene	19000	34	3500	34
3	AE	Acenaphthene	58000 D	3400	160000 D	1400
3	F0	Fluorene	120000 D	3400	220000 D	1400
3	F1	C1-Fluorennes	29000	34	29000	34
3	F2	C2-Fluorennes	18000	34	12000	34
3	F3	C3-Fluorennes	12000	34	7400	34
3	A0	Anthracene	110000 D	3400	87000 D	1400
3	P0	Phanthrene	170000 D	3400	720000 D	1400
3	PA1	C1-Phanthrenes/Anthracenes	130000	34	120000 D	1400
3	PA2	C2-Phanthrenes/Anthracenes	64000	34	36000	34
3	PA3	C3-Phanthrenes/Anthracenes	20000	34	9900	34
3	PA4	C4-Phanthrenes/Anthracenes	5000	34	2100	34
3	DBT0	Dibenzothiophene	41000 D	3400	56000 D	1400
3	DBT1	C1-Dibenzothiophenes	15000	34	14000	34
3	DBT2	C2-Dibenzothiophenes	14000	34	5600	34
3	DBT3	C3-Dibenzothiophenes	10000	34	2400	34
3	DBT4	C4-Dibenzothiophenes	4400	34	720	34
4	BF	Benz(b)fluorene	130000 D	3400	36000 D	1400
4	FL0	Fluoranthene	750000 D	3400	380000 D	1400
4	PY0	Pyrene	510000 D	3400	250000 D	1400
4	FP1	C1-Fluoranthenes/Pyrenes	290000 D	3400	95000 D	1400
4	FP2	C2-Fluoranthenes/Pyrenes	42000	34	17000	34
4	FP3	C3-Fluoranthenes/Pyrenes	17000	34	6400	34
4	FP4	C4-Fluoranthenes/Pyrenes	8300	34	3500	34
4	NBT0	Naphthobenzothiophenes	72000 D	3400	18000	34
4	NBT1	C1-Naphthobenzothiophenes	14000	34	4900	34
4	NBT2	C2-Naphthobenzothiophenes	5000	34	1600	34
4	NBT3	C3-Naphthobenzothiophenes	2600	34	810	34
4	NBT4	C4-Naphthobenzothiophenes	950	34	330	34
4	BA0	Benz(a)anthracene	260000 D	3400	69000 D	1400
4	C0	Chrysene/Triphenylene	300000 D	3400	55000 D	1400
4	BC1	C1-Chrysenes	58000	34	16000	34
4	BC2	C2-Chrysenes	17000	34	5200	34
4	BC3	C3-Chrysenes	13000	34	3300	34
4	BC4	C4-Chrysenes	4400	34	1100	34
5	BBF	Benz(b)fluoranthene	110000 D	3400	26000	34
5	BJKF	Benzol(k)fluoranthene	110000 D	3400	26000	34
5	BAF	Benzol(a)fluoranthene	24000	34	6600	34
5	BEP	Benzol(e)pyrene	65000 D	3400	16000	34
5	BAP	Benzol(a)pyrene	96000 D	3400	27000	34
5	PER	Perylene	24000	34	7000	34
6	IND	Indeno[1,2,3-cd]pyrene	41000 D	3400	13000	34
5	DA	Dibenz[a,h]anthracene	14000	34	3400	34
6	GHI	Benzol(g,h,i)perylene	32000	34	8900	34
3	4MDT	4-Methyldibenzothiophene	4900	34	3600	34
3	2MDT	2/3-Methyldibenzothiophene	6600	34	5500	34
3	1MDT	1-Methyldibenzothiophene	1500	34	1500	34
3	3MP	3-Methylphenanthrene	32000	34	31000	34
3	2MP	2/4-Methylphenanthrene	31000	34	39000 D	1400
3	2MA	2-Methylnaphthalene	23000	34	13000	34
3	9MP	9-Methylnaphthalene	27000	34	21000	34
3	1MP	1-Methylnaphthalene	15000	34	14000	34
	TPAH		4063440		3007260	

Sumogates (% Recovery)		
2-Methylnaphthalene-d10	94	101
Pyrene-d10	54	96
Benzol[b]fluoranthene-d12	76	99

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-23	FPS-23
Lab ID	0702071-05	0702071-05D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS022007B17	SS022007B17
Date Collected	2/15/2007	2/15/2007
Date Received	2/16/2007	2/16/2007
Date Prepped	2/20/2007	2/20/2007
Date Analyzed	2/27/2007	2/27/2007
Sample Size (wet)	5.45	5.3
% Solid	78.91	78.91
File ID	A22335.D	A22339.D
Units	µg/Kg	µg/Kg
Final Volume	2.94	2.94
Dilution	5	5
Reporting Limit	34	35

Class	Abbrev	Analyses	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	2000	34	2200	35	11	30
2	N1	C1-Naphthalenes	36000	D 1400	35000	D 1400	4	30
2	N2	C2-Naphthalenes	65000	D 1400	62000	D 1400	5	30
2	N3	C3-Naphthalenes	31000	34	30000	35	4	30
2	N4	C4-Naphthalenes	7900	34	7500	35	5	30
2	B	Biphenyl	3100	34	3000	35	3	30
3	DF	Dibenzofuran	150000	D 1400	140000	D 1400	6	30
3	AY	Acenaphthylene	3500	34	3200	35	9	30
3	AE	Acenaphthene	160000	D 1400	150000	D 1400	7	30
3	F0	Fluorene	220000	D 1400	200000	D 1400	8	30
3	F1	C1-Fluorenes	29000	34	27000	35	5	30
3	F2	C2-Fluorenes	12000	34	12000	35	7	30
3	F3	C3-Fluorenes	7400	34	6900	35	6	30
3	A0	Anthracene	87000	D 1400	82000	D 1400	6	30
3	P0	Phenanthrene	720000	D 1400	660000	D 1400	8	30
3	PA1	C1-Phenanthrenes/Anthracenes	120000	D 1400	110000	D 1400	11	30
3	PA2	C2-Phenanthrenes/Anthracenes	36000	34	33000	35	8	30
3	PA3	C3-Phenanthrenes/Anthracenes	9900	34	9200	35	7	30
3	PA4	C4-Phenanthrenes/Anthracenes	2100	34	2000	35	5	30
3	DBT0	Dibenzothiophene	56000	D 1400	51000	D 1400	9	30
3	DBT1	C1-Dibenzothiophenes	14000	34	13000	35	7	30
3	DBT2	C2-Dibenzothiophenes	5600	34	5200	35	6	30
3	DBT3	C3-Dibenzothiophenes	2400	34	2300	35	7	30
3	DBT4	C4-Dibenzothiophenes	720	34	680	35	5	30
4	BF	Benzo(b)fluorene	36000	D 1400	30000	D 1400	18	30
4	FL0	Fluoranthene	380000	D 1400	350000	D 1400	9	30
4	PY0	Pyrene	250000	D 1400	230000	D 1400	9	30
4	FP1	C1-Fluoranthenes/Pyrenes	95000	D 1400	82000	D 1400	14	30
4	FP2	C2-Fluoranthenes/Pyrenes	17000	34	16000	35	5	30
4	FP3	C3-Fluoranthenes/Pyrenes	6400	34	6000	35	6	30
4	FP4	C4-Fluoranthenes/Pyrenes	3500	34	3300	35	7	30
4	NBT0	Naphthobenzothiophenes	18000	34	17000	35	7	30
4	NBT1	C1-Naphthobenzothiophenes	4900	34	4600	35	5	30
4	NBT2	C2-Naphthobenzothiophenes	1600	34	1500	35	3	30
4	NBT3	C3-Naphthobenzothiophenes	810	34	730	35	9	30
4	NBT4	C4-Naphthobenzothiophenes	330	34	280	35	16	30
4	BA0	Benz[a]anthracene	69000	D 1400	63000	D 1400	9	30
4	C0	Chrysene/Triphenylene	56000	D 1400	51000	D 1400	8	30
4	BC1	C1-Chrysenes	16000	34	16000	35	5	30
4	BC2	C2-Chrysenes	5200	34	5200	35	2	30
4	BC3	C3-Chrysenes	3300	34	3200	35	3	30
4	BC4	C4-Chrysenes	1100	34	1100	35	1	30
5	BBF	Benzo[b]fluoranthene	26000	34	26000	35	3	30
5	BJKF	Benzo[k]fluoranthene	26000	34	24000	35	7	30
5	BAF	Benzo[a]jfluoranthene	6600	34	6200	35	7	30
5	BEP	Benz[e]pyrene	16000	34	15000	35	4	30
5	BAP	Benzo[a]pyrene	27000	34	26000	35	4	30
5	PER	Perlylene	7000	34	6700	35	4	30
6	IND	Indeno[1,2,3-cd]pyrene	13000	34	12000	35	5	30
5	DA	Dibenz[a,h]anthracene	3400	34	3100	35	10	30
6	GHI	Benzog,h,i]perylene	8900	34	8400	35	5	30
3	4MDT	4-Methylbenzothiophene	3600	34	3400	35	6	30
3	2MDT	2,3-Methylbenzothiophene	5500	34	5100	35	8	30
3	1MDT	1-Methylbenzothiophene	1500	34	1400	35	7	30
3	3MP	3-Methylphenanthrene	31000	34	29000	35	6	30
3	2MP	2,4-Methylphenanthrene	39000	D 1400	35000	D 1400	12	30
3	2MA	2-Methylanthracene	13000	34	12000	35	7	30
3	9MP	9-Methylphenanthrene	21000	34	20000	35	6	30
3	1MP	1-Methylphenanthrene	14000	34	13000	35	7	30
	TPAH		3007260		2774390			

Surrogates (% Recovery)					
2-Methylnaphthalene-d10	101	99	2	30	
Pyrene-d10	96	92	4	30	
Benzo[b]fluoranthene-d12	99	99	0	30	

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Method Blank
Lab ID	SS022007B17
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS022007B17
Date Collected	N/A
Date Received	N/A
Date Prepped	2/20/2007
Date Analyzed	2/23/2007
Sample Size (wet)	30
% Solid	100
File ID	A22211.D
Units	µg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL
2	N0	Naphthalene	U 0.67	
2	N1	C1-Naphthalenes	U 0.67	
2	N2	C2-Naphthalenes	U 0.67	
2	N3	C3-Naphthalenes	U 0.67	
2	N4	C4-Naphthalenes	U 0.67	
2	B	Biphenyl	U 0.67	
3	DF	Dibenzofuran	U 0.67	
3	AY	Acenaphthylene	U 0.67	
3	AE	Acenaphthene	U 0.67	
3	F0	Fluorene	U 0.67	
3	F1	C1-Fluorenes	U 0.67	
3	F2	C2-Fluorenes	U 0.67	
3	F3	C3-Fluorenes	U 0.67	
3	A0	Anthracene	U 0.67	
3	P0	Phenanthrene	0.25 J 0.67	
3	PA1	C1-Phenanthrenes/Anthracenes	U 0.67	
3	PA2	C2-Phenanthrenes/Anthracenes	U 0.67	
3	PA3	C3-Phenanthrenes/Anthracenes	U 0.67	
3	PA4	C4-Phenanthrenes/Anthracenes	U 0.67	
3	DBT0	Dibenzothiophene	U 0.67	
3	DBT1	C1-Dibenzothiophenes	U 0.67	
3	DBT2	C2-Dibenzothiophenes	U 0.67	
3	DBT3	C3-Dibenzothiophenes	U 0.67	
3	DBT4	C4-Dibenzothiophenes	U 0.67	
4	BF	Benz(a)fluorene	U 0.67	
4	FL0	Fluoranthene	0.14 J 0.67	
4	PY0	Pyrene	0.080 J 0.67	
4	FP1	C1-Fluoranthenes/Pyrenes	U 0.67	
4	FP2	C2-Fluoranthenes/Pyrenes	U 0.67	
4	FP3	C3-Fluoranthenes/Pyrenes	U 0.67	
4	FP4	C4-Fluoranthenes/Pyrenes	U 0.67	
4	NBT0	Naphthobenzothiophenes	U 0.67	
4	NBT1	C1-Naphthobenzothiophenes	U 0.67	
4	NBT2	C2-Naphthobenzothiophenes	U 0.67	
4	NBT3	C3-Naphthobenzothiophenes	U 0.67	
4	NBT4	C4-Naphthobenzothiophenes	U 0.67	
4	BA0	Benz[a]anthracene	U 0.67	
4	C0	Chrysene/Triphenylene	U 0.67	
4	BC1	C1-Chrysenes	U 0.67	
4	BC2	C2-Chrysenes	U 0.67	
4	BC3	C3-Chrysenes	U 0.67	
4	BC4	C4-Chrysenes	U 0.67	
5	BBF	Benz[b]fluoranthene	U 0.67	
5	BJKF	Benz[k]fluoranthene	U 0.67	
5	BAF	Benz[a]fluoranthene	U 0.67	
5	BEP	Benz[e]pyrene	U 0.67	
5	BAP	Benz[a]pyrene	U 0.67	
5	PER	Perylene	U 0.67	
6	IND	Indeno[1,2,3-cd]pyrene	U 0.67	
5	DA	Dibenzo[a,h]anthracene	U 0.67	
6	GHI	Benzo[g,h,i]perylene	U 0.67	
3	4MDT	4-Methylbenzothiophene	U 0.67	
3	2MDT	2/3-Methylbenzothiophene	U 0.67	
3	1MDT	1-Methylbenzothiophene	U 0.67	
3	3MP	3-Methylphenanthrene	U 0.67	
3	2MP	2/4-Methylphenanthrene	U 0.67	
3	2MA	2-Methylnaphthalene	U 0.67	
3	9MP	9-Methylphenanthrene	U 0.67	
3	1MP	1-Methylphenanthrene	U 0.67	

Surrogates (% Recovery)

2-Methylnaphthalene-d10	66
Pyrene-d10	84
Benz[b]fluoranthene-d12	85
5B(H)Cholane	

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS022007LCS11
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS022007B17
Date Collected	N/A
Date Received	N/A
Date Prepped	2/20/2007
Date Analyzed	2/23/2007
Sample Size (wet)	30
% Solid	100
File ID	A22219.D
Units	$\mu\text{g}/\text{Kg}$
Final Volume	2
Dilution	1
Reporting Limit	0.67

Class	Abbrev	Analyses	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	24 S	0.67	73	33	50	130
2	N1	C1-Naphthalenes		U	0.67			
2	N2	C2-Naphthalenes		U	0.67			
2	N3	C3-Naphthalenes		U	0.67			
2	N4	C4-Naphthalenes		U	0.67			
2	B	Biphenyl		U	0.67			
3	DF	Dibenzofuran		U	0.67			
3	AY	Acenaphthylene	27 S	0.67	80	33	50	130
3	AE	Acenaphthene	28 S	0.67	85	33	50	130
3	F0	Fluorene	29 S	0.67	86	33	50	130
3	F1	C1-Fluorenes		U	0.67			
3	F2	C2-Fluorenes		U	0.67			
3	F3	C3-Fluorenes		U	0.67			
3	A0	Anthracene	32 S	0.67	98	33	50	130
3	P0	Phenanthrene	35 S	0.67	104	33	50	130
3	PA1	C1-Phenanthrenes/Anthracenes		U	0.67			
3	PA2	C2-Phenanthrenes/Anthracenes		U	0.67			
3	PA3	C3-Phenanthrenes/Anthracenes		U	0.67			
3	PA4	C4-Phenanthrenes/Anthracenes		U	0.67			
3	DBT0	Dibenzothiophene		U	0.67			
3	DBT1	C1-Dibenzothiophenes		U	0.67			
3	DBT2	C2-Dibenzothiophenes		U	0.67			
3	DBT3	C3-Dibenzothiophenes		U	0.67			
3	DBT4	C4-Dibenzothiophenes		U	0.67			
4	BF	Benz(a)fluorene		U	0.67			
4	FL0	Fluoranthene	34 S	0.67	102	33	50	130
4	PY0	Pyrene	34 S	0.67	101	33	50	130
4	FP1	C1-Fluoranthenes/Pyrenes		U	0.67			
4	FP2	C2-Fluoranthenes/Pyrenes		U	0.67			
4	FP3	C3-Fluoranthenes/Pyrenes		U	0.67			
4	FP4	C4-Fluoranthenes/Pyrenes		U	0.67			
4	NBT0	Naphthobenzothiophenes		U	0.67			
4	NBT1	C1-Naphthobenzothiophenes		U	0.67			
4	NBT2	C2-Naphthobenzothiophenes		U	0.67			
4	NBT3	C3-Naphthobenzothiophenes		U	0.67			
4	NBT4	C4-Naphthobenzothiophenes		U	0.67			
4	BA0	Benz[a]anthracene	30 S	0.67	89	33	50	130
4	C0	Chrysene/Triphenylene	28 S	0.67	84	33	50	130
4	BC1	C1-Chrysenes		U	0.67			
4	BC2	C2-Chrysenes		U	0.67			
4	BC3	C3-Chrysenes		U	0.67			
4	BC4	C4-Chrysenes		U	0.67			
5	BBF	Benz[b]fluoranthene	28 S	0.67	84	33	50	130
5	BJKF	Benz[j]fluoranthene	29 S	0.67	88	33	50	130
5	BAF	Benz[a]fluoranthene		U	0.67			
5	BEP	Benz[e]pyrene		U	0.67			
5	BAP	Benz[a]pyrene	30 S	0.67	90	33	50	130
5	PER	Perylene		U	0.67			
6	IND	Indeno[1,2,3- <i>cd</i>]pyrene	30 S	0.67	89	33	50	130
5	DA	Dibenzo[a,h]anthracene	31 S	0.67	92	33	50	130
6	GHI	Benz[g,h,i]perylene	27 S	0.67	80	33	50	130

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 77
 Pyrene-d10 87
 Benzo[b]fluoranthene-d12 88

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS022007LCSD11
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS022007B17
Date Collected	N/A
Date Received	N/A
Date Prepped	2/20/2007
Date Analyzed	2/23/2007
Sample Size (wet)	30
% Solid	100
File ID	A22221.D
Units	µg/Kg
Final Volume	2
Dilution	t
Reporting Limit	0.67

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
2	N0	Naphthalene	24 S	0.67	73	33	50	130	1	30
2	N1	C1-Naphthalenes		U	0.67					
2	N2	C2-Naphthalenes		U	0.67					
2	N3	C3-Naphthalenes		U	0.67					
2	N4	C4-Naphthalenes		U	0.67					
2	B	Biphenyl		U	0.67					
3	DF	Dibenzofuran		U	0.67					
3	AY	Acenaphthylene	27 S	0.67	81	33	50	130	1	30
3	AE	Acenaphthene	27 S	0.67	81	33	50	130	5	30
3	F0	Fluorene	27 S	0.67	80	33	50	130	8	30
3	F1	C1-Fluorenes		U	0.67					
3	F2	C2-Fluorenes		U	0.67					
3	F3	C3-Fluorenes		U	0.67					
3	A0	Anthracene	31 S	0.67	93	33	50	130	3	30
3	P0	Phenanthrene	28 S	0.67	84	33	50	130	22	30
3	PA1	C1-Phenanthrenes/Anthracenes		U	0.67					
3	PA2	C2-Phenanthrenes/Anthracenes		U	0.67					
3	PA3	C3-Phenanthrenes/Anthracenes		U	0.67					
3	PA4	C4-Phenanthrenes/Anthracenes		U	0.67					
3	DBT0	Dibenzothiophene		U	0.67					
3	DBT1	C1-Dibenzothiophenes		U	0.67					
3	DBT2	C2-Dibenzothiophenes		U	0.67					
3	DBT3	C3-Dibenzothiophenes		U	0.67					
3	DBT4	C4-Dibenzothiophenes		U	0.67					
4	BF	Benz[b]fluorene		U	0.67					
4	FL0	Fluoranthene	29 S	0.67	88	33	50	130	14	30
4	PY0	Pyrene	31 S	0.67	93	33	50	130	9	30
4	FP1	C1-Fluoranthenes/Pyrenes		U	0.67					
4	FP2	C2-Fluoranthenes/Pyrenes		U	0.67					
4	FP3	C3-Fluoranthenes/Pyrenes		U	0.67					
4	FP4	C4-Fluoranthenes/Pyrenes		U	0.67					
4	NBT0	Naphthobenzothiophenes		U	0.67					
4	NBT1	C1-Naphthobenzothiophenes		U	0.67					
4	NBT2	C2-Naphthobenzothiophenes		U	0.67					
4	NBT3	C3-Naphthobenzothiophenes		U	0.67					
4	NBT4	C4-Naphthobenzothiophenes		U	0.67					
4	BA0	Benz[a]anthracene	28 S	0.67	87	33	50	130	2	30
4	C0	Chrysene/Triphenylene	28 S	0.67	84	33	50	130	0	30
4	BC1	C1-Chrysenes		U	0.67					
4	BC2	C2-Chrysenes		U	0.67					
4	BC3	C3-Chrysenes		U	0.67					
4	BC4	C4-Chrysenes		U	0.67					
5	BBF	Benz[b]fluoranthene	28 S	0.67	84	33	50	130	0	30
5	BJKF	Benz[j]fluoranthene	29 S	0.67	88	33	50	130	0	30
5	BAF	Benz[a]jfluoranthene		U	0.67					
5	BEP	Benz[e]pyrene		U	0.67					
5	BAP	Benz[a]pyrene	30 S	0.67	89	33	50	130	1	30
5	PER	Perylene		U	0.67					
6	IND	Indeno[1,2,3-cd]pyrene	29 S	0.67	87	33	50	130	2	30
5	DA	Dibenzo[a,h]anthracene	31 S	0.67	93	33	50	130	0	30
6	GHI	Benz[g,h,i]perylene	27 S	0.67	82	33	50	130	2	30

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 77
 Pyrene-d10 87
 Benzo[b]fluoranthene-d12 87

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Alaska North Slope Crude
Lab ID	SS012407AWS01
Matrix	Oil
Reference Method	Modified B270C
Batch ID	N/A
Date Collected	N/A
Date Received	N/A
Date Prepped	N/A
Date Analyzed	1/23/2007
Sample Size (wet)	0.052
% Solid	100
File ID	A21502.D
Units	mg/Kg
Final Volume	10
Dilution	1
Reporting Limit	1.9

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	
2	N0	Naphthalene	660	1.9	98	669.92	65	135	
2	N1	C1-Naphthalenes	1400	1.9	101	1432.05	65	135	
2	N2	C2-Naphthalenes	1800	1.9	102	1770.37	65	135	
2	N3	C3-Naphthalenes	1400	1.9	108	1321.83	65	135	
2	N4	C4-Naphthalenes	750	1.9	102	731.64	65	135	
2	B	Biphenyl	220	1.9	113	190.36	65	135	
3	DF	Dibenzofuran	69	1.9					
3	AY	Acenaphthylene	9.7	1.9					
3	AE	Acenaphthene	19	1.9	127	14.71	65	135	
3	F0	Fluorene	88	1.9	113	77.57	65	135	
3	F1	C1-Fluorenes	200	1.9	100	203.54	65	135	
3	F2	C2-Fluorenes	330	1.9	104	314.43	65	135	
3	F3	C3-Fluorenes	310	1.9	107	290.03	65	135	
3	A0	Anthracene	U	1.9					
3	P0	Phenanthrene	270	1.9	102	259.89	65	135	
3	PA1	C1-Phenanthrenes/Anthracenes	570	1.9	105	545.98	65	135	
3	PA2	C2-Phenanthrenes/Anthracenes	630	1.9	106	587.89	65	135	
3	PA3	C3-Phenanthrenes/Anthracenes	440	1.9	102	428.71	65	135	
3	PA4	C4-Phenanthrenes/Anthracenes	160	1.9	100	159.5	65	135	
3	DBT0	Dibenzothiophene	220	1.9	105	210.91	65	135	
3	DBT1	C1-Dibenzothiophenes	450	1.9	113	396.93	65	135	
3	DBT2	C2-Dibenzothiophenes	560	1.9	104	538.82	65	135	
3	DBT3	C3-Dibenzothiophenes	510	1.9	110	464.97	65	135	
3	DBT4	C4-Dibenzothiophenes	270	1.9	109	243.14	65	135	
4	BF	Benz(b)fluorene	U	1.9					
4	FL0	Fluoranthene	4.7	1.9	113	4.14	65	135	
4	PY0	Pyrene	13	1.9	106	12.07	65	135	
4	FP1	C1-Fluoranthenes/Pyrenes	75	1.9	104	72.24	65	135	
4	FP2	C2-Fluoranthenes/Pyrenes	120	1.9	102	120.66	65	135	
4	FP3	C3-Fluoranthenes/Pyrenes	140	1.9	111	130.08	65	135	
4	FP4	C4-Fluoranthenes/Pyrenes	130	1.9					
4	NBT0	Naphthobenzothiophenes	60	1.9					
4	NBT1	C1-Naphthobenzothiophenes	150	1.9					
4	NBT2	C2-Naphthobenzothiophenes	200	1.9					
4	NBT3	C3-Naphthobenzothiophenes	150	1.9					
4	NBT4	C4-Naphthobenzothiophenes	100	1.9					
4	BA0	Benz[a]anthracene	1.7	J	1.9				
4	C0	Chrysene/Triphenylene	48	1.9	96	49.55	65	135	
4	BC1	C1-Chrysenes	82	1.9	99	82.86	65	135	
4	BC2	C2-Chrysenes	110	1.9	107	102.78	65	135	
4	BC3	C3-Chrysenes	110	1.9	103	107.68	65	135	
4	BC4	C4-Chrysenes	68	1.9	108	62.56	65	135	
5	BBF	Benz[b]fluoranthene	5.9	1.9	102	5.79	65	135	
5	BJKF	Benzo[k]fluoranthene	U	1.9					
5	BAF	Benzo[a]fluoranthene	U	1.9					
5	BEP	Benz[e]pyrene	12	1.9	100	12.05	65	135	
5	BAP	Benzo[a]pyrene	1.7	J	1.9				
5	PER	Perylene	1.4	J	1.9				
6	IND	Indeno[1,2,3-cd]pyrene	1.2	J	1.9				
5	DA	Dibenzo[a,h]anthracene	1.1	J	1.9	115	0.94	65	135
6	GHI	Benzo[g,h,i]perylene	3.8	1.9	109	3.47	65	135	
3	4MDT	4-Methyldibenzothiophene	220	1.9					
3	2MDT	2/3-Methyldibenzothiophene	160	1.9					
3	1MDT	1-Methyldibenzothiophene	65	1.9					
3	3MP	3-Methylphenanthrene	120	1.9					
3	2MP	2/4-Methylphenanthrene	130	1.9					
3	2MA	2-Methylnaphthalene	3.9	1.9					
3	9MP	9-Methylnaphthalene	160	1.9					
3	1MP	1-Methylnaphthalene	130	1.9					

NEWFIELDS

List of Potential Qualifiers

- U: The analyte was analyzed for but not detected at the sample specific level reported.
- B: Found in associated blank as well as sample.
- J: Estimated value, below quantitation limit.
- E: Estimated value, exceeds the upper limit of calibration.
- NA: Not Applicable
- D: Secondary Dilution Performed
- D1: Tertiary Dilution Performed
- *: Value outside of QC limits.
- S: Surrogate value outside of acceptable range.
- X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
- G: Matrix Interference.
- P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
- I: Due to Interference, the lower value is reported.
- N: Spike recovery outside control limits.
- E: Estimated due to Interference. (Metals)
- A: Duplicate outside control limits.
- P: Spike compound. (Metals)
- J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
- C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)



NEWFIELDS

new INSIGHT | new DIRECTION | new DECISION

Tronox-Columbus
September 2006 Investigation
Data Deliverable #8

Chain of Custody



Chain of Custody

Environmental Forensics Practice LLC

Proj. Name: Tronox Columbus, MS

Proj. No. 0259372

Samplers: Signature

Matthew Keller / ERM

100 Ledgewood Place, Suite 302, Rockland, MA 02370

ph: 781-681-5040 fax: 781-681-5048

Client Info: (Name/Address/Phone/Email)

ERM Southwicks Inc
(226) 292 - 3001

Jon.Hamilton@ERM.com

Other THF Releaser

Total Number of containers

ANALYSIS REQUESTED (# of containers)

Pesticides

PCB

METALS

Organic Lead

PIANO - VOA

GCMS-Biomarkers

GCMS-Aromatic PAH

GC-FID-TPH (C₈ +)

Organic Compounds

PCP

Organic Solvents

Organic Acids

Organic Fluorine

Organic Sulfur

Organic Nitrogen

Organic Phosphorus

Organic Chlorine

Organic Arsenic

Organic Cadmium

Organic Mercury

Organic Zinc

Organic Iron

Organic Copper

Organic Nickel

Organic Manganese

Organic Cobalt

Organic Barium

Organic Lead

Organic Chromium

Organic Vanadium

Organic Molybdenum

Organic Tin

Organic Antimony

Organic Bismuth

Organic Tellurium

Organic Ruthenium

Organic Rhodium

Organic Osmium

Organic Iridium

Organic Platinum

Organic Gold

Organic Palladium

Organic Silver

Organic Mercury

Organic Cadmium

Organic Zinc

Organic Iron

Organic Copper

Organic Nickel

Organic Manganese

Organic Cobalt

Organic Barium

Relinquished by: Matthew Keller / ERM Date 7/6/07 Time 1745 Received by: Federal Express

Relinquished by: FED EX Date 7/7/07 Time 0835 Received by: Robert Pounds w/Tronox for any question

Relinquished by: Date 7/7/07 Time 0935 Received by: Robert Pounds w/Tronox Email report to Robert.Pounds@Tronox.com

Comments: Rush! FPS-5, FPS-7, and FPS-9 to Fed Ex and Robert Pounds w/Tronox for any question

Contact Robert Pounds w/Tronox for any question (401) 615-8686

Email report to Robert.Pounds@Tronox.com

Jon.Hamilton@ERM.com

Sample Receipt Checklist

Page 1 of 1

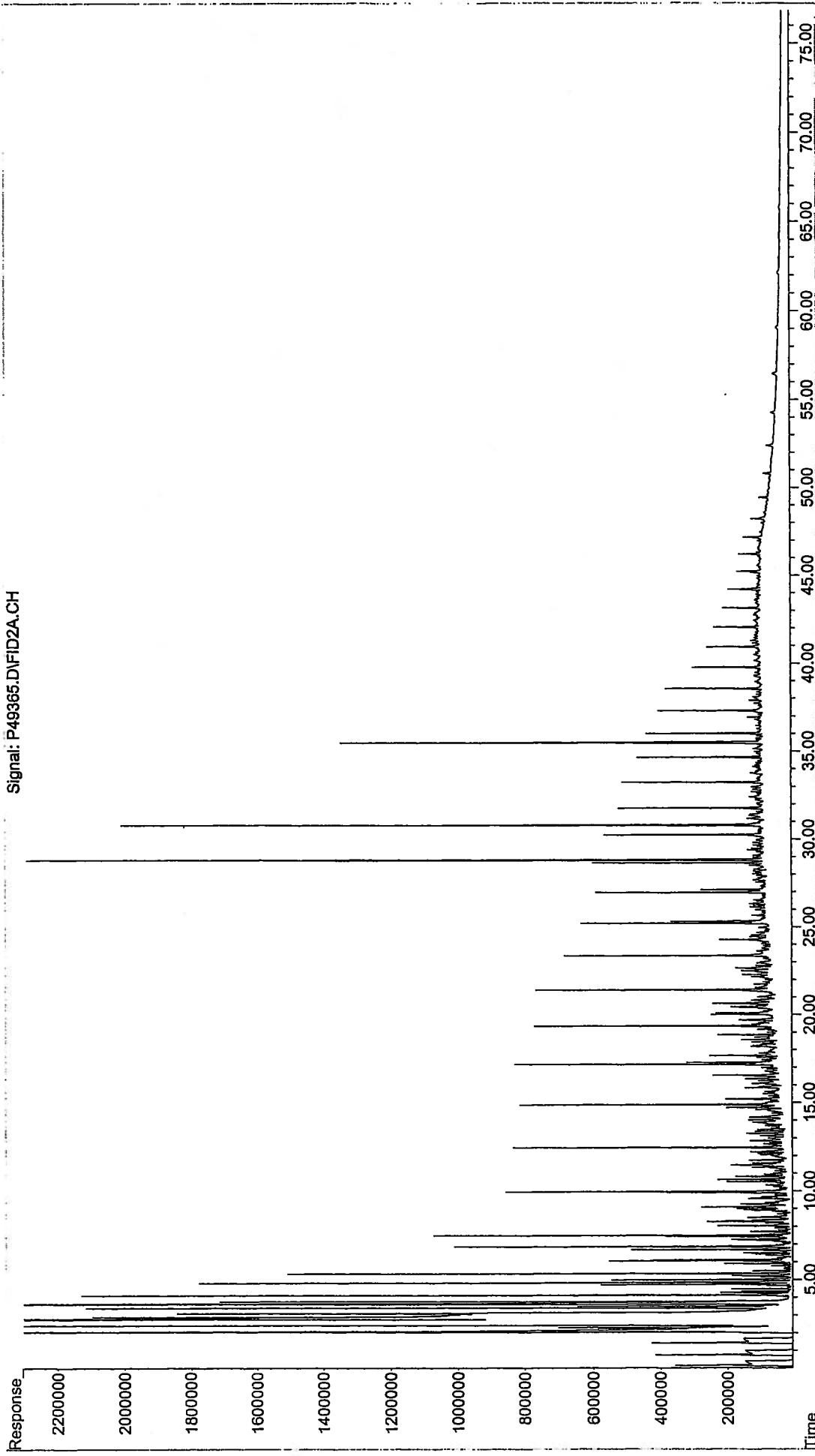
Client: NEWPIE	Receipt Date: 2/7/07
Project: Tronox - Columbus	Log-in Date: 2/8/07
ETR #: 0702028	Inspection by: UR Login by: UR

ALL SECTIONS BELOW MUST BE COMPLETED

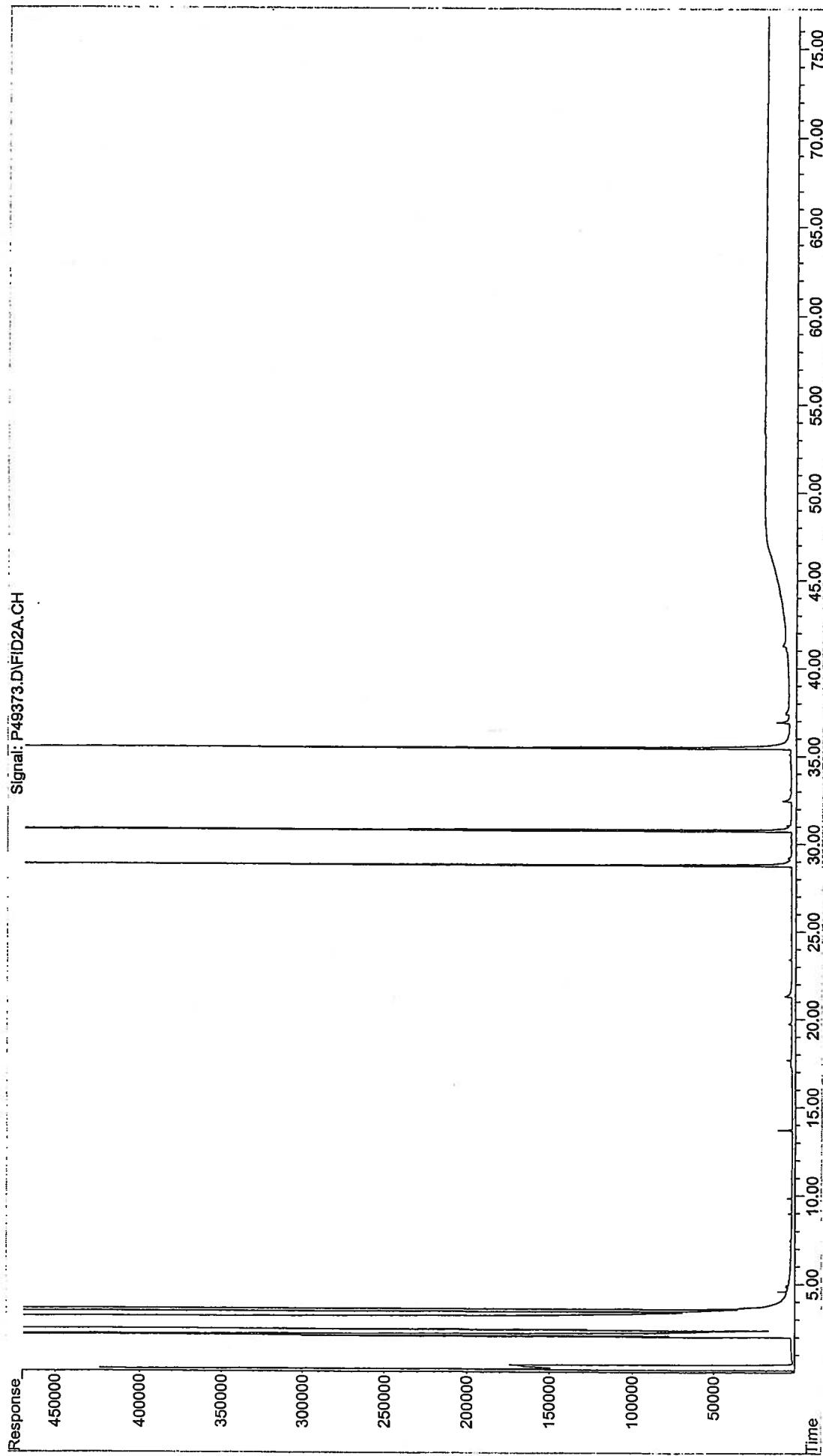
		Comments / Notes
Were samples shipped?	<input checked="" type="checkbox"/> Yes, FedEx / UPS / Other: _____ <input type="checkbox"/> No, WHG Courier pick-up / Hand delivered	Sample storage refrigerator #: W 03
Is bill of lading retained?	Yes, Tracking #: AT7260 <input type="checkbox"/> No, Unavailable / NA	Sample storage freezer #: 7
Number of coolers received for this project delivery: 1		
Indicate cooler temperature upon opening (if multiple coolers, record <u>all</u> temps): <u>Note:</u> If <u>all</u> coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note <u>all</u> samples received <u>above</u> 6°C.		
Cooler 1:	Temperature(s) taken from: 40 IR Gun, 35 Temp. Blank, / NA	
Were samples received on ice?	<input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	Cooler 2: _____ Cooler 3: _____
Chain-of-Custody present?	<input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	Cooler 4: _____ Cooler 5: _____
Complete?	<input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	Cooler 6: _____ Cooler 7: _____
Custody seals present on Cooler? on Bottles? Intact?	<input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes / <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No / NA	More: _____
<u>Note:</u> Affix custody seals to back of this page.		
Were sample containers intact?	<input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	If No, list samples: →
Did VOA/VPH waters contain headspace (>5mm)? Yes / No / NA	If Yes, list samples: →	
Were 5035 VOA soils, or VPH soils, covered with MeOH? Yes / No / NA	If No, list samples: →	
Was a sufficient amount of sample received for each test indicated on the COC? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No	If No, list samples: →	
<i>If chemical preservation is appropriate -</i>		
Were samples field preserved?	<input type="checkbox"/> Yes / <input type="checkbox"/> No / <input checked="" type="checkbox"/> NA	Chemical preservation OK for ALL samples?
<input type="checkbox"/> C=HCl <input type="checkbox"/> M=MeOH <input type="checkbox"/> S=H ₂ SO ₄ <input type="checkbox"/> H=NaOH <input type="checkbox"/> N=NHO ₃ , <input type="checkbox"/> Other: _____ <input type="checkbox"/> U=Unknown		
<input type="checkbox"/> Yes / <input type="checkbox"/> No / <input checked="" type="checkbox"/> N/A		
Preservation (pH) verified at lab for <u>EVERY</u> bottle? (<u>Note:</u> VOA / VPH / Sulfide)		
YES: <2 or >12 (CN) or NO <input type="checkbox"/> NA		
If No, why?: _____		
Were samples received within hold time? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No If No, list samples: →		
Discrepancy between samples rec'd & COC? <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No If Yes, list samples: →		
Was the Project Manager notified of any other problems? <input type="checkbox"/> Yes / <input type="checkbox"/> No / <input checked="" type="checkbox"/> NA		
Project Manager Acknowledgement: URP		Date: 2/8/07
<i>Please use back for any additional notes!</i>		

FID Chromatograms

File : Y:\2007 AWHL DATA\Tronox Columbus\0703095\FID Data\P49365.D
Operator : AC
Acquired : 03 Apr 2007 1:32 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name : TS040407AWS01
Misc Info : LX
Vial Number: 53

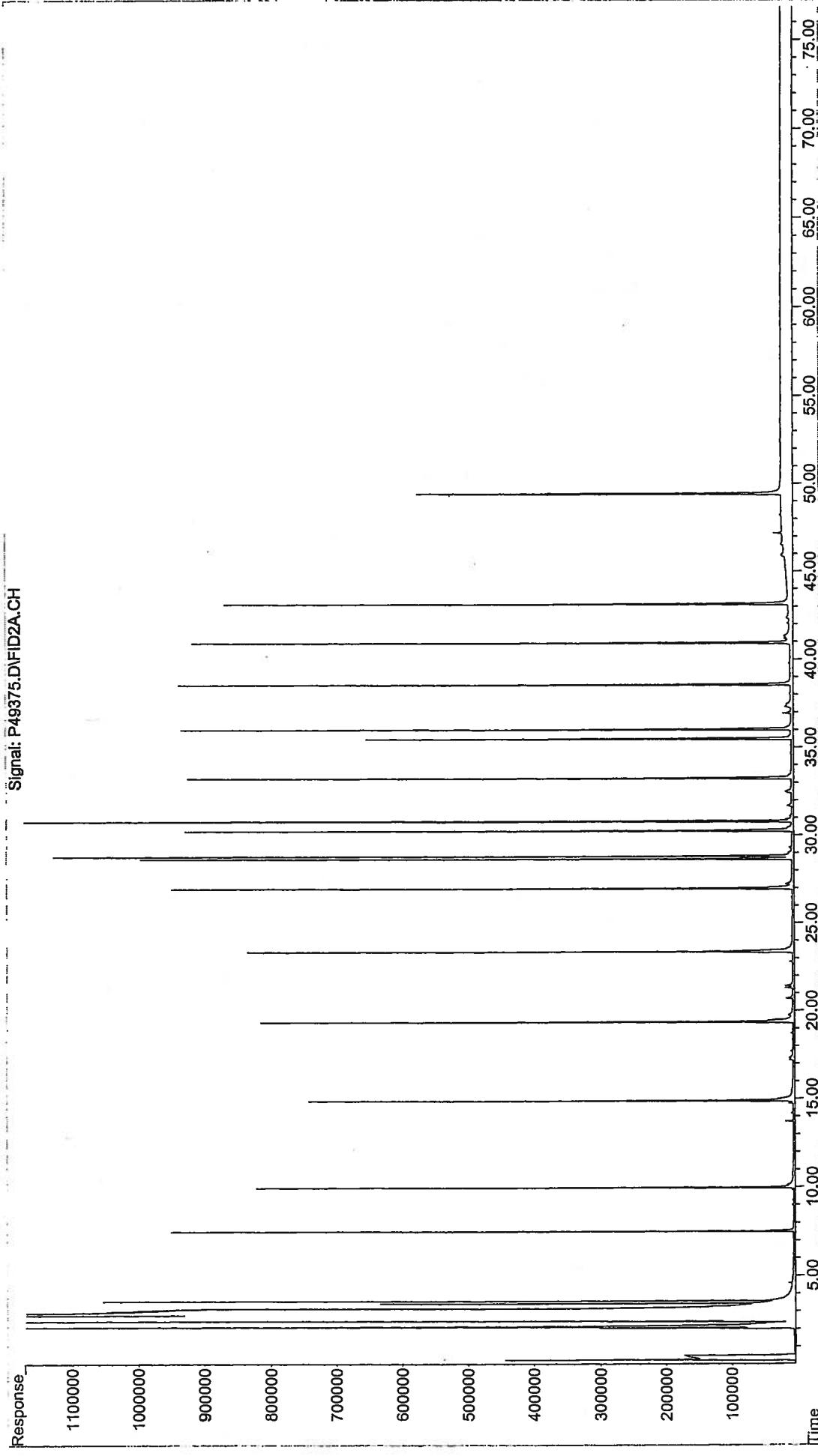


File : Y:\2007 AWHL DATA\Tronox Columbus\0703095\FID Data\P49373.D
Operator : AC
Acquired : 03 Apr 2007 7:39 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: SS032807B04-AFID
Misc Info : LX ETR0703095
Vial Number: 57



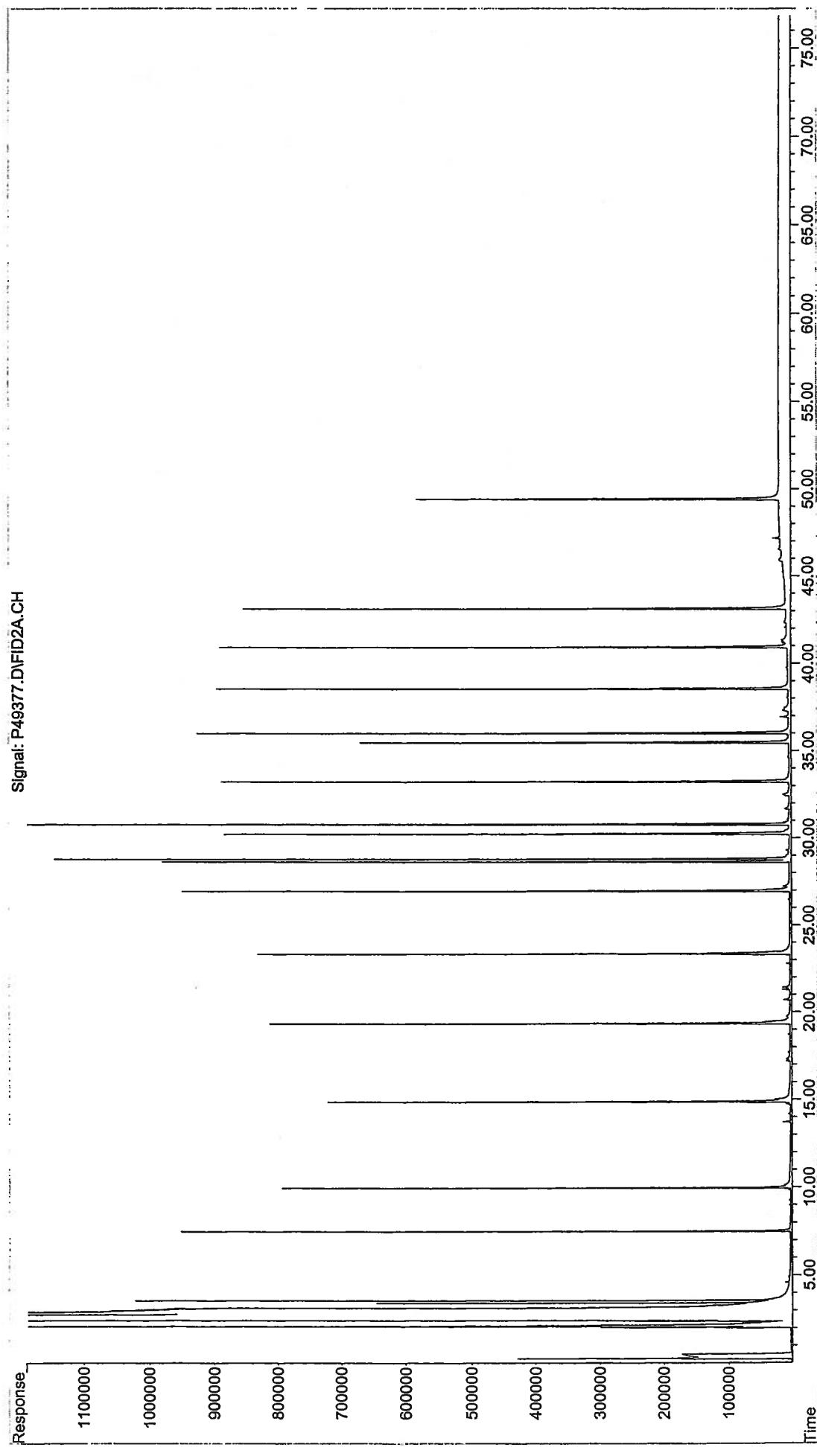
File : Y:\2007\AWHL\DATA\Tronox Columbus\0703095\FID Data\P49375.D
Operator : AC
Acquired : 03 Apr 2007 9:10 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: SS032807LCS01-AFID
Misc Info : 1X ETR0703095
Vial Number: 58

Lab Control Sample
SS032807LCS01



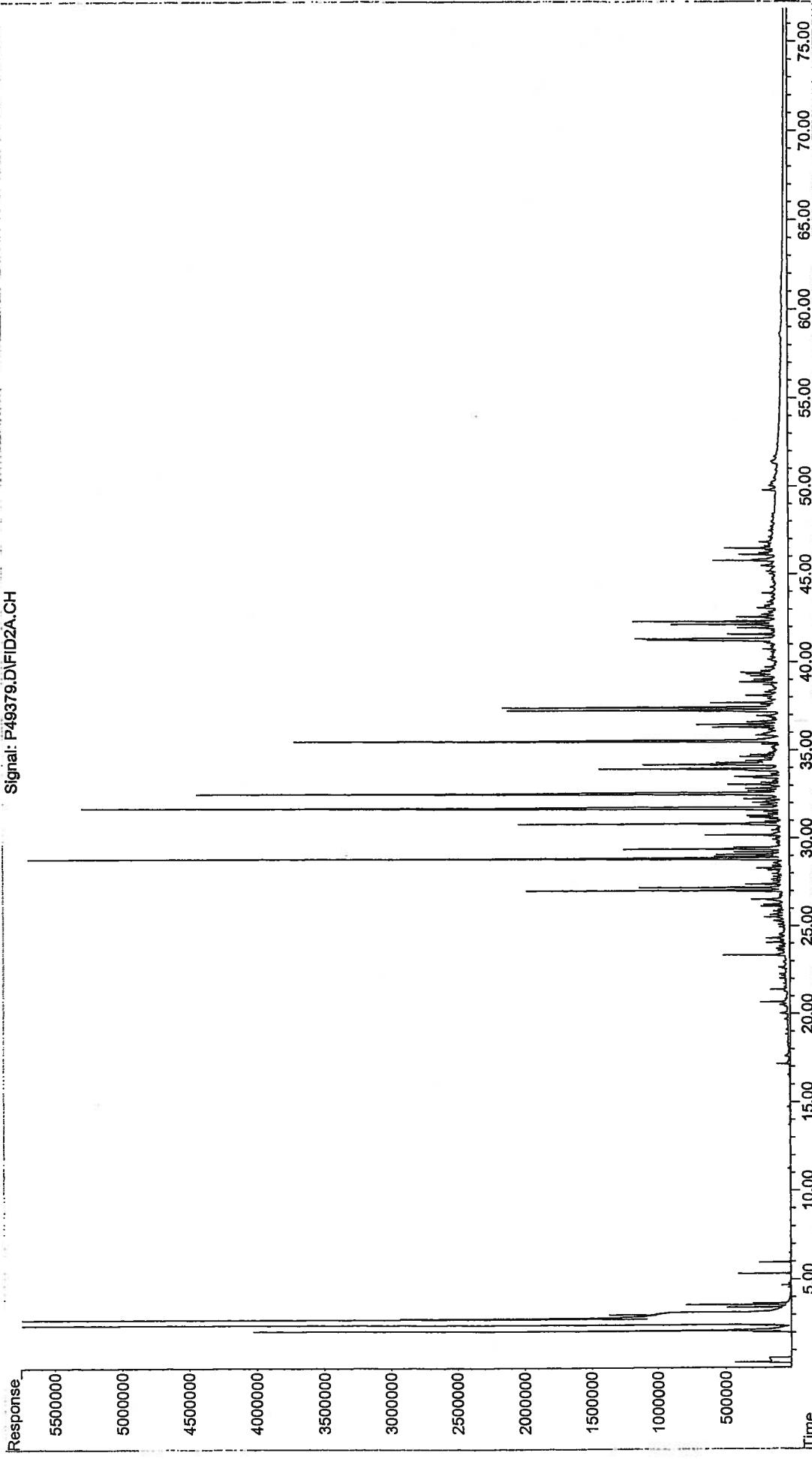
File : Y:\2007 AWHL DATA\Tronox Columbus\0703095\FID Data\P49377.D
Operator : AC
Acquired : 03 Apr 2007 10:41 pm using AcqMethod FRNC4.B.M
Instrument : PAH-4
Sample Name: SS032807LCSD01-AFID
Misc Info : 1X ETR0703095
Vial Number: 59

Lab Control Sample Duplicate
SS032807LCSD01

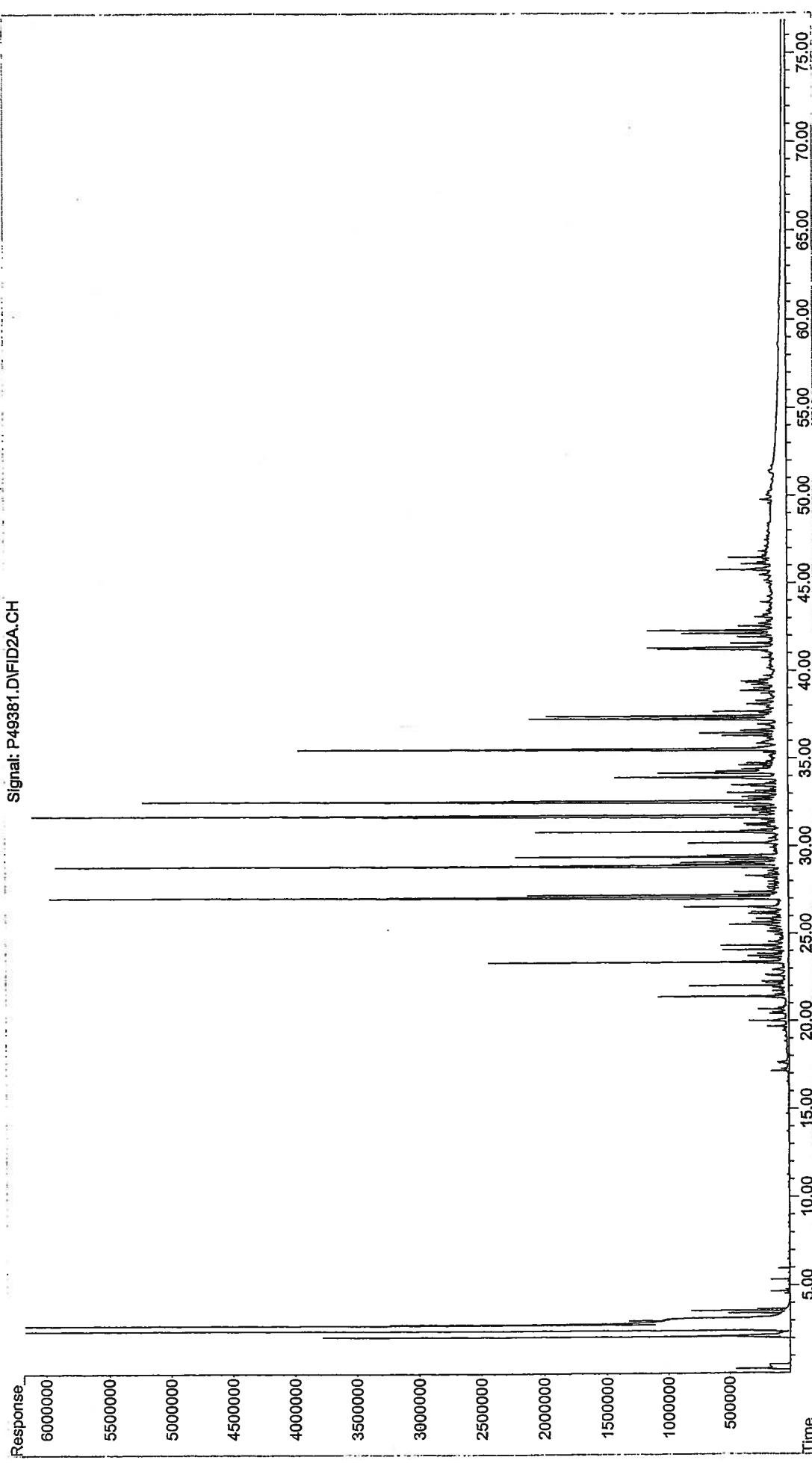


File : Y:\2007 ANHL DATA\Tronox Columbus\0703095\FID Data\P49379.D
Operator : AC
Acquired : 04 Apr 2007 12:12 am using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: 0703095-01-AFID
Misc Info : 1X
Vial Number: 60

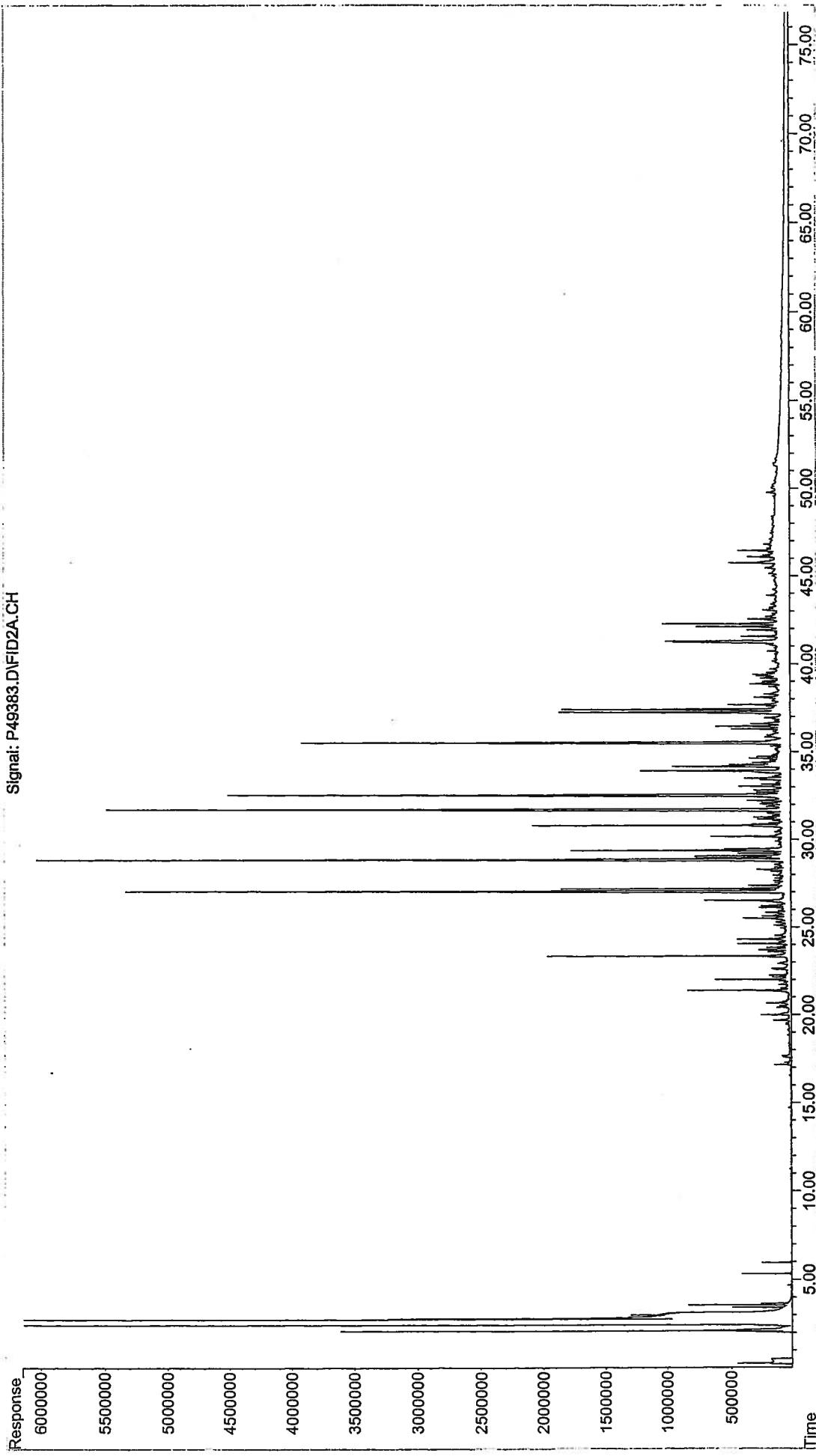
Signal: P49379.D\FID2A.CH



File :Y:\2007 AWHL DATA\Tronox Columbus\0703095\FID Data\P49381.D
Operator : AC
Acquired : 04 Apr 2007 1:43 am using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: 0703095-02-AFID
Misc Info : 1X
Vial Number: 61



File : Y:\2007 AWHL DATA\Tronox Columbus\0703095\FID Data\P49383.D
Operator : AC
Acquired : 04 Apr 2007 3:14 am using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name : 0703095-02D-AFID
Misc Info : 1X
Vial Number: 62



Data Tables

Saturated Hydrocarbon Data

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	FPS-6	FPS-8
Lab ID	0703095-01	0703095-02
Matrix	Soil	Soil
Reference Method	SHC	SHC
Batch ID	SS032807B04	SS032807B04
Date Collected	2/6/2007	2/6/2007
Date Received	2/7/2007	2/7/2007
Date Prepped	3/28/2007	3/28/2007
Date Analyzed	4/4/2007	4/4/2007
Sample Size (wet)	10.01	10.05
% Solid	80.7	78.96
File ID	P49379.D	P49381.D
Units	mg/Kg	mg/Kg
Final Volume	5.56	5
Dilution	1	1
Reporting Limit	23	21

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	2800	23	3400	21

Surrogates (% Recovery)
ortho-Terphenyl 104
d50-Tetracosane 108 123
 121

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	FPS-8	FPS-8
Lab ID	0703095-02	0703095-02D
Matrix	Soil	Soil
Reference Method	SHC	SHC
Batch ID	SS032807B04	SS032807B04
Date Collected	2/6/2007	2/6/2007
Date Received	2/7/2007	2/7/2007
Date Prepped	3/28/2007	3/28/2007
Date Analyzed	4/4/2007	4/4/2007
Sample Size (wet)	10.05	10.08
% Solid	78.96	78.96
File ID	P49381.D	P49383.D
Units	mg/Kg	mg/Kg
Final Volume	5	5
Dilution	1	1
Reporting Limit	21	21

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
SHC	TPH	Total Petroleum Hydrocarbons	3400	21	2800	21	19	30

Surrogates (% Recovery)								
ortho-Terphenyl	123	117	5	30				
d50-Tetracosane	121	115	5	30				

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID	Method Blank
Lab ID	SS032807B04
Matrix	Soil
Reference Method	SHC
Batch ID	SS032807B04
Date Collected	N/A
Date Received	N/A
Date Prepped	3/28/2007
Date Analyzed	4/3/2007
Sample Size (wet)	10
% Solid	100
File ID	P49373.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	6.6

Class	Abbrev	Analytes	Result	SSRL
SHC	TPH	Total Petroleum Hydrocarbons	U	6.6

Surrogates (% Recovery)	
ortho-Terphenyl	96
d50-Tetracosane	99

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS032807LCS01
Matrix	Soil
Reference Method	SHC
Batch ID	SS032807B04
Date Collected	N/A
Date Received	N/A
Date Prepped	3/28/2007
Date Analyzed	4/3/2007
Sample Size (wet)	10
% Solid	100
File ID	P49375.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.2

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	C9	n-Nonane (C9)	3.5 S	0.20	70	5.0	50	130
SHC	C10	n-Decane (C10)	3.7 S	0.20	75	5.0	50	130
SHC	C12	n-Dodecane (C12)	4.2 S	0.20	84	5.0	50	130
SHC	C14	n-Tetradecane (C14)	4.4 S	0.20	89	5.0	50	130
SHC	C16	n-Hexadecane (C16)	4.6 S	0.20	92	5.0	50	130
SHC	C18	n-Octadecane (C18)	5.0 S	0.20	100	5.0	50	130
SHC	C19	n-Nonadecane (C19)	5.2 S	0.20	104	5.0	50	130
SHC	C20	n-Eicosane (C20)	4.9 S	0.20	98	5.0	50	130
SHC	C22	n-Docosane (C22)	5.4 S	0.20	109	5.0	50	130
SHC	C24	n-Tetracosane (C24)	5.2 S	0.20	104	5.0	50	130
SHC	C26	n-Hexacosane (C26)	5.2 S	0.20	104	5.0	50	130
SHC	C28	n-Octacosane (C28)	5.1 S	0.20	103	5.0	50	130
SHC	C30	n-Triacontane (C30)	5.2 S	0.20	103	5.0	50	130
SHC	C36	n-Hexatriacontane (C36)	4.9 S	0.20	98	5.0	50	130
SHC	TPH	Total Petroleum Hydrocarbons	62	6.6				

Surrogates (% Recovery)
 ortho-Terphenyl: 103
 d50-Tetracosane: 109

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS032807LCSD01
Matrix	Soil
Reference Method	SHC
Batch ID	SS032807B04
Date Collected	N/A
Date Received	N/A
Date Prepped	3/28/2007
Date Analyzed	4/3/2007
Sample Size (wet)	10
% Solid	100
File ID	P49377.D
Units	mg/Kg
Final Volume	2
Dilution	1
Reporting Limit	0.2

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
SHC	C9	n-Nonane (C9)	3.5 S	0.20	71	5.0	50	130	0	30
SHC	C10	n-Decane (C10)	3.7 S	0.20	73	5.0	50	130	2	30
SHC	C12	n-Dodecane (C12)	4.1 S	0.20	82	5.0	50	130	3	30
SHC	C14	n-Tetradecane (C14)	4.4 S	0.20	87	5.0	50	130	1	30
SHC	C16	n-Hexadecane (C16)	4.6 S	0.20	92	5.0	50	130	t	30
SHC	C18	n-Octadecane (C18)	5.0 S	0.20	99	5.0	50	130	1	30
SHC	C19	n-Nonadecane (C19)	5.1 S	0.20	103	5.0	50	130	1	30
SHC	C20	n-Eicosane (C20)	5.2 S	0.20	104	5.0	50	130	6	30
SHC	C22	n-Docosane (C22)	5.4 S	0.20	108	5.0	50	130	1	30
SHC	C24	n-Tetracosane (C24)	5.2 S	0.20	104	5.0	50	130	0	30
SHC	C26	n-Hexacosane (C26)	5.2 S	0.20	103	5.0	50	130	1	30
SHC	C28	n-Octacosane (C28)	5.0 S	0.20	101	5.0	50	130	2	30
SHC	C30	n-Triacontane (C30)	5.1 S	0.20	102	5.0	50	130	1	30
SHC	C36	n-Hexatriacontane (C36)	4.9 S	0.20	98	5.0	50	130	0	30
SHC	TPH	Total Petroleum Hydrocarbons	61		6.6					

Surrogates (% Recovery)
 ortho-Terphenyl
 d50-Tetracosane

104

110

NEWFIELDS

Project Name: Tronox-Columbus
Project Number:

Client ID: Alaska North Slope Caves
 Lab ID: TS040407AWS01
 Matrix: Oil
 Reference Method: SHC
 Batch ID: N/A
 Date Collected: N/A
 Date Received: N/A
 Date Prepped: N/A
 Date Analyzed: 4/3/2007
 Sample Size (wet): 0.052
 % Solid: 100
 File ID: P49365.D
 Units: mg/Kg
 Final Volume: 10
 Dilution: 1
 Reporting Limit: 190

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
SHC	TPH	Total Petroleum Hydrocarbons	590000	6400	94	623913	65	135

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
": Value outside of QC Limits.
§: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to Interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to Interference. (Metals)
¤: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

Priority Pollutant PAH Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-6	FPS-8
Lab ID	0703095-01	0703095-02
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS032807B04	SS032807B04
Date Collected	2/6/2007	2/6/2007
Date Received	2/7/2007	2/7/2007
Date Prepped	3/28/2007	3/28/2007
Date Analyzed	4/3/2007	4/3/2007
Sample Size (wet)	10.01	10.05
% Solid	80.7	78.96
File ID	P49372.D	P49374.D
Units	$\mu\text{g}/\text{Kg}$	$\mu\text{g}/\text{Kg}$
Final Volume	5.56	5
Dilution	1	1
Reporting Limit	6.9	6.3

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	NO	Naphthalene	690	6.9	540	6.3
3	AY	Acenaphthylene	4200	6.9	3900	6.3
3	AE	Acenaphthene	1900	6.9	12000 D	630
3	F0	Fluorene	6200 D	690	32000 D	630
3	A0	Anthracene	20000 D	690	36000 D	630
3	P0	Phenanthrene	30000 D	690	150000 D	630
4	FL0	Fluoranthene	170000 D	690	200000 D	630
4	PY0	Pyrene	120000 D	690	130000 D	630
4	BA0	Benz[a]anthracene	43000 D	690	40000 D	630
4	C0	Chrysene/Triphenylene	45000 D	690	38000 D	630
5	BBF	Benzo[b]fluoranthene	22000 D	690	20000 D	630
5	BJKF	Benzo[k]fluoranthene	23000 D	690	21000 D	630
5	BAP	Benz[a]pyrene	18000 D	690	17000 D	630
6	IND	Indeno[1,2,3-cd]pyrene	8700 D	690	7500 D	630
5	DA	Dibenz[a,h]anthracene	3500	6.9	3000	6.3
6	GHI	Benzo[g,h,i]perylene	7700 D	690	6700 D	630
	TPAH		523890		717640	

Surrogates (% Recovery)		
2-Methylnaphthalene-d10	91	94
Pyrene-d10	96	98
Benz[b]fluoranthene-d12	92	95

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-8	FPS-8
Lab ID	0703095-02	0703095-02D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS032807B04	SS032807B04
Date Collected	2/6/2007	2/6/2007
Date Received	2/7/2007	2/7/2007
Date Prepped	3/28/2007	3/28/2007
Date Analyzed	4/3/2007	4/3/2007
Sample Size (wet)	10.05	10.08
% Solid	78.96	78.96
File ID	P49374.D	P49376.D
Units	$\mu\text{g}/\text{Kg}$	$\mu\text{g}/\text{Kg}$
Final Volume	5	5
Dilution	1	1
Reporting Limit	6.3	6.3

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	540	6.3	580	6.3	8	30
3	AY	Acenaphthylene	3900	6.3	3200	6.3	21	30
3	AE	Acenaphthene	12000	D 630	9600	D 630	26	30
3	F0	Fluorene	32000	D 630	24000	D 630	27	30
3	A0	Anthracene	36000	D 630	30000	D 630	16	30
3	P0	Phenanthrene	150000	D 630	130000	D 630	18	30
4	FL0	Fluoranthene	200000	D 630	160000	D 630	23	30
4	PY0	Pyrene	130000	D 630	100000	D 630	22	30
4	BA0	Benz[a]anthracene	40000	D 630	33000	D 630	17	30
4	C0	Chrysene/Triphenylene	38000	D 630	34000	D 630	11	30
5	BBF	Benz[b]fluoranthene	20000	D 630	17000	D 630	16	30
5	BJKF	Benzo[k]fluoranthene	21000	D 630	18000	D 630	14	30
5	BAP	Benz[a]pyrene	17000	D 630	15000	D 630	14	30
6	IND	Indeno[1,2,3-cd]pyrene	7500	D 630	6500	D 630	14	30
5	DA	Dibenz[a,h]anthracene	3000	6.3	2600	6.3	16	30
6	GHI	Benzof[a,h,j]perylene	6700	D 630	5600	D 630	17	30
		TPAH	717640		589080			

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 94 94 0 30
 Pyrene-d10 98 96 2 30
 Benzo[b]fluoranthene-d12 95 90 5 30

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
*: Value outside of QC Limits.
S: Surrogate value outside of acceptable range.
X: It is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to Interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to Interference. (Metals)
d: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL_n or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)

Parent and Alkylated PAH Data

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-6	FPS-8
Lab ID	0703095-01	0703095-02
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS032807B04	SS032807B04
Date Collected	2/6/2007	2/6/2007
Date Received	2/7/2007	2/7/2007
Date Prepped	3/28/2007	3/28/2007
Date Analyzed	4/3/2007	4/3/2007
Sample Size (wet)	10.01	10.05
% Solid	80.7	78.96
File ID	P49372.D	P49374.D
Units	µg/Kg	µg/Kg
Final Volume	5.56	5
Dilution	1	1
Reporting Limit	6.9	6.3

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL
2	N0	Naphthalene	690	6.9	540	6.3
2	N1	C1-Naphthalenes	390	G 6.9	1400	G 6.3
2	N2	C2-Naphthalenes	1400	6.9	6400	6.3
2	N3	C3-Naphthalenes	2300	6.9	6900	6.3
2	N4	C4-Naphthalenes	2000	6.9	3200	6.3
2	B	Biphenyl	140	6.9	300	6.3
3	DF	Dibenzofuran	1100	6.9	10000	D 630
3	AY	Acenaphthylene	4200	6.9	3900	6.3
3	AE	Acenaphthene	1900	6.9	12000	D 630
3	F0	Fluorene	6200	D 690	32000	D 630
3	F1	C1-Fluorenes	3400	6.9	8700	6.3
3	F2	C2-Fluorenes	3600	6.9	5000	6.3
3	F3	C3-Fluorenes	3300	6.9	3700	6.3
3	A0	Anthracene	20000	D 690	36000	D 630
3	P0	Phenanthrene	30000	D 690	150000	D 630
3	PA1	C1-Phenanthenes/Anthracenes	25000	D 690	37000	D 630
3	PA2	C2-Phenanthenes/Anthracenes	16000	6.9	17000	6.3
3	PA3	C3-Phenanthenes/Anthracenes	5400	6.9	5500	6.3
3	PA4	C4-Phenanthenes/Anthracenes	1600	6.9	1500	6.3
3	DBT0	Dibenzothiophene	4400	6.9	12000	D 630
3	DBT1	C1-Dibenzothiophenes	3200	6.9	4700	6.3
3	DBT2	C2-Dibenzothiophenes	3200	6.9	3100	6.3
3	DBT3	C3-Dibenzothiophenes	2000	6.9	2000	6.3
3	DBT4	C4-Dibenzothiophenes	920	6.9	850	6.3
4	BF	Benz[b]fluorene	18000	D 690	18000	D 630
4	FL0	Fluoranthene	170000	D 690	200000	D 630
4	PY0	Pyrene	120000	D 690	130000	D 630
4	FP1	C1-Fluoranthenes/Pyrenes	56000	D 690	52000	D 630
4	FP2	C2-Fluoranthenes/Pyrenes	14000	6.9	13000	6.3
4	FP3	C3-Fluoranthenes/Pyrenes	5300	6.9	4800	6.3
4	FP4	C4-Fluoranthenes/Pyrenes	2800	6.9	2400	6.3
4	NBT0	Naphthobenzothiophenes	14000	D 690	11000	D 630
4	NBT1	C1-Naphthobenzothiophenes	4300	6.9	3800	6.3
4	NBT2	C2-Naphthobenzothiophenes	1700	6.9	1500	6.3
4	NBT3	C3-Naphthobenzothiophenes	840	6.9	760	6.3
4	NBT4	C4-Naphthobenzothiophenes	360	6.9	310	6.3
4	BA0	Benz[a]anthracene	43000	D 690	40000	D 630
4	C0	Chrysene/Triphenylene	45000	D 690	38000	D 630
4	BC1	C1-Chrysenes	15000	6.9	14000	6.3
4	BC2	C2-Chrysenes	4900	6.9	4500	6.3
4	BC3	C3-Chrysenes	3400	6.9	3100	6.3
4	BC4	C4-Chrysenes	1400	6.9	1200	6.3
5	BBF	Benz[b]fluoranthene	22000	D 690	20000	D 630
5	BJKF	Benz[j]fluoranthene	23000	D 690	21000	D 630
5	BAF	Benz[a]fluoranthene	6600	6.9	6000	6.3
5	BEP	Benz[e]pyrene	14000	D 690	13000	D 630
5	BAP	Benz[a]pyrene	18000	D 690	17000	D 630
5	PER	Perylene	6800	6.9	6000	6.3
6	IND	Indeno[1,2,3-cd]pyrene	8700	D 690	7500	D 630
5	DA	Dibenz[a,h]anthracene	3500	6.9	3000	6.3
6	GHI	Benz[g,h,i]perylene	7700	D 690	6700	D 630
3	4MDT	4-Methylbenzothiophene	1100	6.9	1500	6.3
3	2MDT	2/3-Methylbenzothiophene	1400	6.9	2000	6.3
3	1MDT	1-Methylbenzothiophene	290	6.9	470	6.3
3	3MP	3-Methylphenanthrene	6000	D 690	9800	D 630
3	2MP	2/4-Methylphenanthrene	6500	D 690	10000	D 630
3	2MA	2-Methylnaphthalene	4900	6.9	5200	6.3
3	9MP	9-Methylphenanthrene	5700	6.9	6700	D 630
3	1MP	1-Methylphenanthrene	3600	6.9	5200	6.3
	TPAH		802130		1041130	

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 91 94
 Pyrene-d10 96 98
 Benzo[b]fluoranthene-d12 92 95

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	FPS-8	FPS-8
Lab ID	0703095-02	0703095-02D
Matrix	Soil	Soil
Reference Method	Modified 8270C	Modified 8270C
Batch ID	SS032807B04	SS032807B04
Date Collected	2/6/2007	2/6/2007
Date Received	2/7/2007	2/7/2007
Date Prepped	3/28/2007	3/28/2007
Date Analyzed	4/3/2007	4/3/2007
Sample Size (wet)	10.05	10.08
% Solid	78.96	78.96
File ID	P49374.D	P49376.D
Units	µg/Kg	µg/Kg
Final Volume	5	5
Dilution	1	1
Reporting Limit	6.3	6.3

Class	Abbrev	Analytes	Result	SSRL	Result	SSRL	RPD	RPD Limit
2	N0	Naphthalene	540	6.3	580	6.3	6	30
2	N1	C1-Naphthalenes	1400	G 6.3	1200	G 6.3	17	30
2	N2	C2-Naphthalenes	6400	6.3	4900	6.3	27	30
2	N3	C3-Naphthalenes	5900	6.3	5400	6.3	24	30
2	N4	C4-Naphthalenes	3200	6.3	2400	6.3	28	30
2	B	Biphenyl	300	6.3	280	6.3	6	30
3	DF	Dibenzofuran	10000	D 630	8100	D 630	24	30
3	AY	Acenaphthylene	3900	6.3	3200	6.3	21	30
3	AE	Acenaphthene	12000	D 630	9600	D 630	26	30
3	F0	Fluorene	32000	D 630	24000	D 630	27	30
3	F1	C1-Fluorenes	8700	6.3	6800	6.3	24	30
3	F2	C2-Fluorenes	5000	6.3	3800	6.3	27	30
3	F3	C3-Fluorenes	3700	6.3	2900	6.3	23	30
3	A0	Anthracene	36000	D 630	30000	D 630	16	30
3	P0	Phenanthrene	150000	D 630	130000	D 630	18	30
3	PA1	C1-Phenanthrenes/Anthracenes	37000	D 630	31000	D 630	19	30
3	PA2	C2-Phenanthrenes/Anthracenes	17000	6.3	13000	6.3	26	30
3	PA3	C3-Phenanthrenes/Anthracenes	5500	6.3	4400	6.3	23	30
3	PA4	C4-Phenanthrenes/Anthracenes	1500	6.3	1200	6.3	16	30
3	DBT0	Dibenzothiophene	12000	D 630	10000	D 630	19	30
3	DBT1	C1-Dibenzothiophenes	4700	6.3	3800	6.3	23	30
3	DBT2	C2-Dibenzothiophenes	3100	6.3	2400	6.3	23	30
3	DBT3	C3-Dibenzothiophenes	2000	6.3	1600	6.3	22	30
3	DBT4	C4-Dibenzothiophenes	850	6.3	650	6.3	27	30
4	BF	Benz(b)fluorene	16000	D 630	14000	D 630	11	30
4	FL0	Fluoranthene	200000	D 630	160000	D 630	23	30
4	PY0	Pyrene	130000	D 630	100000	D 630	22	30
4	FP1	C1-Fluoranthenes/Pyrenes	52000	D 630	43000	D 630	19	30
4	FP2	C2-Fluoranthenes/Pyrenes	13000	6.3	11000	6.3	16	30
4	FP3	C3-Fluoranthenes/Pyrenes	4800	6.3	4100	6.3	14	30
4	FP4	C4-Fluoranthenes/Pyrenes	2400	6.3	2100	6.3	15	30
4	NBT0	Naphthobenzothiophenes	110000	D 630	9200	D 630	17	30
4	NBT1	C1-Naphthobenzothiophenes	3800	6.3	3200	6.3	16	30
4	NBT2	C2-Naphthobenzothiophenes	1500	6.3	1300	6.3	15	30
4	NBT3	C3-Naphthobenzothiophenes	760	6.3	620	6.3	19	30
4	NBT4	C4-Naphthobenzothiophenes	310	6.3	270	6.3	15	30
4	BA0	Benz[a]anthracene	40000	D 630	33000	D 630	17	30
4	C0	Chrysene/Triphenylene	38000	D 630	34000	D 630	11	30
4	BC1	C1-Chrysenes	14000	6.3	11000	6.3	17	30
4	BC2	C2-Chrysenes	4500	6.3	3700	6.3	20	30
4	BC3	C3-Chrysenes	3100	6.3	2600	6.3	18	30
4	BC4	C4-Chrysenes	1200	6.3	1000	6.3	14	30
5	BBF	Benz[b]fluoranthene	20000	D 630	17000	D 630	16	30
5	BJKF	Benz[k]fluoranthene	21000	D 630	18000	D 630	14	30
5	BAF	Benz[a]jfluoranthene	6000	6.3	4900	6.3	19	30
5	BEP	Benz[e]pyrene	13000	D 630	11000	D 630	16	30
5	BAP	Benz[a]jpyrene	17000	D 630	15000	D 630	14	30
5	PER	Perylene	6000	6.3	5300	6.3	13	30
6	IND	Indeno[1,2,3-cd]pyrene	7500	D 630	6500	D 630	14	30
5	DA	Dibenz[a,h]anthracene	3000	6.3	2600	6.3	16	30
6	GHI	Benz[g,h,i]perylene	6700	D 630	5600	D 630	17	30
3	4MDT	4-Methylbenzothiophene	1500	6.3	1200	6.3	24	30
3	2MDT	2/3-Methylbenzothiophene	2000	6.3	1600	6.3	24	30
3	1MDT	1-Methylbenzothiophene	470	6.3	380	6.3	22	30
3	3MP	3-Methylphenanthrene	9800	D 630	7700	D 630	24	30
3	2MP	2/4-Methylphenanthrene	10000	D 630	9000	D 630	14	30
3	2MA	2-Methylnaphthalene	5200	6.3	4500	6.3	15	30
3	9MP	9-Methylphenanthrene	6700	D 630	5500	D 630	20	30
3	1MP	1-Methylphenanthrene	5200	6.3	4200	6.3	22	30

TPAH 1041130 855280

Surrogates (% Recovery)				
2-Methylnaphthalene-d10	94	94	0	30
Pyrene-d10	98	96	2	30
Benz[b]fluoranthene-d12	95	90	5	30

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Method Blank
Lab ID	SS032807B04
Matrix	Soil
Reference Method	Modified 8270C
Batch ID	SS032807B04
Date Collected	N/A
Date Received	N/A
Date Prepped	3/28/2007
Date Analyzed	4/3/2007
Sample Size (wet)	10
% Solid	100
File ID	P49370.D
Units	µg/Kg
Final Volume	2
Dilution	1
Reporting Limit	2

Class	Abbrev	Analytes	Result	SSRL
2	N0	Naphthalene	0.33	J 2.0
2	N1	C1-Naphthalenes		U 2.0
2	N2	C2-Naphthalenes		U 2.0
2	N3	C3-Naphthalenes		U 2.0
2	N4	C4-Naphthalenes		U 2.0
2	B	Biphenyl	0.18	J 2.0
3	DF	Dibenzofuran		U 2.0
3	AY	Acenaphthylene		U 2.0
3	AE	Acenaphthene		U 2.0
3	F0	Fluorene		U 2.0
3	F1	C1-Fluorenes		U 2.0
3	F2	C2-Fluorenes		U 2.0
3	F3	C3-Fluorenes		U 2.0
3	A0	Anthracene		U 2.0
3	P0	Phenanthrene	0.46	J 2.0
3	PA1	C1-Phenanthrenes/Anthracenes		U 2.0
3	PA2	C2-Phenanthrenes/Anthracenes		U 2.0
3	PA3	C3-Phenanthrenes/Anthracenes		U 2.0
3	PA4	C4-Phenanthrenes/Anthracenes		U 2.0
3	DBT0	Dibenzothiophene		U 2.0
3	DBT1	C1-Dibenzothiophenes		U 2.0
3	DBT2	C2-Dibenzothiophenes		U 2.0
3	DBT3	C3-Dibenzothiophenes		U 2.0
3	DBT4	C4-Dibenzothiophenes		U 2.0
4	BF	Benz(a)fluorene		U 2.0
4	FL0	Fluoranthene	0.37	J 2.0
4	PY0	Pyrene	0.22	J 2.0
4	FP1	C1-Fluoranthenes/Pyrenes		U 2.0
4	FP2	C2-Fluoranthenes/Pyrenes		U 2.0
4	FP3	C3-Fluoranthenes/Pyrenes		U 2.0
4	FP4	C4-Fluoranthenes/Pyrenes		U 2.0
4	NBT0	Naphthobenzothiophenes		U 2.0
4	NBT1	C1-Naphthobenzothiophenes		U 2.0
4	NBT2	C2-Naphthobenzothiophenes		U 2.0
4	NBT3	C3-Naphthobenzothiophenes		U 2.0
4	NBT4	C4-Naphthobenzothiophenes		U 2.0
4	BA0	Benz(a)anthracene		U 2.0
4	C0	Chrysene/Triphenylene		U 2.0
4	BC1	C1-Chrysenes		U 2.0
4	BC2	C2-Chrysenes		U 2.0
4	BC3	C3-Chrysenes		U 2.0
4	BC4	C4-Chrysenes		U 2.0
5	BBF	Benz(b)fluoranthene		U 2.0
5	BJKF	Benz(k)fluoranthene		U 2.0
5	BAF	Benz(a)jfluoranthene		U 2.0
5	BEP	Benz(e)pyrene		U 2.0
5	BAP	Benz(a)pyrene		U 2.0
5	PER	Perylene		U 2.0
6	IND	Indeno[1,2,3-cd]pyrene		U 2.0
5	DA	Dibenzo[a,h]anthracene		U 2.0
6	GHI	Benz(g,h,i)perylene		U 2.0
3	4MDT	4-Methylbenzothiophene		U 2.0
3	2MDT	2/3-Methylbenzothiophene		U 2.0
3	1MDT	1-Methylbenzothiophene		U 2.0
3	3MP	3-Methylphenanthrene		U 2.0
3	2MP	2/4-Methylphenanthrene		U 2.0
3	2MA	2-Methylnanthracene		U 2.0
3	9MP	9-Methylphenanthrene		U 2.0
3	1MP	1-Methylphenanthrene		U 2.0

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 84
 Pyrene-d10 92
 Benzo[b]fluoranthene-d12 84

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample
Lab ID	SS032807LCS01
Matrix	Soli
Reference Method	Modified B270C
Batch ID	SS032807B04
Date Collected	N/A
Date Received	N/A
Date Prepped	3/28/2007
Date Analyzed	4/3/2007
Sample Size (wet)	10
% Solid	100
File ID	P49378.D
Units	$\mu\text{g}/\text{Kg}$
Final Volume	2
Dilution	1
Reporting Limit	2

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit
2	N0	Naphthalene	92	S 2.0	92	100	50	130
2	N1	C1-Naphthalenes		U 2.0				
2	N2	C2-Naphthalenes		U 2.0				
2	N3	C3-Naphthalenes		U 2.0				
2	N4	C4-Naphthalenes		U 2.0				
2	B	Biphenyl		U 2.0				
3	DF	Dibenzofuran		U 2.0				
3	AY	Acenaphthylene	100	S 2.0	99	100	50	130
3	AE	Acenaphthene	94	S 2.0	94	100	50	130
3	F0	Fluorene	95	S 2.0	95	100	50	130
3	F1	C1-Fluorenes		U 2.0				
3	F2	C2-Fluorenes		U 2.0				
3	F3	C3-Fluorenes		U 2.0				
3	A0	Anthracene	110	S 2.0	106	100	50	130
3	P0	Phenanthrene	96	S 2.0	96	100	50	130
3	PA1	C1-Phenanthrenes/Anthracenes		U 2.0				
3	PA2	C2-Phenanthrenes/Anthracenes		U 2.0				
3	PA3	C3-Phenanthrenes/Anthracenes		U 2.0				
3	PA4	C4-Phenanthrenes/Anthracenes		U 2.0				
3	DBT0	Dibenzothiophene		U 2.0				
3	DBT1	C1-Dibenzothiophenes		U 2.0				
3	DBT2	C2-Dibenzothiophenes		U 2.0				
3	DBT3	C3-Dibenzothiophenes		U 2.0				
3	DBT4	C4-Dibenzothiophenes		U 2.0				
4	BF	Benz(a)b)fluorene		U 2.0				
4	FL0	Fluoranthene	94	S 2.0	94	100	50	130
4	PY0	Pyrene	98	S 2.0	98	100	50	130
4	FP1	C1-Fluoranthenes/Pyrenes		U 2.0				
4	FP2	C2-Fluoranthenes/Pyrenes		U 2.0				
4	FP3	C3-Fluoranthenes/Pyrenes		U 2.0				
4	FP4	C4-Fluoranthenes/Pyrenes		U 2.0				
4	NBT0	Naphthobenzothiophenes		U 2.0				
4	NBT1	C1-Naphthobenzothiophenes		U 2.0				
4	NBT2	C2-Naphthobenzothiophenes		U 2.0				
4	NBT3	C3-Naphthobenzothiophenes		U 2.0				
4	NBT4	C4-Naphthobenzothiophenes		U 2.0				
4	BA0	Benz(a)anthracene	96	S 2.0	96	100	50	130
4	C0	Chrysene/Triphenylene	94	S 2.0	94	100	50	130
4	BC1	C1-Chrysenes		U 2.0				
4	BC2	C2-Chrysenes		U 2.0				
4	BC3	C3-Chrysenes		U 2.0				
4	BC4	C4-Chrysenes		U 2.0				
5	BBF	Benz(b)fluoranthene	89	S 2.0	89	100	50	130
5	BJKF	Benz(j)fluoranthene	100	S 2.0	102	100	50	130
5	BAF	Benz(a)j)fluoranthene		U 2.0				
5	BEP	Benz(e)pyrene		U 2.0				
5	BAP	Benz(a)j)pyrene	91	S 2.0	91	100	50	130
5	PER	Perylene		U 2.0				
6	IND	Indeno[1,2,3-cd]pyrene	86	S 2.0	86	100	50	130
5	DA	Dibenz(a,h)anthracene	94	S 2.0	94	100	50	130
6	GHI	Benz(g,h,i)perylene	85	S 2.0	85	100	50	130

Surrogates (% Recovery)

2-Methylnaphthalene-d10	92
Pyrene-d10	91
Benz(b)fluoranthene-d12	96

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID	Laboratory Control Sample Dup
Lab ID	SS032807LCSD01
Matrix	Soil
Reference Method	Modified B270C
Batch ID	SS032807B04
Date Collected	N/A
Date Received	N/A
Date Prepped	3/28/2007
Date Analyzed	4/4/2007
Sample Size (wet)	10
% Solid	100
File ID	P49380.D
Units	µg/Kg
Final Volume	2
Dilution	1
Reporting Limit	2

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	RPD	RPD Limit
2	N0	Naphthalene	89 S	2.0	89	100	50	130	3	30
2	N1	C1-Naphthalenes		U	2.0					
2	N2	C2-Naphthalenes		U	2.0					
2	N3	C3-Naphthalenes		U	2.0					
2	N4	C4-Naphthalenes		U	2.0					
2	B	Biphenyl		U	2.0					
3	DF	Dibenzofuran		U	2.0					
3	AY	Acenaphthylene	96 S	2.0	96	100	50	130	4	30
3	AE	Acenaphthene	93 S	2.0	93	100	50	130	1	30
3	F0	Fluorene	95 S	2.0	95	100	50	130	1	30
3	F1	C1-Fluorenes		U	2.0					
3	F2	C2-Fluorenes		U	2.0					
3	F3	C3-Fluorenes		U	2.0					
3	A0	Anthracene	110 S	2.0	106	100	50	130	0	30
3	P0	Phenanthrene	95 S	2.0	95	100	50	130	2	30
3	PA1	C1-Phenanthrenes/Anthracenes		U	2.0					
3	PA2	C2-Phenanthrenes/Anthracenes		U	2.0					
3	PA3	C3-Phenanthrenes/Anthracenes		U	2.0					
3	PA4	C4-Phenanthrenes/Anthracenes		U	2.0					
3	DBT0	Dibenzothiophene		U	2.0					
3	DBT1	C1-Dibenzothiophenes		U	2.0					
3	DBT2	C2-Dibenzothiophenes		U	2.0					
3	DBT3	C3-Dibenzothiophenes		U	2.0					
3	DBT4	C4-Dibenzothiophenes		U	2.0					
4	BF	Benz(b)fluorene		U	2.0					
4	FL0	Fluoranthene	91 S	2.0	91	100	50	130	3	30
4	PY0	Pyrene	96 S	2.0	96	100	50	130	3	30
4	FP1	C1-Fluoranthenes/Pyrenes		U	2.0					
4	FP2	C2-Fluoranthenes/Pyrenes		U	2.0					
4	FP3	C3-Fluoranthenes/Pyrenes		U	2.0					
4	FP4	C4-Fluoranthenes/Pyrenes		U	2.0					
4	NBT0	Naphthobenzothiophenes		U	2.0					
4	NBT1	C1-Naphthobenzothiophenes		U	2.0					
4	NBT2	C2-Naphthobenzothiophenes		U	2.0					
4	NBT3	C3-Naphthobenzothiophenes		U	2.0					
4	NBT4	C4-Naphthobenzothiophenes		U	2.0					
4	BA0	Benz(a)anthracene	93 S	2.0	93	100	50	130	4	30
4	C0	Chrysene/Triphenylene	93 S	2.0	93	100	50	130	1	30
4	BC1	C1-Chrysenes		U	2.0					
4	BC2	C2-Chrysenes		U	2.0					
4	BC3	C3-Chrysenes		U	2.0					
4	BC4	C4-Chrysenes		U	2.0					
5	BBF	Benz(b)fluoranthene	88 S	2.0	88	100	50	130	2	30
5	BJKF	Benzo(k)fluoranthene	96 S	2.0	96	100	50	130	6	30
5	BAF	Benzo[a]fluoranthene		U	2.0					
5	BEP	Benzo[e]pyrene		U	2.0					
5	BAP	Benzo[a]pyrene	88 S	2.0	88	100	50	130	4	30
5	PER	Perylene		U	2.0					
6	IND	Indeno[1,2,3-cd]pyrene	82 S	2.0	82	100	50	130	5	30
5	DA	Dibenzo[a,h]anthracene	82 S	2.0	82	100	50	130	13	30
6	GHI	Benzo[g,h,i]perylene	83 S	2.0	83	100	50	130	2	30

Surrogates (% Recovery)
 2-Methylnaphthalene-d10 91
 Pyrene-d10 91
 Benzo[b]fluoranthene-d12 95

NEWFIELDS

Project Name: Tronox-Columbus
 Project Number:

Client ID Alaska North Slope Crude
 Lab ID S0033107AWS01
 Matrix Oil
 Reference Method Modified 8270C
 Batch ID N/A
 Date Collected N/A
 Date Received N/A
 Date Prepped N/A
 Date Analyzed 3/30/2007
 Sample Size (wet) 0.052
 % Solid 100
 File ID P49341.D
 Units mg/Kg
 Final Volume 10
 Dilution 1
 Reporting Limit 1.9

Class	Abbrev	Analytes	Result	SSRL	% Rec	Spike Conc.	Lower Limit	Upper Limit	
2	N0	Naphthalene	730	1.9	109	669.92	65	135	
2	N1	C1-Naphthalenes	1500	1.9	102	1432.05	65	135	
2	N2	C2-Naphthalenes	1600	1.9	93	1770.37	65	135	
2	N3	C3-Naphthalenes	1100	1.9	85	1321.83	65	135	
2	N4	C4-Naphthalenes	590	1.9	81	731.64	65	135	
2	B	Biphenyl	220	1.9	116	190.36	65	135	
3	DF	Dibenzofuran	69	1.9					
3	AY	Acenaphthylene	5.0	1.9					
3	AE	Acenaphthene	15	1.9	100	14.71	65	135	
3	F0	Fluorene	84	1.9	109	77.57	65	135	
3	F1	C1-Fluorenes	200	1.9	99	203.54	65	135	
3	F2	C2-Fluorenes	290	1.9	92	314.43	65	135	
3	F3	C3-Fluorenes	260	1.9	90	290.03	65	135	
3	A0	Anthracene	U	1.9	0				
3	P0	Phenanthrene	270	1.9	105	259.89	65	135	
3	PA1	C1-Phenanthrenes/Anthracenes	540	1.9	99	545.98	65	135	
3	PA2	C2-Phenanthrenes/Anthracenes	560	1.9	96	587.69	65	135	
3	PA3	C3-Phenanthrenes/Anthracenes	380	1.9	89	428.71	65	135	
3	PA4	C4-Phenanthrenes/Anthracenes	140	1.9	91	159.5	65	135	
3	DBT0	Dibenzothiophene	230	1.9	110	210.91	65	135	
3	DBT1	C1-Dibenzothiophenes	390	1.9	99	396.93	65	135	
3	DBT2	C2-Dibenzothiophenes	480	1.9	89	538.82	65	135	
3	DBT3	C3-Dibenzothiophenes	410	1.9	87	464.97	65	135	
3	DBT4	C4-Dibenzothiophenes	230	1.9	93	243.14	65	135	
4	BF	Benzo(b)fluorene	U	1.9					
4	FL0	Fluoranthene	3.7	1.9	88	4.14	65	135	
4	PY0	Pyrene	12	1.9	104	12.07	65	135	
4	FP1	C1-Fluoranthenes/Pyrenes	68	1.9	94	72.24	65	135	
4	FP2	C2-Fluoranthenes/Pyrenes	110	1.9	94	120.66	65	135	
4	FP3	C3-Fluoranthenes/Pyrenes	140	1.9	106	130.08	65	135	
4	FP4	C4-Fluoranthenes/Pyrenes	120	1.9					
4	NBT0	Naphthobenzothiophenes	55	1.9					
4	NBT1	C1-Naphthobenzothiophenes	150	1.9					
4	NBT2	C2-Naphthobenzothiophenes	190	1.9					
4	NBT3	C3-Naphthobenzothiophenes	140	1.9					
4	NBT4	C4-Naphthobenzothiophenes	110	1.9					
4	BA0	Benz[a]anthracene	1.9	J	1.9				
4	C0	Chrysene/Triphenylene	46	1.9	92	49.55	65	135	
4	BC1	C1-Chrysenes	83	1.9	100	82.86	65	135	
4	BC2	C2-Chrysenes	100	1.9	98	102.78	65	135	
4	BC3	C3-Chrysenes	120	1.9	115	107.68	65	135	
4	BC4	C4-Chrysenes	69	1.9	110	62.56	65	135	
5	BBF	Benz[ob]fluoranthene	6.5	1.9	112	5.79	65	135	
5	BJKF	Benz[ok]fluoranthene	U	1.9	0				
5	BAF	Benz[a]fluoranthene	U	1.9					
5	BEP	Benz[e]pyrene	14	1.9	119	12.05	65	135	
5	BAP	Benz[a]pyrene	2.6	1.9					
5	PER	Perylene	2.5	1.9					
6	IND	Indeno[1,2,3-cd]pyrene	0.85	J	1.9				
5	DA	Dibenzo[a,h]anthracene	1.2	J	1.9	124	0.94	65	135
6	GHI	Benzol[g,h,i]perylene	3.8	1.9	109	3.47	65	135	
3	4MDT	4-Methyldibenzothiophene	190	1.9					
3	2MDT	2/3-Methyldibenzothiophene	140	1.9					
3	1MDT	1-Methyldibenzothiophene	58	1.9					
3	3MP	3-Methylphenanthrene	110	1.9					
3	2MP	2/4-Methylphenanthrene	120	1.9					
3	2MA	2-Methylnaphthalene	3.6	1.9					
3	9MP	9-Methylphenanthrene	180	1.9					
3	1MP	1-Methylphenanthrene	120	1.9					

NEWFIELDS

List of Potential Qualifiers

U: The analyte was analyzed for but not detected at the sample specific level reported.
B: Found in associated blank as well as sample.
J: Estimated value, below quantitation limit.
E: Estimated value, exceeds the upper limit of calibration.
NA: Not Applicable
D: Secondary Dilution Performed
D1: Tertiary Dilution Performed
*: Value outside of QC Limits.
S: Surrogate value outside of acceptable range.
X: If is not possible to calculate RPD, one result is below the detection limit, the other is above reporting limit.
G: Matrix Interference.
P: Greater than 40% RPD between the two columns, the higher value is reported according to the method.
I: Due to Interference, the lower value is reported.
N: Spike recovery outside control limits.
E: Estimated due to Interference. (Metals)
#: Duplicate outside control limits.
P: Spike compound. (Metals)
J: Below CRDL, Project DL, or RL but greater than or = MDL. (Metals)
C: Sample concentration is > 4 times the spike level, recovery limits do not apply. (Metals)