

FINAL
Investigation of Geophysical Anomaly
Gambell, St. Lawrence Island, Alaska
Contract No. Delivery Order No.
DACA85-93-D-0011 0016
Modification No. P0003

December 1997

Prepared for:

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United States Army Engineer District, Alaska
Corps of Engineers
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VOL 1 OF 2

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List of Acronyms

ADEC	Alaska Department of Environmental Conservation
ATV	All-Terrain Vehicle
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CDAP	Chemical Data Acquisition Plan
CFR	Code of Federal Regulations
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DOD	United States Department of Defense
DRO	Diesel Range Organics
E&E	Ecology and Environment, Inc.
FUDS	Formerly Used Defense Sites
GRO	Gasoline Range Organics
HAZWOPER	Hazardous Waste Operations and Emergency Response
MW	Monitoring Well
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyls
PVC	Poly-vinyl Chloride
QA/QC	Quality Assurance/Quality Control
RI	Remedial Investigation
RI/FS	Remedial Investigation and Feasibility Study
RRO	Residual Range Organics
SOW	Scope of Work
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

1. INTRODUCTION

The United States Army Engineer District, Alaska (Alaska District), requested that Montgomery Watson investigate a geophysical anomaly reported to be buried transformers located near the only active drinking water supply in the village of Gambell, St. Lawrence Island, Alaska. The work was performed under contract No. DACA 85-93-D-0011, Delivery Order No. 16, Modification No. 3. The investigation was performed in August, 1997 according to the guidelines of the Final Work Plan Amendment for Investigation of Geophysical Anomaly (Montgomery Watson, 1997a) and the Defense Environmental Restoration Program of the United States Department of Defense.

A previous delivery order provided for a geophysical survey of an area where transformers were reportedly buried near the water supply at Gambell. Results of the 1996 geophysical survey confirmed the presence and location of metallic debris, but the specific nature of the debris was unknown. The objective of the current investigation was to ascertain whether the geophysical anomaly was actually the reported transformers and whether any PCBs were associated with any transformers present. This report describes the results of the investigation of the geophysical anomaly.

1.1 PREVIOUS DOCUMENTS

The site description and background information contained in this report have been summarized from previous documents about the Gambell site. Further site description and background information can be found in the documents listed below.

Draft Phase II Remedial Investigation, Gambell, St. Lawrence Island, Alaska. Montgomery Watson. December 3, 1996.

Remedial Action Alternatives Technical Memorandum, Gambell, St. Lawrence Island, Alaska. Montgomery Watson. November 1995.

Remedial Investigation, Gambell, St. Lawrence Island, Alaska. Montgomery Watson. January 1995.

Chemical Data Acquisition Plan, Site Inventory Update, Gambell, St. Lawrence Island, Alaska. E&E. February 1993.

Site Inventory, Gambell, St. Lawrence Island, Alaska. E&E. December 1992.

The project description and objectives have been summarized from the Final Work Plan Amendment for Investigation of Geophysical Anomaly, Gambell, St. Lawrence Island, Alaska. Montgomery Watson, August, 1997.

1.2 SITE DESCRIPTION

Gambell is located off the coast of western Alaska (Figure 1-1) on the northwest tip of St. Lawrence Island (Figure 1-2), in the western portion of the Bering Sea approximately 200 air miles southwest of Nome, Alaska. Gambell is 39 air miles from the Siberian Chukotsk Peninsula. The village of Gambell is built on a gravel spit which projects northward and westward from the island. Gambell is at an elevation of approximately 30 feet above mean sea level (MSL).

St. Lawrence Island is currently owned jointly by Sivuqaq, Inc., in Gambell, Alaska, and Savoonga Native Corporation, in Savoonga, Alaska. Non-Native land on St. Lawrence Island is limited to state land used for airstrips and related facilities in Gambell (Montgomery Watson 1995a).

The village of Gambell is inhabited primarily by native St. Lawrence Island Yupik people who lead a subsistence-based lifestyle. The Gambell area supports habitat for a variety of seabirds, waterfowl, and mammals that either breed in or visit the area. The area surrounding the top of Sevuokuk Mountain supports a large bird rookery. The birds and bird eggs serve as a subsistence food source for local inhabitants. The ocean surrounding the Gambell area is used extensively for subsistence hunting of walrus, seals, sea birds, and polar bears.

1.3 BACKGROUND INFORMATION

A Phase I RI was performed in 1994 (Montgomery Watson 1995a) in which investigations were performed at eighteen sites, including the Former Tramway Site; Site 5 (Figure 1-3). Specific activities performed at Site 5 during the Phase I RI included a geophysical survey, installing two boreholes and two monitoring wells; and collecting subsurface soil and groundwater samples for chemical analysis. Information on investigative activities and sampling results for the remaining Gambell sites can be found in the Phase I and Phase II RI reports (Montgomery Watson, 1995a; 1996c).

Petroleum hydrocarbons were the contaminant of concern found in soils at MW 16 at depths to 5.0 feet. DRO was detected in soils at MW 16 at concentrations ranging from 1,160 mg/kg to 1,800 mg/kg. Of primary concern at Site 5 is the human health risk posed by petroleum-contaminated soils in contact with groundwater used for the local water supply, and PCBs from the reported transformers. Volatile components of hydrocarbons were not detected in soil and groundwater, and recent testing of the water supply indicates volatile contaminants are not present.

Site 5 was retained for further investigation during the Phase II investigation, which involved the resampling of the two existing monitoring wells for DRO and VOC analysis. In addition, since the 1994 geophysical investigation showed no anomalous areas that would indicate the location of the six, 8-foot long transformers reportedly buried at Site 5, the 1994 geophysical survey boundary was extended to include a 200-foot by 200-foot area in order to locate the area where large transformers were reportedly buried (Figure 1-4). Winfred (Winnie) James, a life long

resident of Gambell, brought Montgomery Watson and Alaska District representatives to the reported transformer burial area during a community relations visit in March, 1996. At the site, Winnie confirmed that the transformers would be found within the extended geophysical grid boundary later completed during the 1996 Phase II RI field work. A supplemental geophysical investigation was performed in this area using the EM-31D terrain conductivity meter and the GSM-19 Overhauser Effect proton precession magnetometer/gradiometer during the 1996 field efforts.

The local village drinking water supply is located near Site 5. The village water supply consists of an infiltration gallery completed to a depth of 20 feet. The water supply facilities are housed within a building within a fenced area, as shown on Figure 1-4.

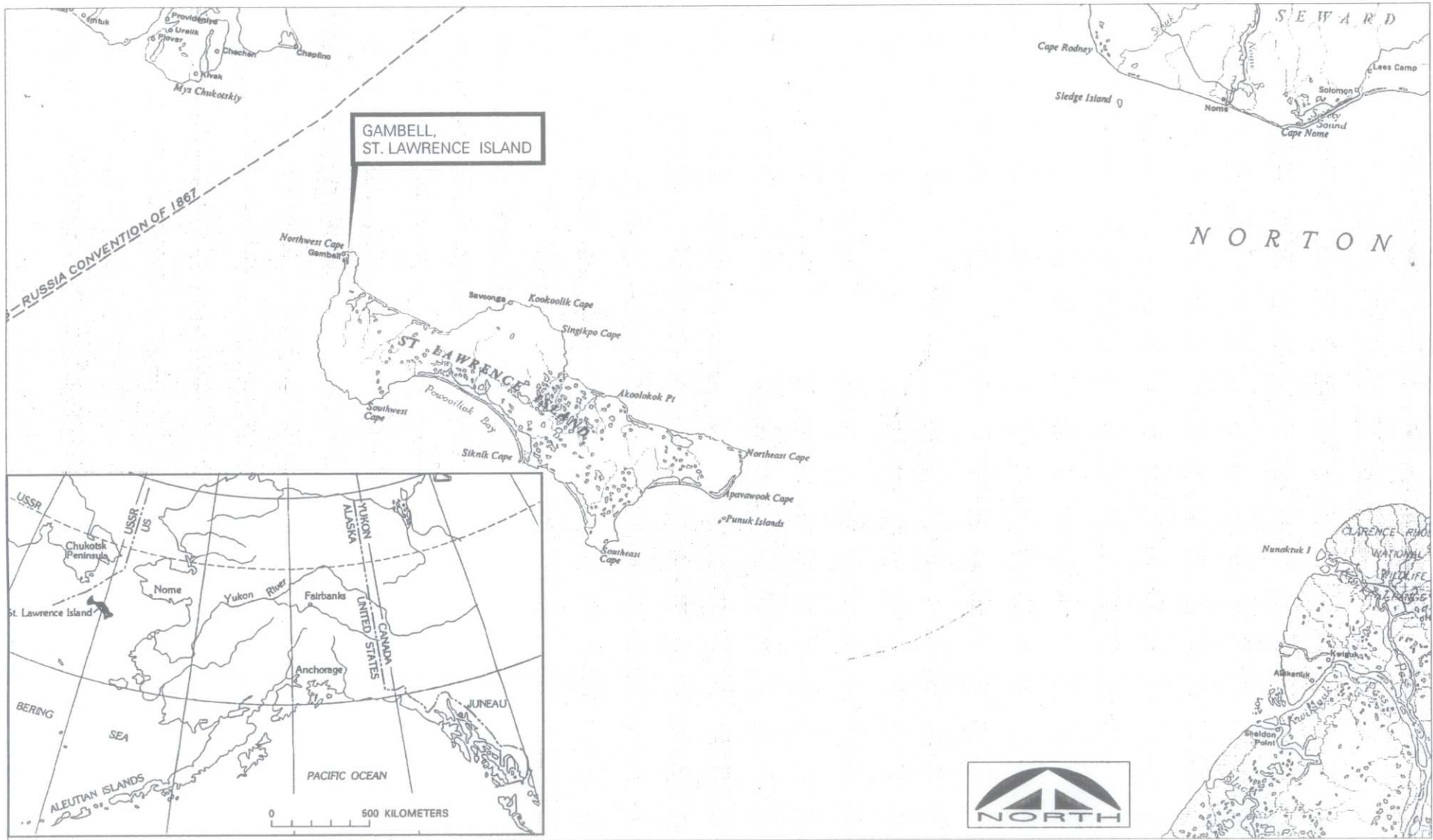
A large anomaly was found in the center of the 1996 geophysical survey grid in an area with no visible surficial conductive debris, as shown in Figure 2-5. This anomaly was interpreted to be a trench orientated north-south filled with significant amounts of debris. Both the EM and magnetometry surveys found strong evidence that this debris could possibly be the six secondary transformers discussed in the Chemical Data Acquisition Plan (E&E, 1993).

The large anomaly located in the center of the grid has been designated "Anomaly #1." A second, smaller anomaly located near a large granite boulder in the southeast portion of the grid has been designated "Anomaly #2." All other anomalies in the geophysical survey can be correlated with metallic features visible at the surface, such as steel pipes or posts.

Further geophysical information for Site 5 can be found in the 1994 Geophysical Survey Investigations Final Report (Golder, 1994). Further site descriptions and background information can be found in Section 1 of Montgomery Watson's Remedial Investigation Report (Montgomery Watson 1995a), the Remedial Action Alternatives Technical Memorandum (Montgomery Watson 1995b), and the Phase II Remedial Investigation Report (Montgomery Watson, 1996c).

1.4 PROJECT OBJECTIVE

The objective of this project was to excavate the two anomalous areas located in Site 5, identify the buried metallic debris, remove, complete confirmation sampling and dispose of the debris and any associated waste. General investigation procedures were established by the Alaska District, the City of Gambell, Sivuqaq, Inc., Montgomery Watson, and two divisions of ADEC (the Contaminated Sites program and the Village Safe Water program). The anomaly investigation activities performed during the 1997 field work are discussed in Section 2.



SOURCE: U.S. Geological Survey
 Reston, Virginia 22092, 1976
 St. Lawrence, Alaska
 N6265 - W16830 /60x210
 Surveyed 1948, Compiled 1957
 Minor Revisions 1974
 Scale 1:250,000 Contour Interval 100'

FIGURE 1-1
 ALASKA DISTRICT - CORPS OF ENGINEERS
 GAMBELL, ST. LAWRENCE ISLAND, ALASKA
VICINITY MAP
GAMBELL

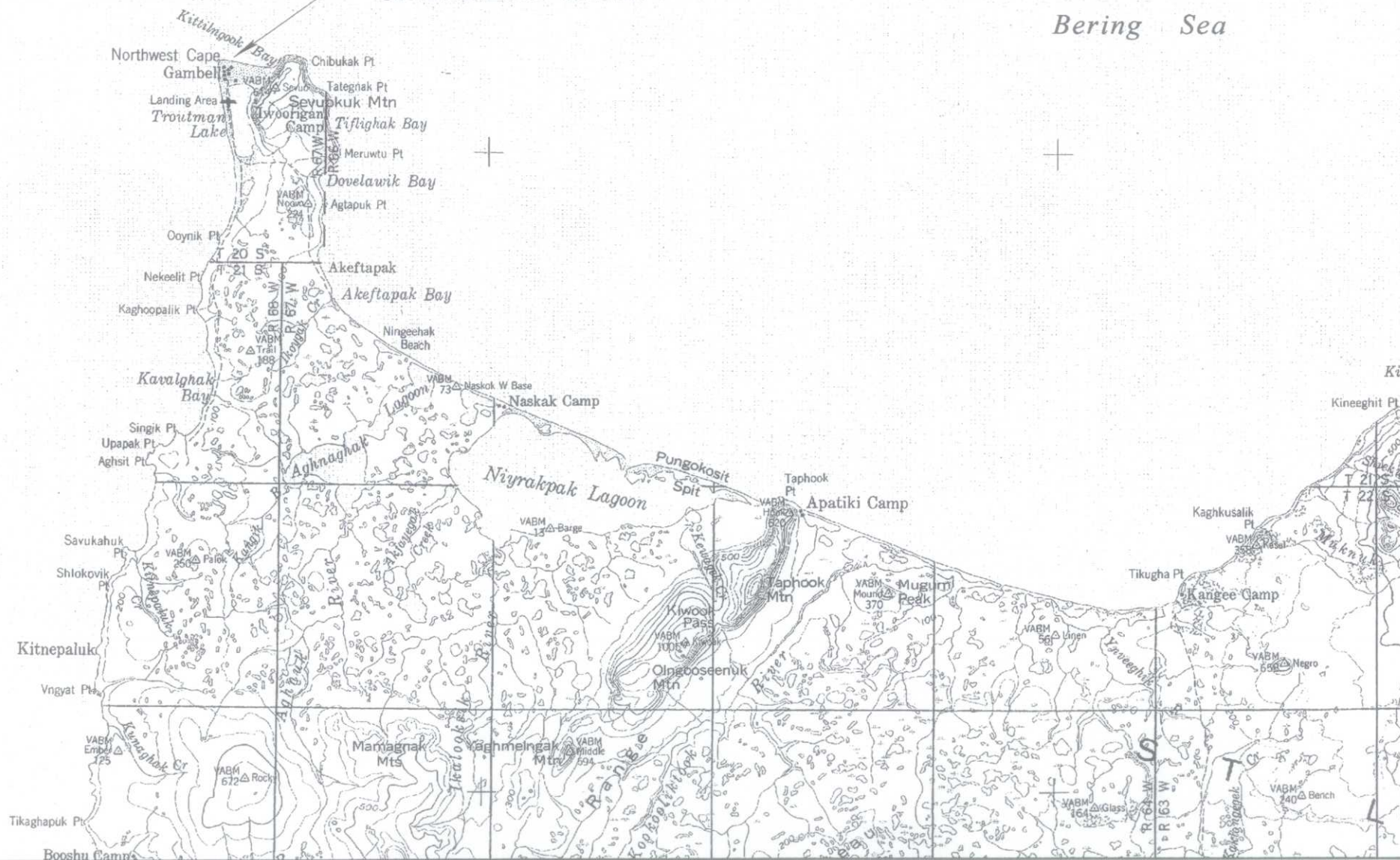


MONTGOMERY WATSON

Anchorage, Alaska

GAMBELL, ST. LAWRENCE ISLAND

Bering Sea



SOURCE: U.S. Geological Survey
Reston, Virginia 22092, 1976
St. Lawrence, Alaska
N6265 - W16830 /60x210
Surveyed 1948, Compiled 1957
Minor Revisions 1974
Scale 1:250,000, Contour Interval 200'



FIGURE 1-2
ALASKA DISTRICT - CORPS OF ENGINEERS
GAMBELL, ST. LAWRENCE ISLAND, ALASKA

LOCATION MAP GAMBELL

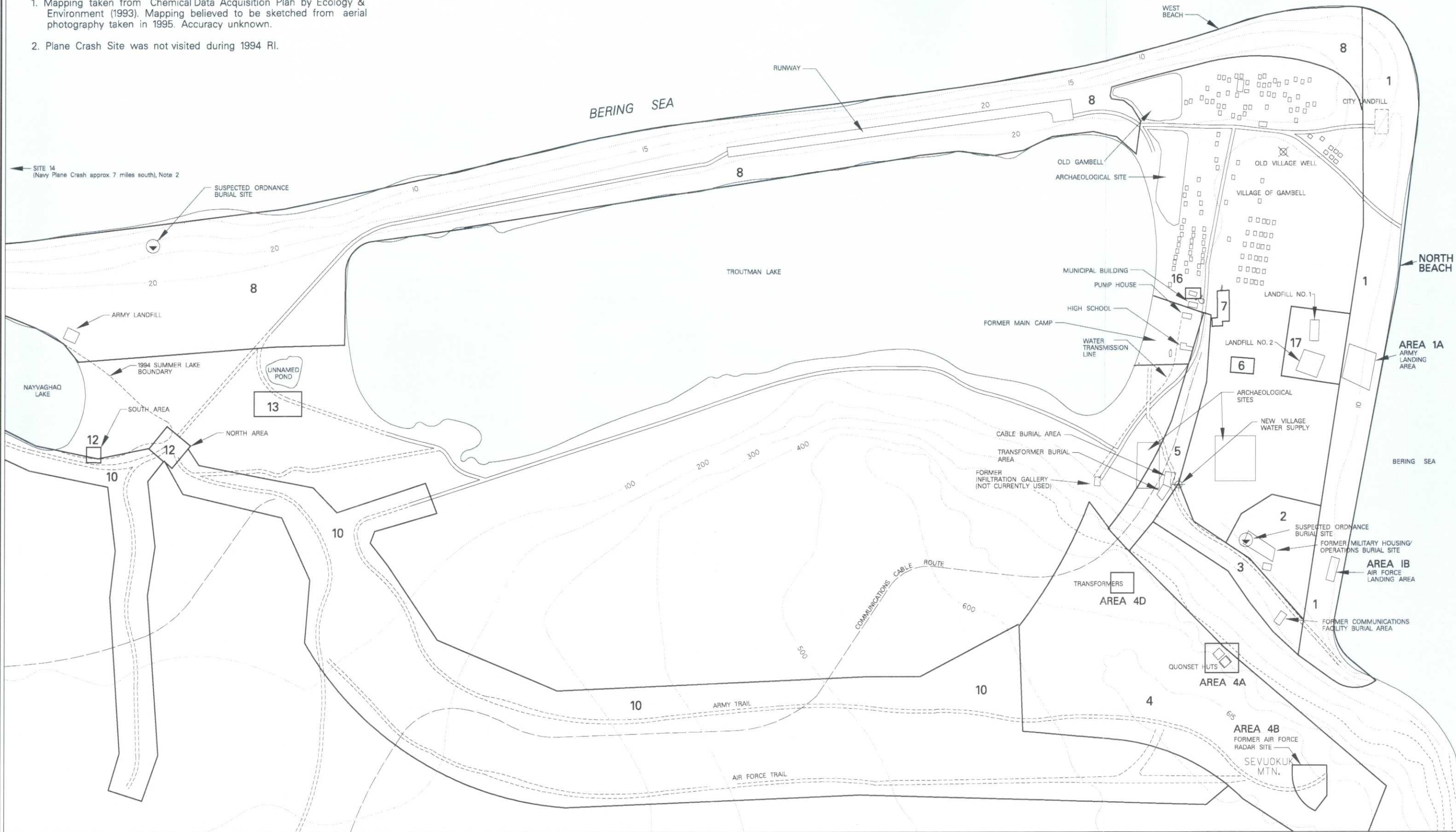


MONTGOMERY WATSON

Anchorage, Alaska

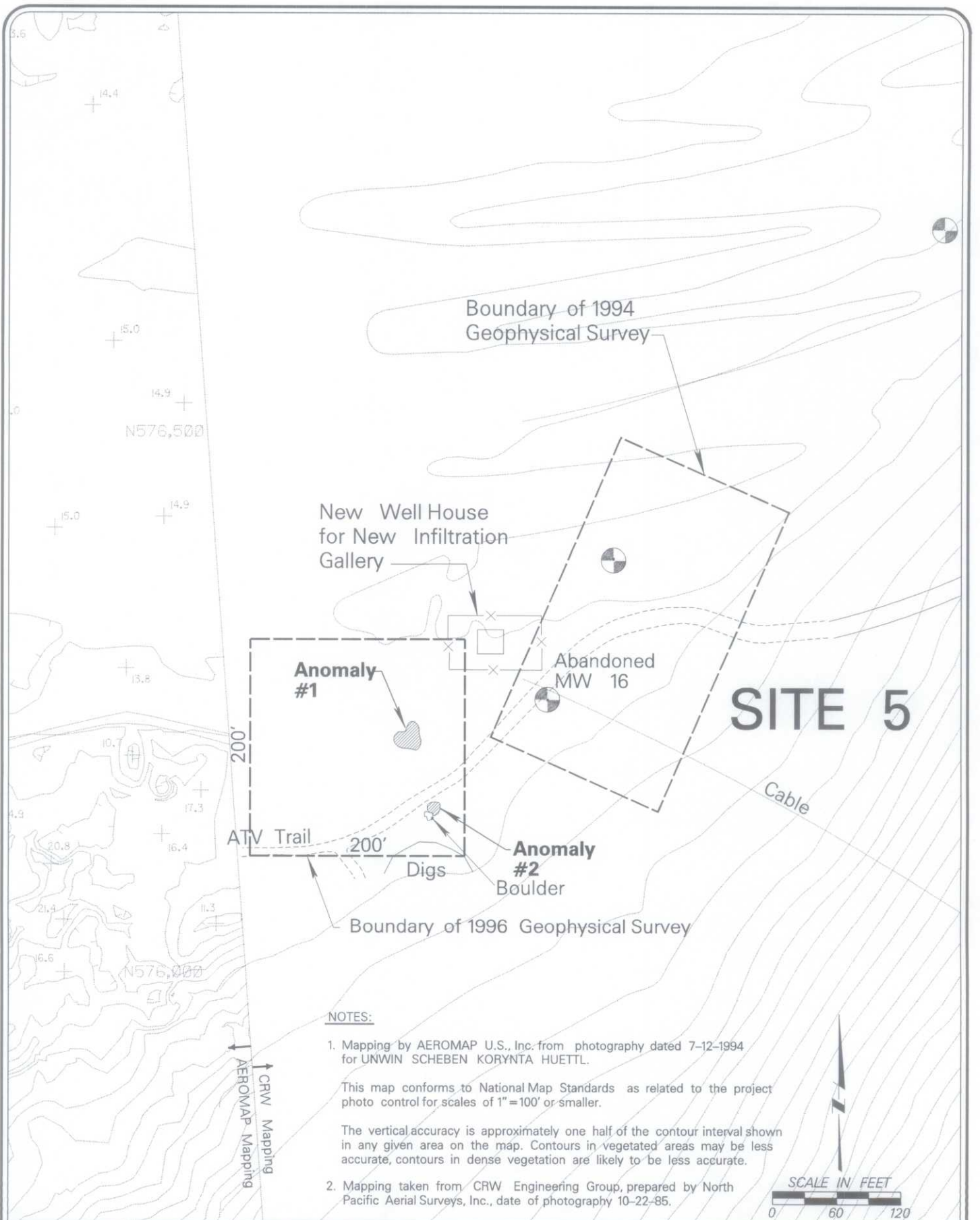
NOTES:

1. Mapping taken from Chemical Data Acquisition Plan by Ecology & Environment (1993). Mapping believed to be sketched from aerial photography taken in 1995. Accuracy unknown.
2. Plane Crash Site was not visited during 1994 RI.



JOB No. 18900016101 TIME: 19-DEC-1997 13:53 FILE: e:\corps\gambell\task\fig_3.dgn

FIGURE 1-3
 ALASKA DISTRICT - CORPS OF ENGINEERS
 GAMBELL, ST. LAWRENCE ISLAND, ALASKA
GAMBELL REMEDIAL INVESTIGATION SITES



NOTES:

1. Mapping by AEROMAP U.S., Inc. from photography dated 7-12-1994 for UNWIN SCHEBEN KORYNTA HUETTL.

This map conforms to National Map Standards as related to the project photo control for scales of 1"=100' or smaller.

The vertical accuracy is approximately one half of the contour interval shown in any given area on the map. Contours in vegetated areas may be less accurate, contours in dense vegetation are likely to be less accurate.

2. Mapping taken from CRW Engineering Group, prepared by North Pacific Aerial Surveys, Inc., date of photography 10-22-85.



MONTGOMERY WATSON

Anchorage, Alaska

FIGURE 1-4

U.S. ARMY ENGINEER DISTRICT, ALASKA
GAMBELL, ST. LAWRENCE ISLAND, ALASKA

**SITE 5 SAMPLE LOCATIONS
AND GEOPHYSICAL BOUNDARIES**

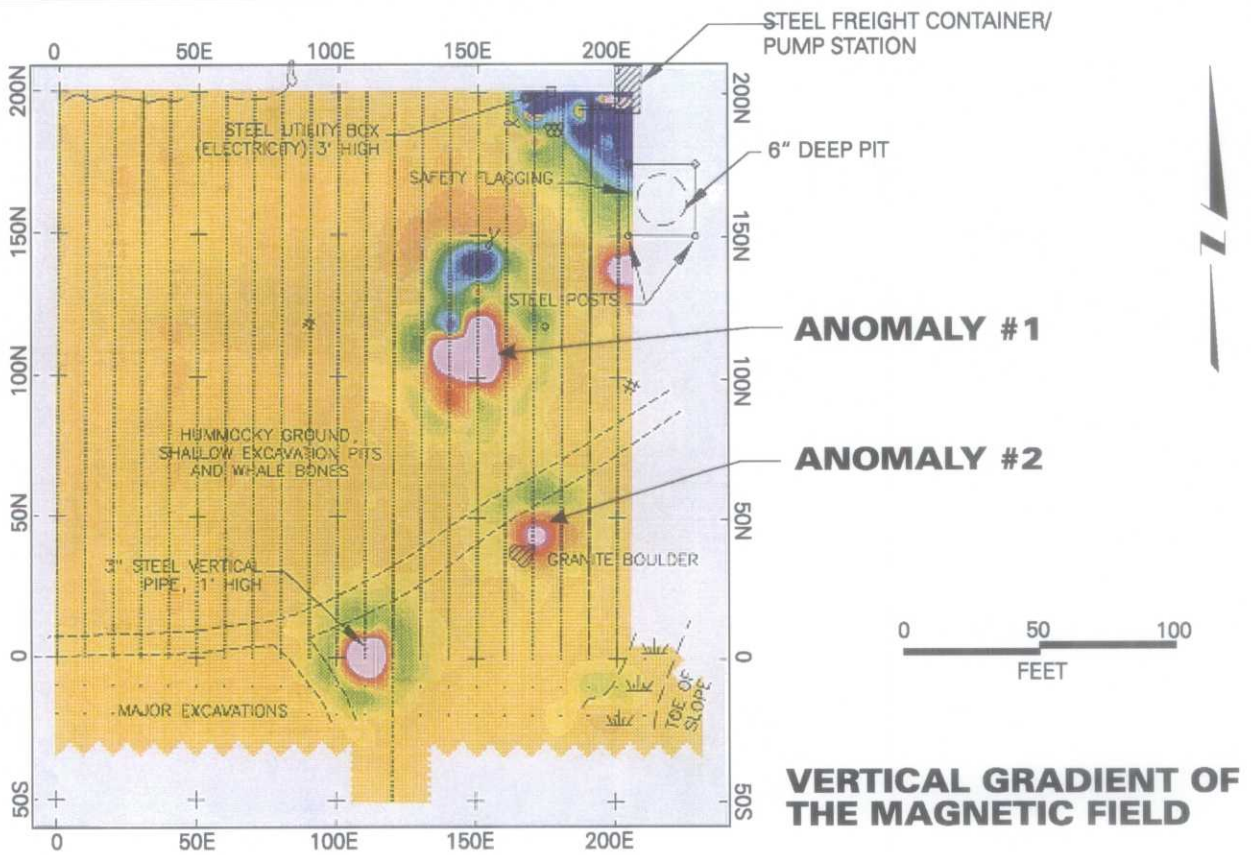
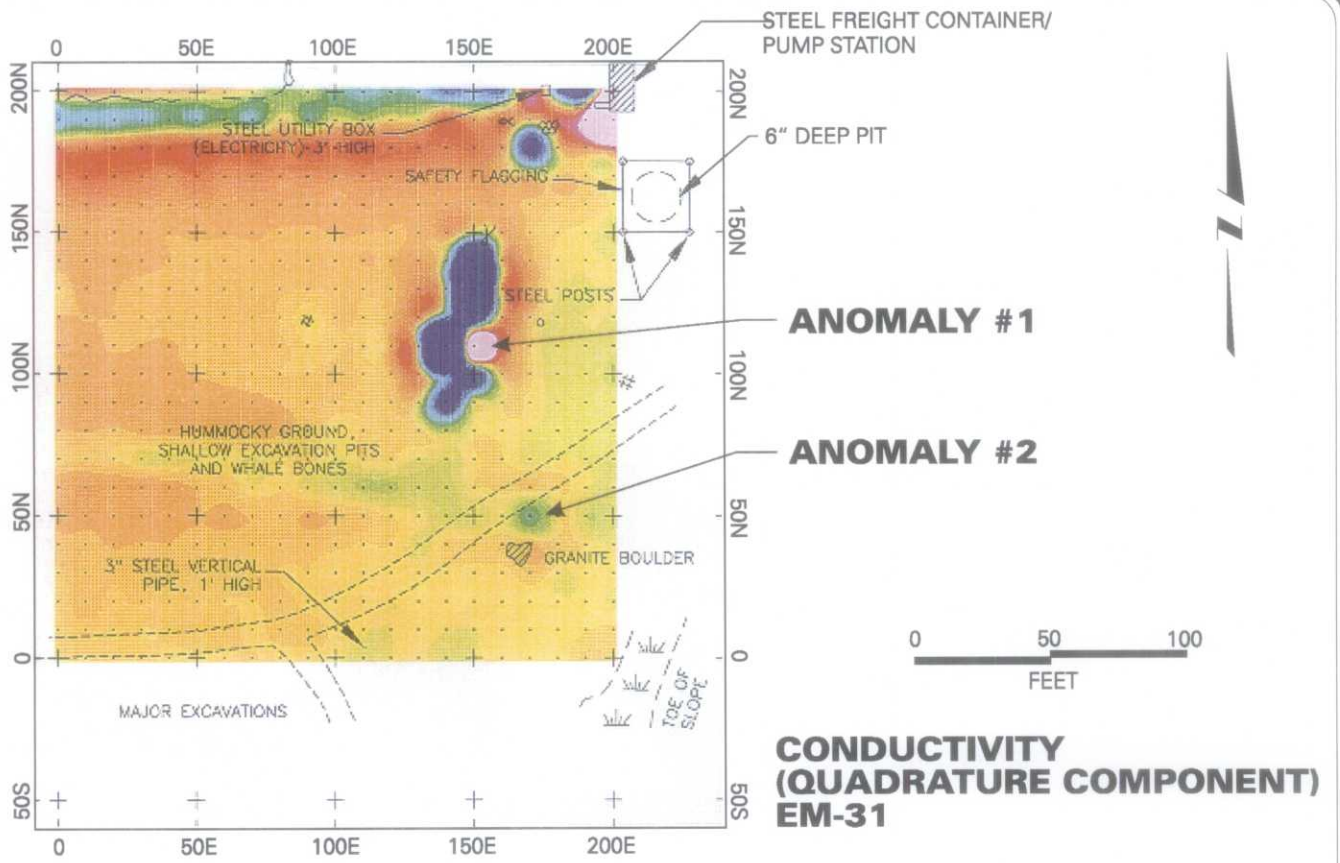


FIGURE 1-5

U.S. ARMY ENGINEER DISTRICT, ALASKA
GAMBELL, ST. LAWRENCE ISLAND, ALASKA

SITE 5 GEOPHYSICAL RESULTS



2. FIELD OBSERVATIONS AND INVESTIGATION RESULTS

This section details the methods used and the results of the 1997 field investigation, which included training of local personnel, emergency water treatment design, a public meeting, and the anomaly investigation.

2.1 TRAINING OF LOCAL PERSONNEL

Montgomery Watson utilized local residents via a subcontract with Sivuqaq, Inc. during the investigation of the geophysical anomaly at Gambell. Local resources were used for hand excavation, equipment operation, and logistics. Prior to the field effort, those selected by Sivuqaq, Inc. to fill the laborer positions completed a 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training class at Gambell in conformance with the training requirements of 29 CFR 1910.120. The Environmental Training Institute of Anchorage, Alaska conducted the required OSHA training in Gambell, directed by Montgomery Watson. Supplemental training on the specific requirements of the work and first aid was provided by Montgomery Watson. The 40-hour training was conducted during the period of July 21 to July 25, 1997.

Sivuqaq trainees included:

- Merle Apassingok-supervisor
- Clarence Irrigoo Jr.-laborer
- Waldimar Cambell-laborer
- Caleb Okhtokiyuk-laborer
- Carson Oozeva Sr.-laborer
- Gordon Oozevaseuk-laborer
- Evans Apatiki-laborer
- Daniel Apassingok-laborer
- Robert Tungiyang-laborer

Photographs of the training program are given in Figure 2-1.

2.2 EMERGENCY WATER TREATMENT SYSTEM

During the completion of the work plan to investigate the geophysical anomalies near Gambell's water supply point, it was recognized that a spill of transformer fluids or other hazardous materials during the investigation process could pose an immediate threat to Gambell's water supply. For this reason, Montgomery Watson designed an emergency water treatment system which could be installed within a 30-day time period. The system was designed to treat a variety of PCB species, POLs, and related contaminants.

Because a spill did not occur, the system was not installed, and the treatment contingency was not needed. Further details on the treatment system can be found in the design specifications (Montgomery Watson, 1997b).

2.3 PUBLIC MEETING

On July 23, 1997, a public meeting was held at the Gambell Community Center. Fifty four members of the community attended the meeting. Speakers at the meeting included Merle Apassingok (President, Sivuqaq, Inc.), and Victor Harris (Project Manager, Montgomery Watson). Also in attendance were Suzanne Beauchamp representing the Alaska District, and Katarina Rutkowski representing the ADEC.

The purpose of the meeting was to inform the community about the upcoming geophysical anomaly investigation. Of particular importance was the discussion of the possibility of installation of emergency water treatment, and the need for the community to conserve water, should a spill occur during the anomaly investigation. The background, purpose, methods, and schedule of the work was presented.

Questions and comments from the community centered on stressing the importance of the their water supply, the nature of the contaminants that might be found, the depth and size of the suspected transformers, and concern about the hazardous military-era debris scattered around various locations at Gambell. The community was concerned about how long it will take to complete the entire cleanup process.

The agenda for the meeting, and the sign-in sheet is given in Appendix C.

2.4 ANOMALY INVESTIGATION

During this field event, two geophysical anomalies were investigated at Site 5 to discern whether they contain transformers and whether any PCBs are associated with the transformers, if present. The large anomaly in the center of the survey grid (Figure 1-5) is Anomaly #1. A second anomalous area adjacent to a large boulder on the southeast portion of the 1996 geophysical grid (Figure 1-5) is Anomaly #2.

2.4.1 Investigation at Anomaly #1

After the geophysical survey, but prior to this investigation, 1-1/2 inch braided metal cable was uncovered at Anomaly #1 during the construction of the village water supply facilities. This cable was carefully pulled out during this investigation using a backhoe before beginning the investigation at Anomaly #1.

Approximately twenty cubic yards of gravel was displaced manually at the area of Anomaly #1, exposing debris from an abandoned military Quonset hut and one intact 12-volt military-type battery. The excavation area totaled approximately 850 square feet. The area was excavated to a depth of approximately 5 feet below ground surface as it existed during the 1996 geophysical

survey. The gravel was manually displaced, and carried away from the site and placed into the scoop of the front-end loader situated 200 feet west of the investigative area. The debris was piled at a location northwest of the excavation and safety flagging was posted around the pile. It was evident after removing the debris that clean native gravels were present under the debris and no transformers were located at the suspect area. The area was visually inspected, and the soils were scanned using a PID. There was no evidence of soil contamination, or evidence of a contamination source. Therefore, no sampling was conducted in these soils.

After the debris was removed, a field sweep of the area was completed using a Schonstedt Magnetic Locator, Model GA-52B. There was no detection of ferric materials in the removal area of Anomaly #1. Once it was confirmed the area was cleared of metallic debris, the excavation was backfilled with the exacted gravel by the front end loader to the former surface grade. The debris was eventually moved to the barge landing area where it was cut into manageable pieces, palletized, banded, and readied for shipping to Seattle for recycling at General Metals, Inc. The area of Anomaly #1, along with excavation activities are shown on Figure 2-2.

2.4.2 Investigation at Anomaly #2

Anomaly #2, located adjacent to a large boulder, was excavated to a depth of approximately 5 feet below ground surface, exposing seven 55-gallon drums. The tops of the drums had been previously removed and the drums had been filled with gravel. Wire cable (3/4-inch) was wrapped around this bundle of upright drums and reportedly served as the anchor for the historic military tramway which went to the top of Sevuokuk Mountain. The drums were rusted but intact measuring 21-inches outer diameter by 3 feet high. The excavation area was approximately 100 square feet. Anomaly #2, along with excavation activities is shown on Figure 2-3. After the loose debris was removed, the deeply buried empty drums were documented and left in place, because this debris represented no chemical hazard. A field sweep of the remaining area was completed using a Schonstedt Magnetic Locator, Model GA-52B. There was no detection of ferric materials in the surrounding area of Anomaly #2. The excavation was then backfilled with the exacted gravel by the front end loader to the former surface grade. No evidence of contamination was noted and no soil samples were collected.

2.5 SUPPLEMENTAL METAL DETECTION SCANNING

Supplemental scanning with a magnetic locator was completed over the area behind the well house to the toe of Sevuokuk Mountain and to the east and south of the 1996 grid boundary as shown on Figure 2-4. There was no indication of additional buried metallic debris in these areas.

2.6 ARCHAEOLOGIST SUPERVISION

Mark Pitkin, a consulting archaeologist of Walking Dog Archaeology, was on site during the entire anomaly investigation and cleared all areas prior to soil and gravel removal. During the investigation at Anomaly #1, no remains or artifacts were discovered other than military-era

debris. Similarly, no archaeological finds were discovered during the investigation of Anomaly #2.

However, during the excavation activities, one set of human remains and one artifact were recovered from the investigation area. Neither of these were found at the anomaly excavation areas, but were unearthed as a result of ATV traffic. After consultation with Sivuqaq, Inc. and the City of Gambell, it was agreed that Merle Appassinok, corporation president, would complete reinternment of the human remains 97-1 and artifact 97-1. This will be done in an area approximately 200 meters northeast of the project area near the archeological site XSL-003 (see photo in Appendix A, Page 8). The archeological report is presented in Appendix A.

2.7 SAMPLING

The project work plan called for soil sampling if contamination was discovered, and sampling of the village water supply.

2.7.1 Soil and Wipe Sampling

Because there was no evidence of any soil contamination and no transformers found, there were no soil or wipe samples collected during this investigation.

2.7.2 Groundwater Sampling and Monitoring Well Decommissioning

Groundwater samples were collected at the new village infiltration gallery prior to and after the start of the excavation (Figure 2-5). The pre-excavation sample was analyzed for diesel range organics (DRO). The post-excavation sample was analyzed for DRO, residual range organics (RRO), polychlorinated biphenyls (PCB), gasoline range organics (GRO), and benzene, toluene, ethylbenzene, and xylenes (BTEX). DRO was detected at a concentration of 0.124 mg/l and 0.103 mg/l in pre- and post-excavation sampling respectively. These DRO concentrations are similar to concentrations detected in previous sampling events at adjacent Monitoring Well 16. No other sample analytes were detected. The laboratory results are presented in Appendix B.

The two Site 5 monitoring wells installed in 1994 (MW 15 and MW 16) were found to be unusable because of severe frost effects, which jacked the casings and damaged the surface seal. Samples could not be collected because the well casings jacked above the static water level.

The above-ground portion of Monitoring Well 9 (MW 9/Site 3) was also separated entirely from the below-ground portion of the well. Evidence such as gunshot holes in the outer steel monitoring well casing and lock suggest that this well damage was caused by human influence. The below-ground well shaft had been filled in with gravel.

Both of the monitoring wells at Site 5 (MW 15 and MW 16) were jacked up significantly due to freeze/thaw phenomena (Figure 2-6). MW 16 was decommissioned by the Montgomery Watson field crew by first lifting up the outer steel casing and concrete slab (which was already broken into pieces) and then breaking the inner PVC well casing at one foot below the ground surface.

The void was backfilled with a concrete mix and gravel to the surface and then covered with sod. The outer steel casing was prepared for removal off of the island. The PVC (which showed no signs of contamination) and the concrete was taken to the Gambell landfill.

Monitoring Wells 9 and 15 could not be decommissioned during this field effort, because there was only one bag of cement available in the village of Gambell.

2.7.3 Data Review

Two samples of drinking water from the Gambell potable water supply were collected to document water quality before and during excavation of the geophysical anomaly at Site 5. The first sample (97GAM001NVW) was collected on July 24, 1997 and submitted to Chemical Testing and Engineering (CTE) in Anchorage, AK for analysis of DRO (AK102) and VOC (SW8260A). Because the VOC sample exceeded the 14 day holding time, the analysis was canceled prior to sample processing. The second sample (97GAM010NVW) was collected on August 13, 1997 during site excavation and submitted to CTE for analysis of PCB (SW8081), DRO/RRO (AK102/103), and GRO/BTEX (AK101/8021). A trip blank was also submitted with the second sample for GRO/BTEX (AK101/8021).

Data packages submitted for review are contained in a separate Volume II. These packages were reviewed to ensure that the data are suitable for assessing the quality of the samples collected. This reviewed included sample handling and chain-of-custody procedures, holding times, laboratory quality control, and adherence to requested analytical methods. Also as part of this review, data precision, accuracy, and completeness were verified.

All data have been determined to be acceptable for use. Following is a listing of data anomalies found, with a description of how data usability is affected:

- As noted above, sample 97GAM001NVW submitted for VOC analysis was held by the lab past the 14 day holding time. As a result, the analysis was canceled by Montgomery Watson prior to processing.
- Matrix spikes were not analyzed for either sample. Although laboratory precision can be determined (and is acceptable for all analyses) from duplicate laboratory control samples, matrix effects are unknown. However, because the samples are from an established drinking water source, it may be assumed that matrix effects are not significant, and data quality is unaffected. This assumption is based on USEPA drinking water analysis methods which typically omit matrix spike analysis due to the relatively clean nature of drinking water.

2.8 REMOVAL OF TRANSFORMERS AT SITE 4/AREA 4D

As part of the work at Site 5, three transformers were removed from Site 4/Area 4D by an all-terrain vehicle (ATV) and trailer shown on Figure 2-7. These transformers were located within the drainage area of the village water supply. The transformers were wipe sampled for PCB

analysis during the Phase II Remedial Investigation in order to characterize the transformers for disposal. Three primary samples, one blank sample, and an associated QC sample were collected. The only detection found was a trace amount of Aroclor 1260 (0.002 mg/100 cm²) in the northern-most transformer. This detection is significantly below the PCB action level of 10 mg/100 cm² (EPA, 1991). The three transformers were cut and shipped in one 85-gallon overpack drum to Anchorage for disposal. The transformers were accepted by the Newel Recycling Center in Anchorage, Alaska on August 19, 1997.

2.9 COLLECTION AND PACKAGING OF ASSOCIATED DEBRIS

Physically hazardous debris was cut and removed from several highly frequented areas within and around the investigation area. This debris consisted of Marston matting, cable, Quonset hut remains, and the three transformers from Area 4D.

2.10 DISPOSAL OF ASSOCIATED DEBRIS

After collection, the debris was cut and consolidated at the Barge Landing Area (near the "Army Landing Area" shown in Figure 1-3), packaged in large boxes (4 x 8 x 5 feet) and on pallets, banded with metal strapping, and weighed. Each box and pallet was assigned a number, and subsequently labeled with the box/pallet number and the weight. Two boxes of debris from Site 5 and Site 4 were labeled MW 5 and MW 6. These boxes were weighed at 2,600 and 1,585 pounds, respectively.

The boxes were loaded and strapped onto barge landing skids to be picked up by Northland Services, who arrived at Gambell on October 10, 1997. The shipment will travel by barge to Seattle for recycling with General Metals, Inc.

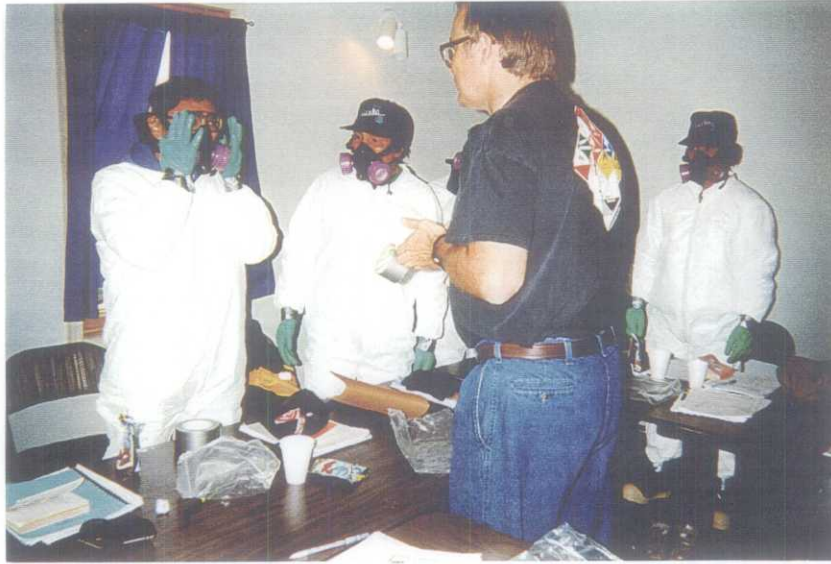


FIGURE 2-1

U.S. ARMY ENGINEER DISTRICT, ALASKA
GAMBELL, ST. LAWRENCE ISLAND, ALASKA

SIVUQAQ, INC.

HAZ WOPER TRAINING - JULY, 1997



NEW WATER SUPPLY FACILITIES
ANOMALY #1



1. BEFORE EXCAVATION



2. MANUAL DIGGING TO EXPOSE DEBRIS



3. RETRIEVAL OF MILITARY QUONSET HUT FRAMES



5. SAFETY FLAGGING AROUND EXCAVATED DEBRIS



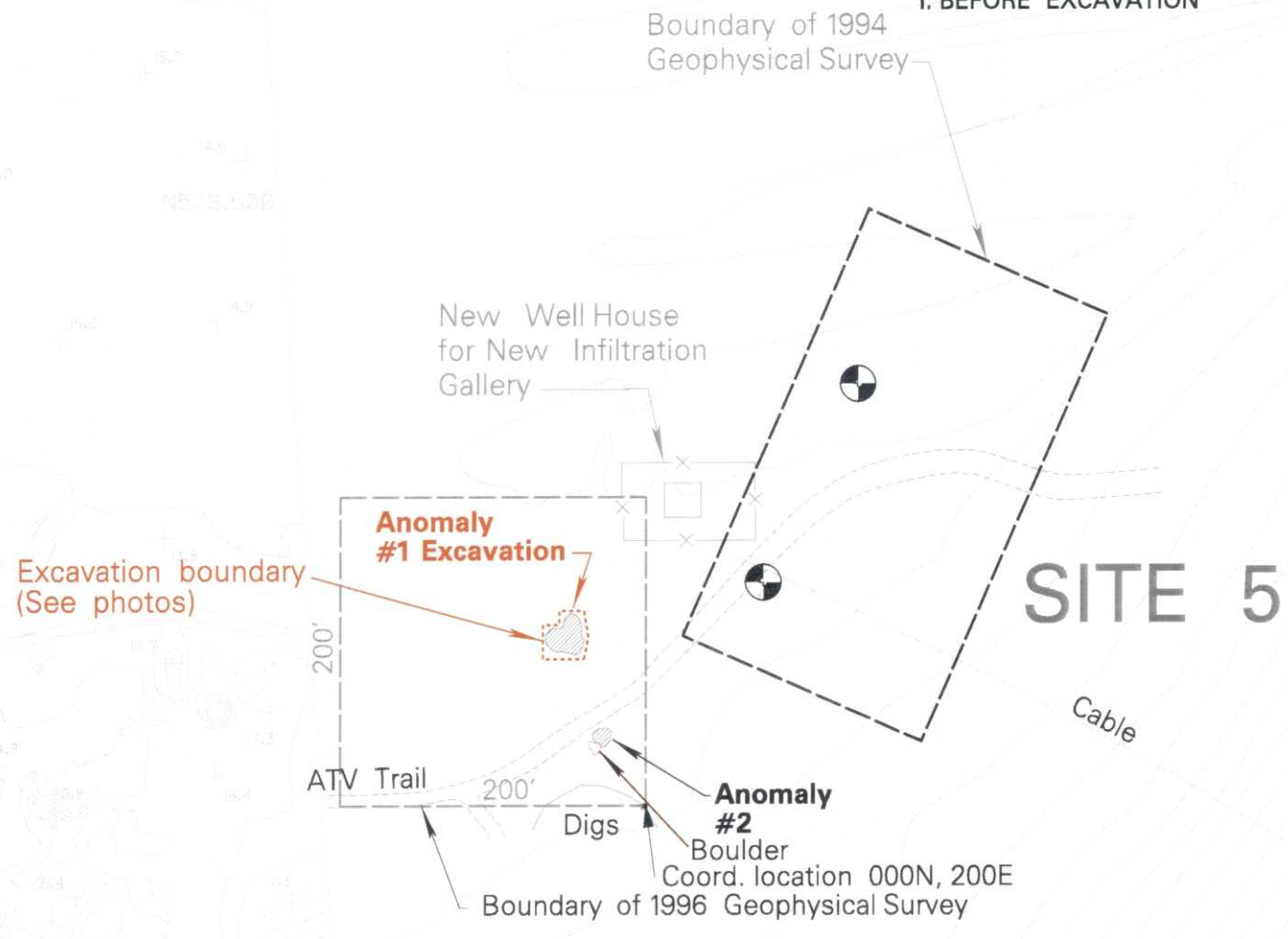
4. RETRIEVAL OF BATTERY



6. TEMPORARY STOCKPILING OF DEBRIS



7. TRANSFER OF DEBRIS TO BARGE LANDING AREA FOR DISPOSAL



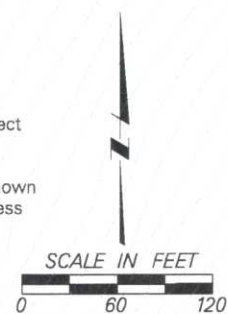
NOTES:

1. Mapping by AEROMAP U.S., Inc. from photography dated 7-12-1994 for UNWIN SCHEBEN KORYNTA HUETTL.

This map conforms to National Map Standards as related to the project photo control for scales of 1" = 100' or smaller.

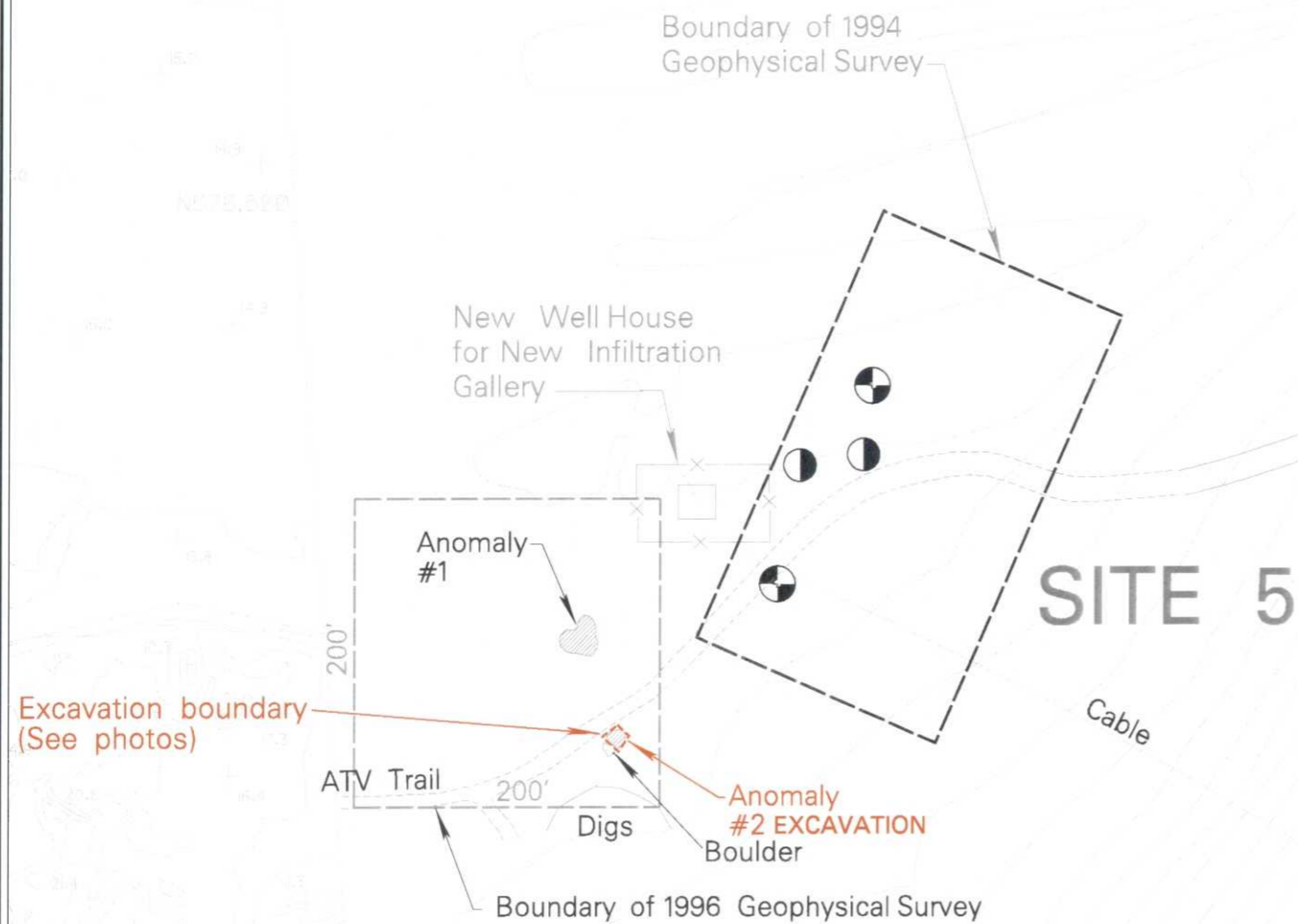
The vertical accuracy is approximately one half of the contour interval shown in any given area on the map. Contours in vegetated areas may be less accurate, contours in dense vegetation are likely to be less accurate.

2. Mapping taken from CRW Engineering Group, prepared by North Pacific Aerial Surveys, Inc., date of photography 10-22-85.



CRW Mapping
AEROMAP Mapping

FILE: E:\corps\gambell\task\Fg2_2.dgn
JOB No. 11890016101 TIME: 19-DEC-1997 14:27



1. SIVUQAQ AND MONTGOMERY WATSON PERSONNEL BEGIN EXCAVATION



2. MANUAL DIGGING TO EXPOSE DEBRIS



3. MANUAL DIGGING WITH ARCHAEOLOGIST ON-SITE



3. UNCOVERED HISTORIC TRAMWAY ANCHOR (SEVEN 55-GALLON DRUMS HELD TOGETHER WITH BRAIDED METAL CABLE)

NOTES:

1. Mapping by AEROMAP U.S., Inc. from photography dated 7-12-1994 for UNWIN SCHEBEN KORYNTA HUETTL.

This map conforms to National Map Standards as related to the project photo control for scales of 1"=100' or smaller.

The vertical accuracy is approximately one half of the contour interval shown in any given area on the map. Contours in vegetated areas may be less accurate, contours in dense vegetation are likely to be less accurate.

2. Mapping taken from CRW Engineering Group, prepared by North Pacific Aerial Surveys, Inc., date of photography 10-22-85.

CRW Mapping
AEROMAP Mapping

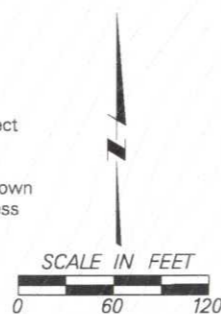
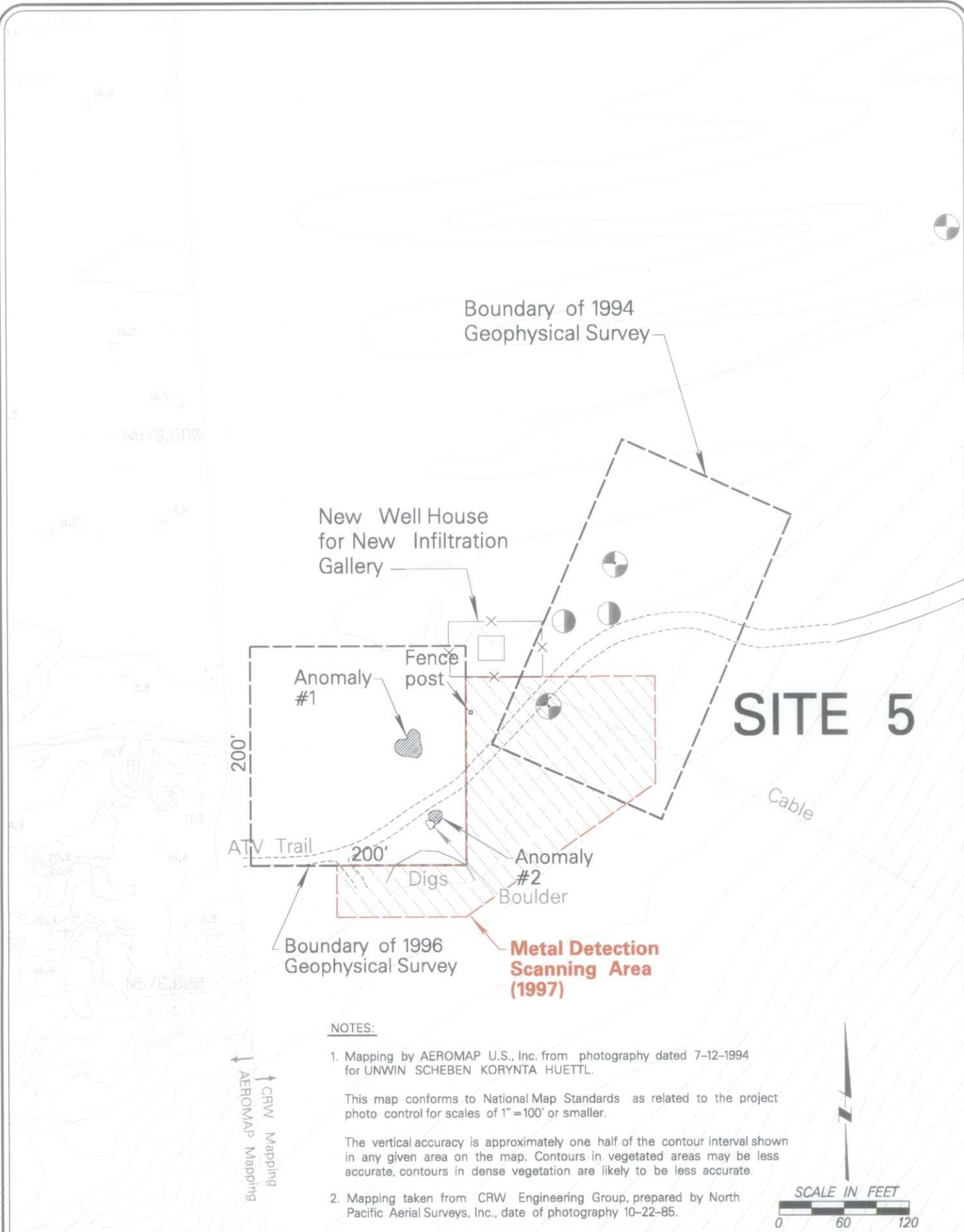


FIGURE 2-3

ALASKA DISTRICT - CORPS OF ENGINEERS
GAMBELL, ST. LAWRENCE ISLAND, ALASKA

SITE 5 INVESTIGATION AT ANOMALY #2



NOTES:

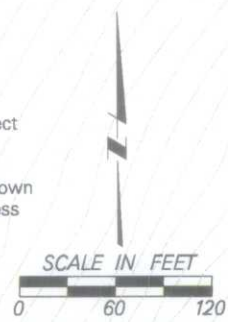
1. Mapping by AEROMAP U.S., Inc. from photography dated 7-12-1994 for UNWIN SCHEBEN KORYNTA HUETTL.

This map conforms to National Map Standards as related to the project photo control for scales of 1" = 100' or smaller.

The vertical accuracy is approximately one half of the contour interval shown in any given area on the map. Contours in vegetated areas may be less accurate, contours in dense vegetation are likely to be less accurate.

2. Mapping taken from CRW Engineering Group, prepared by North Pacific Aerial Surveys, Inc., date of photography 10-22-85.

CRW Mapping
 AEROMAP Mapping



MONTGOMERY WATSON

Anchorage, Alaska

FIGURE 2-4

U.S. ARMY ENGINEER DISTRICT, ALASKA
 GAMBELL, ST. LAWRENCE ISLAND, ALASKA

SITE 5 METAL DETECTION SCANNING



Bonnie McLean, Montgomery Watson
Collecting Water Sample,
97 GAM 001 NVW, on July 24, 1997



FIGURE 2-5

U.S. ARMY ENGINEER DISTRICT, ALASKA
GAMBELL, ST. LAWRENCE ISLAND, ALASKA
**GROUNDWATER SAMPLING -
NEW INFILTRATION GALLERY**

NOTES:

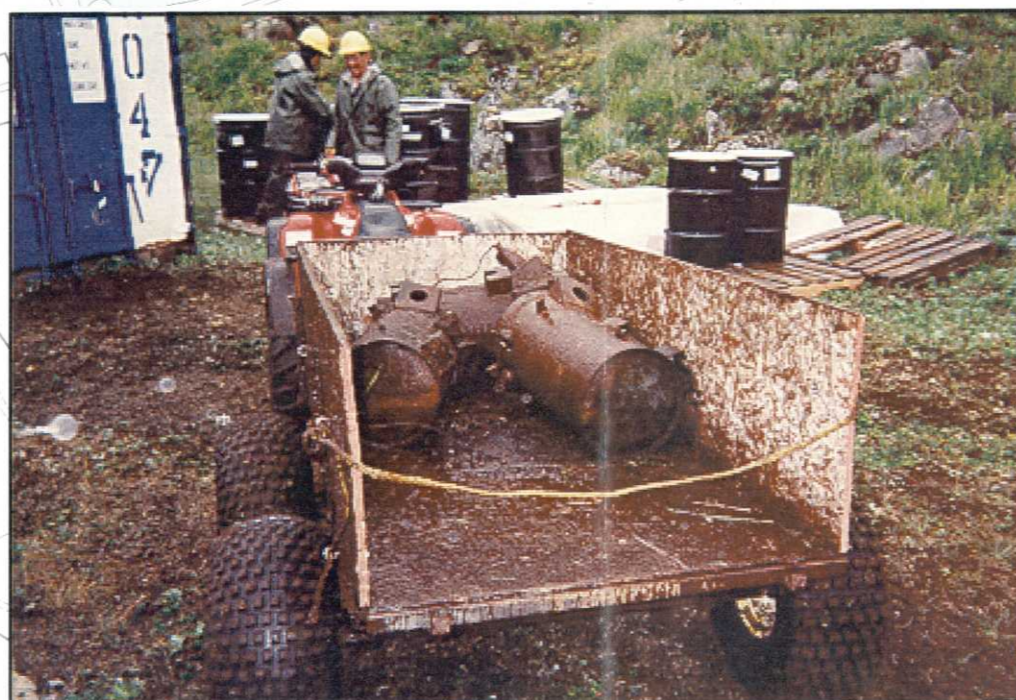
1. Mapping taken from Chemical Data Acquisition Plan by Ecology & Environment (1993). Mapping believed to be sketched from aerial photography taken in 1995. Accuracy unknown.
2. Plane Crash Site was not visited during 1994 RI.



1. FORMER LOCATION OF TRANSFORMERS ON SEVUOKUK MTN.

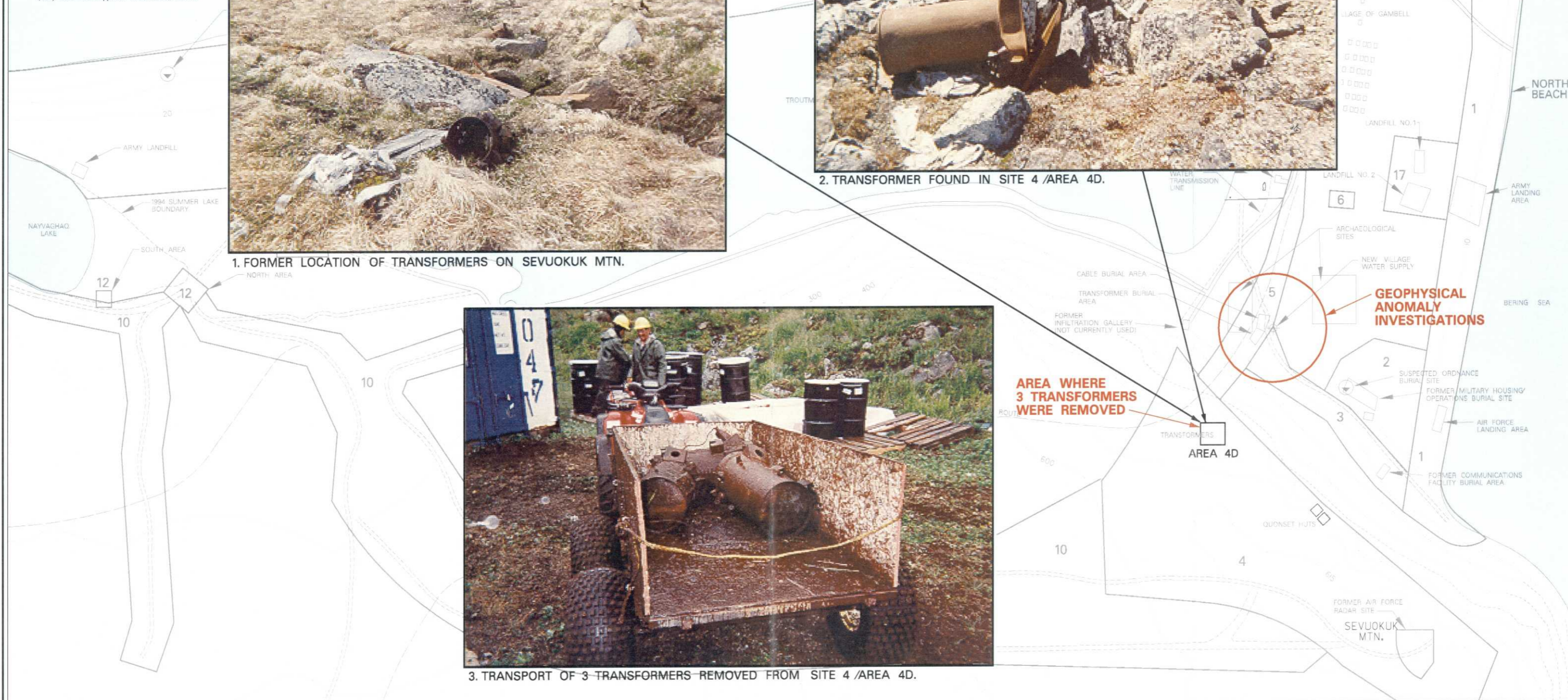


2. TRANSFORMER FOUND IN SITE 4 /AREA 4D.



3. TRANSPORT OF 3 TRANSFORMERS REMOVED FROM SITE 4 /AREA 4D.

SITE 14
(Navy Plane Crash approx. 7 miles south), Note 2



LEGEND:

□ Boundary of Site

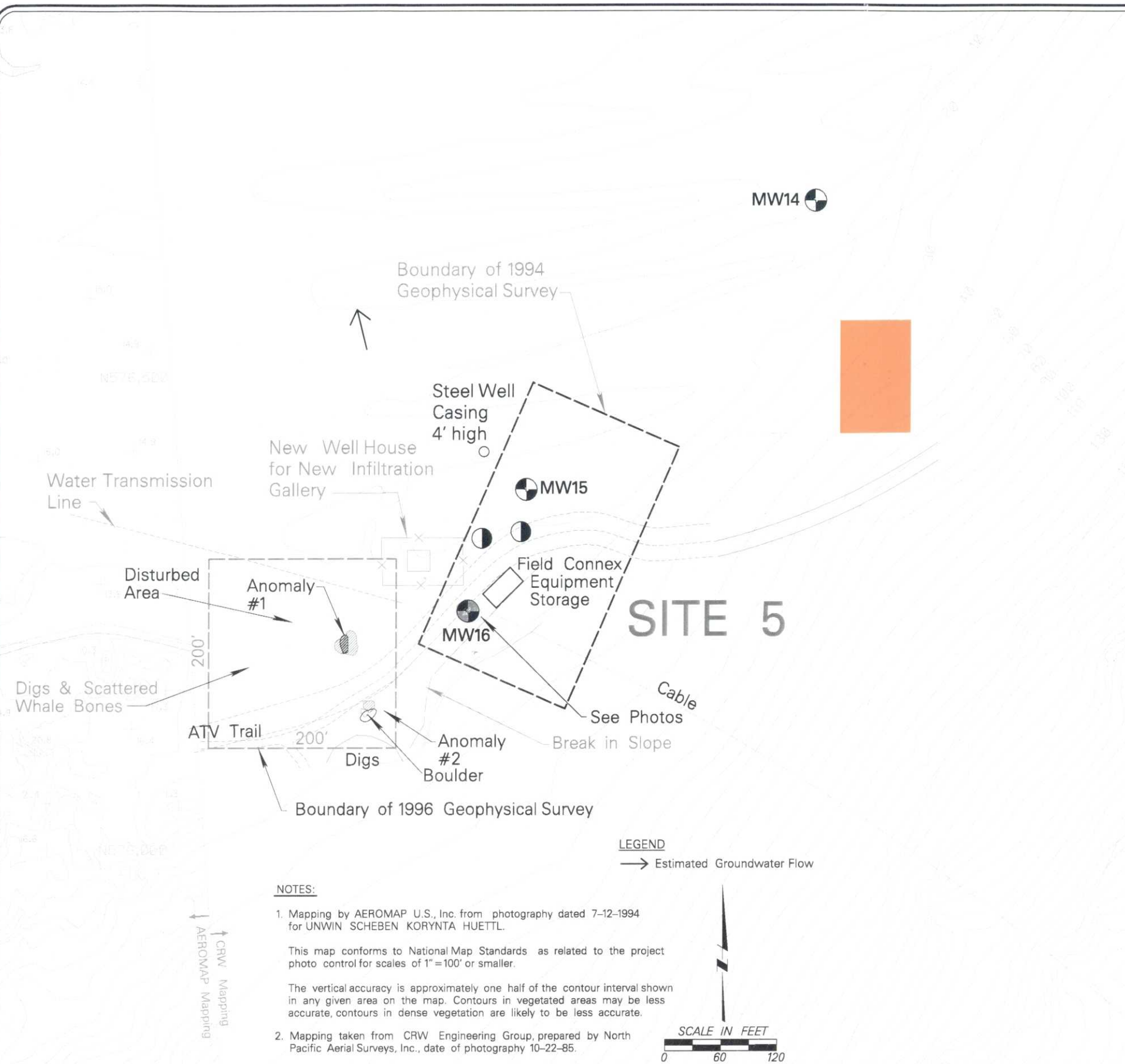


FIGURE 2-6

ALASKA DISTRICT - CORPS OF ENGINEERS
GAMBELL, ST. LAWRENCE ISLAND, ALASKA

REMOVAL AND DISPOSAL OF 3 TRANSFORMERS FROM SITE 4 /AREA 4D

FILE: e:\corps\gambell\task\fig2_7.dgn
 TIME: 19-DEC-1997 14:37
 JOB No. 11850101610



1. CONDITION OF MW 16 BEFORE DECOMMISSIONING



2. DURING DECOMMISSIONING



3. AFTER DECOMMISSIONING

3. RECOMMENDATIONS AND CONCLUSIONS

The field investigation summarized in this report demonstrated that the geophysical anomalies noted in earlier investigations at Site 5 were caused by non-hazardous metallic debris consisting of cable, empty drums used for tramway anchor points, and Quonset hut roofing material. An intact military type battery was also found. No transformers were found at the investigated geophysical anomalies, or in a supplementary metal detection scan of the area. All debris from Site 5 (with the exception of deeply buried non-hazardous anchor points) was removed from the island. Three transformers within the drainage area of the village water supply were also removed.

Sampling of the village water supply at Site 5 indicated the presence of low (0.103 to 0.124 mg/l) levels of diesel range organics, but no benzene, toluene, ethylbenzene, xylenes, polychlorinated biphenyls, or gasoline range organics. This investigation has shown that the village water supply is not currently impacted by PCBs or volatile organic contaminants from previous military activities. We would, however, recommend that routine sampling of the water supply by Village Safe Water include sampling for disinfection by-products such as trihalomethanes. This is because the chlorine used in the village water treatment process may react with organics in the water to produce undesirable disinfection by-products.

It was also noted during this investigation that several of the monitoring wells in Gambell are no longer usable due to vandalism or frost jacking effects. It is recommended that the monitoring wells installed in 1994 be properly abandoned in accordance with ADEC guidelines, unless a need for further groundwater sampling can be shown.

In general, this investigation has demonstrated that use of local resources (manpower, equipment) is a cost-effective and expedient method to complete work at remote sites. We would recommend continued use of local resources at St. Lawrence Island and other remote sites.

- 9021
- 8260
benzene
range
built
in confirmation
chlorinated
hydrocarbons

4. REFERENCES

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- Ecology and Environment, Inc. (E&E). 1993a. Chemical Data Acquisition Plan Site Inventory Update Gambell, St. Lawrence Island, Alaska. February.
- Ecology and Environment, Inc. (E&E). 1993b. Prepared for Alaska District, U.S. Army Corps of Engineers. Site Health and Safety Plan, Gambell Site, St. Lawrence Island, Alaska. February.
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- Golder Associates. 1994. Final Report-Geophysical Survey Investigations, St. Lawrence Island, Alaska. June.
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Montgomery Watson. 1997b. Emergency Water Treatment System Option, Gambell, St. Lawrence Island, Alaska. August.

United States Army Corps of Engineers (USACE). 1993. DERP-FUDS Program Manual. December 8.

URS Corporation. 1985. Defense Environmental Restoration Account, City of Gambell and Gambell, St. Lawrence Island, Alaska. Volume II. Final Environmental Assessment, No. DACA 85-85-C-0036. Anchorage, Alaska.

Appendix A

Archaeological Report



MONTGOMERY WATSON

**Archaeological Monitoring
in 1997 During Subsurface Investigations Near the
Water Infiltration Gallery
in Gambell, Alaska**

Prepared for

**Montgomery Watson Americas, Inc.
Anchorage, Alaska**

By

Mark E. Pipkin



Anchorage, Alaska

August 1997

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Project Background

Gambell, Alaska a village on St. Lawrence Island, has been the subject of an on going project to construct a modern water and sewer system. In 1996 a infiltration gallery was constructed at the foot of nearby Sevuokuk Mountain. This infiltration gallery now serves as the primary water source for the village. During construction three sets of human remain and associated artifacts were discovered in close proximity of the of the gallery (see Pipkin 1997). Due to these finds this area is now considered to be within the margins of the Miyowagh archaeological site (XSL-002). Additionally, it is in close proximity to the significant Hillside Site (XSL-001). In 1996 testing by Montgomery Watson revealed a pair of subsurface magnetic anomalies in close proximity to the infiltration gallery. Interviews with local residents raised the possibility that this may represent electrical transformers buried by the U.S. military. As a result Montgomery Watson has decided to conduct subsurface testing. As this project is in part Federally funded it was covered by the provisions of section 106 of the 1966 National Historic Preservation Act that states that the effect of the project upon cultural resources must be taken into account.

The Physical Environment

The village of Gambell, Alaska is located on the northwest tip of St. Lawrence Island (63°47' N, 171°45' W). It is 38 miles (61 km) southeast of the Chukchi Peninsula, Siberia and 200 miles (320 km) southwest of Nome, Alaska. St. Lawrence Island is situated in the Bering Sea roughly 150 miles (240 km) south of the Bering Strait and 100 miles (160 km) southwest of the Alaska mainland. It is approximately 95 miles (152 km) wide and 25 miles (40 km) long.

The village is situated on a low-lying gravel spit running approximately one mile (1.6 km) east to west and ½ mile (0.8 km) north to south. This spit consists generally of water-rounded pebbles ranging between 0.5 and 10 cm in diameter. It was formed from the combined actions of waves, ice and currents that run along the west and the north shores of the island. The spit is punctuated by a series of parallel beach ridges running predominately east and west. These were formed one after another, with the newest ridges being the most seaward. Based on observations that Eskimos place their villages in close proximity to the beach it has been surmised that these beach ridges are of the same relative age as the respective archaeological



Figure 2. St. Lawrence Island and the Bering Strait Region.

sites situated upon them (Collins 1937:33-34). This suggests that the large portion of the spit was formed sometime during the last 2,500 years, with the more northerly and extreme western beaches being the most recent.

To the west of the Gambell spit lies Sevuokuk (Sivuqaq) Mountain, a steep rocky plateau that rises to a height of 614 ft (187 m). To the south of Gambell lies Troutman Lake, measuring

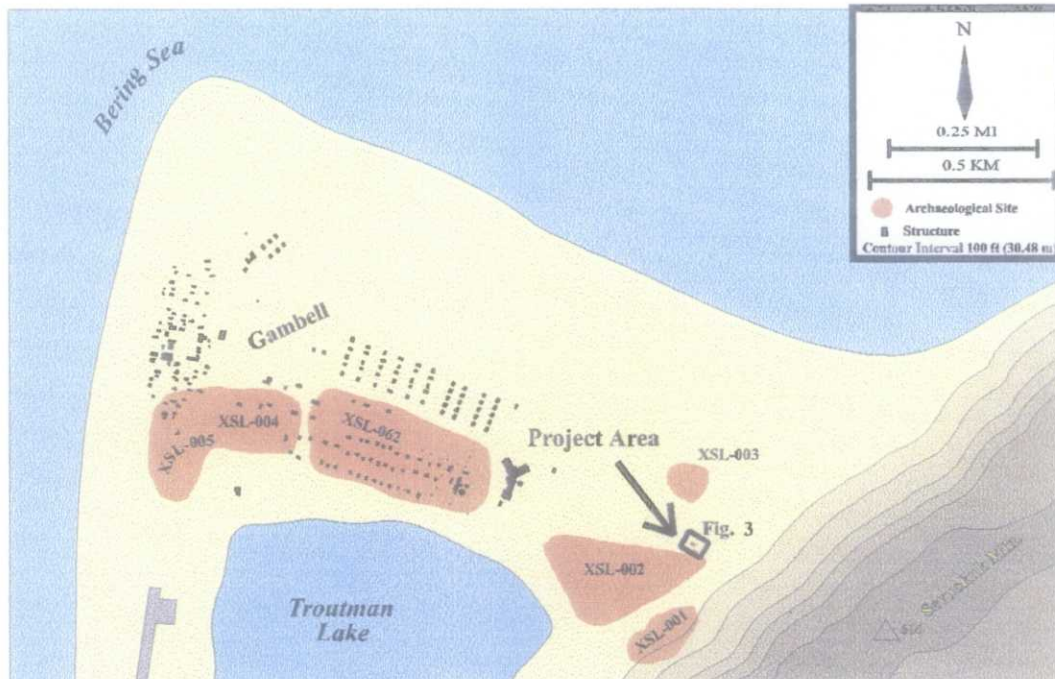


Figure 3. Archaeological sites on the Gambell spit.

approximately two miles (3.2 km) long and ½ mile (0.8 km) wide.

Vegetation on the spit is sparse, and in some areas nonexistent. The heaviest vegetated areas of the spit are the archaeological sites. The cultural middens associated with these sites are enriched with accumulated organic materials that promote an abundant growth of grasses, sedges, worm wood (*Artemisia tilesii*), and numerous flowering plants. Sparser growths of grasses and sedges also occur in the troughs between the beach ridges where there has been limited soil accumulation. Nearby Sivuqaq Mountain has a tundra vegetation consisting of

grasses, sedges, dwarf willows and birches, mosses, lichens and flowering plants.

Of primary economic interest to the local inhabitants are the sea mammals found in the nearby waters. These include bowhead, finback, grey and beluga whales, Pacific walrus, harbor, bearded, fur and ribbon seals, and sea lions. Also present in the waters near Gambell are tom cod, Arctic char, grayling, dolly varden, and Pacific salmon. In addition, St. Lawrence Island is situated along a major migratory flyway that provides the local inhabitants with many economically important birds including swans, ducks, geese and a myriad of species of seabirds.

Results of the 1997 Subsurface Testing

All subsurface testing during the 1997 field season was confined to two areas that were in close proximity to the village's infiltration gallery. In the first of these, Area I that is located approximated approximately 20 to 35 meters southwest of the infiltration gallery building where a large subsurface magnetic anomaly had been located during testing conducted in 1996. On the surface of this area were remains of a spool of 3/4 inch steel cable. The second area, Area II, was located approximately 40 to 45 meters to the south of the infiltration gallery building. A smaller subsurface magnetic anomaly had been discovered there in 1996. Although there were no surface indications it had been reported by at least one resident of Gambell that there were electrical transformers buried by the U.S. military at this location.

Two of the six archaeological sites located on the Gambell spit are in this immediate area, these being the Hillside site (XSL-001) that dates to the Okvik - Old Bering Sea phase, and the Miyowagh site (XSL-002) that dates to the to the late Okvik - Old Bering Sea Phase and the early Punuk Phase. Thus, most of the archaeological materials found in this immediate area

would most probably date between 2,500 to 1,000 year before present.

Subsurface testing in Area I was conducted on August 12, 1997. After the steel cable was removed, the remains of a demolished Quonset hut and associated debris were unearthed at an approximate depth of 1.1 meter below the present ground surface. Besides this historical debris no archaeological remains were found in the immediate testing area.

Subsurface testing in Area II was conducted on August 13, 1997. At a depth of approximately 1.65 meters a number of 55 gallon oil drums were discovered. These tops of these drums had been removed and they had been cabled together. It appeared that they had

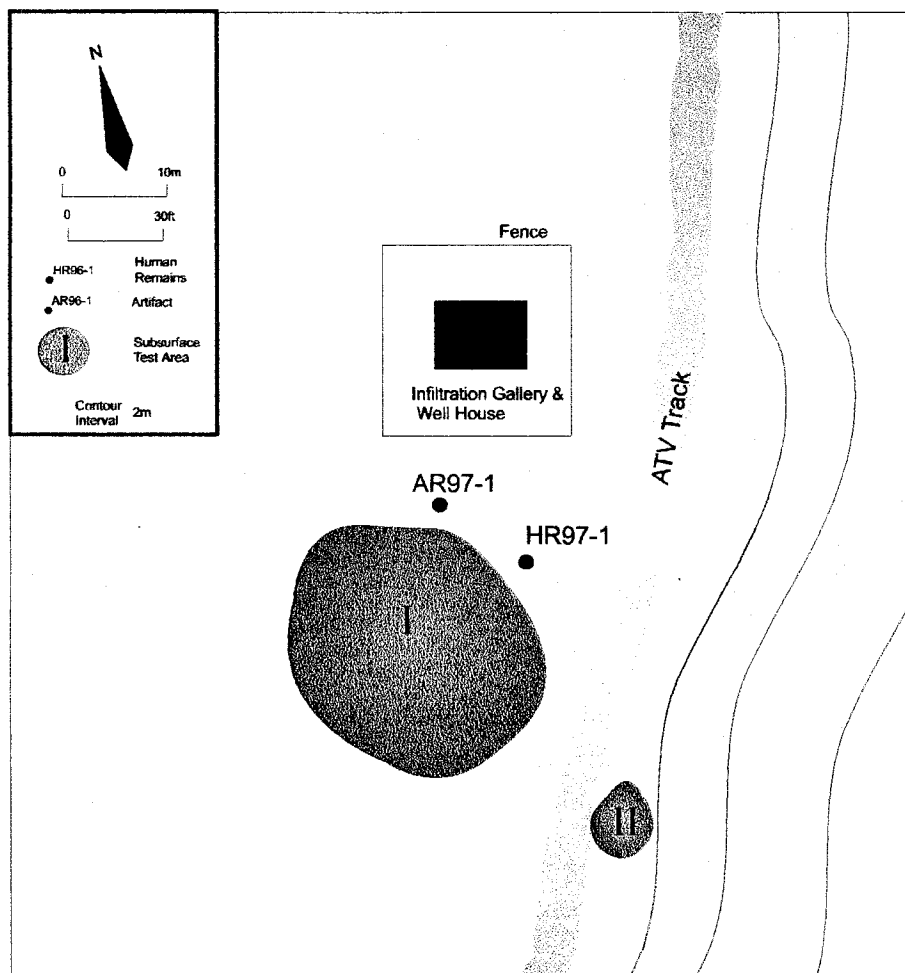


Figure 4. Subsurface testing area detail.

been sunk into the ground and filled with gravel as to act as an anchor for the tramway that served the military radar site located on nearby Sivuqaq Mountain. Besides this historical structure no archaeological remains were found in the immediate testing area.

During the period of testing only one artifact and one set of human remains were recovered from the subject area. Neither of these were found directly in the testing areas, but were found in an adjacent area just north of testing area I. This area consists of poorly consolidated gravels with a thin layer of vegetation. Both specimens were unearthed as the result of numerous crossings of this area by the all terrain vehicles being driven by the testing crew.

Artifact 97-1 (AR97-1) This was an isolated find. This was a planing adze bit made of greenstone. It was poorly flaked and perhaps represents an uncompleted specimen. The cutting edge had a relatively steep bevel suggesting that its intended function was to shape hard organic materials such as ivory or perhaps wood. Similar implements were used throughout the St. Lawrence Island cultural sequence. This artifact was turned over to a representative of the Sivuqaq Corporation.

Human Remains 97-1 (HR97-1) This consisted of an isolated human femur. The area immediately around the bone was investigated but no other bones were located. The overall length of the bone 0.32 m although the distal end of the bone was missing, and it had a shaft diameter 0.0275 m. The epiphysis was still attached to the ball of the femur and the ball had a diameter of 0.035 m. This would suggest that this would be the remains of a mature adult of

small stature. Prior to any ground breaking activities an agreement was reached between the archaeologist and the City Council of Gambell that all human remains would be reinterred at a spot approximately 200 m to the northeast of the project area near XSL-003. This bone was reinterred by a representative of the Sivuqaq Corporation.

Montgomery Watson crews also worked in other area removing discarded military debris. These areas consisted of the North and west beaches of the Gambell spit, and those areas flanking Troutman Lake. Besides the recent historical debris no cultural remain were observed in these areas.



Figure 5. Artifact 97-1.



Figure 6. Reinterment of Human Remains 97-1.

References

Collins, Henry B. Jr.

1937 *Archeology of St. Lawrence Island, Alaska*. Smithsonian Miscellaneous Collections, Vol. 96, No. 1. Washington D.C.

Pipkin, Mark E.

1997 Archaeological Monitoring for the 1996 Water and Sewer Project in Gambell, Alaska. Report submitted to Chuck Eggener Consulting Engineers. Anchorage.

Appendix B

Laboratory Reports



MONTGOMERY WATSON



CT&E Environmental Services Inc.

Laboratory Division

Laboratory Analysis Report

October 13, 1997

Victor Harris
Montgomery Watson Americas Inc
4100 Spenard Rd
Anchorage, AK 99517-2901

Client Name	Montgomery Watson Americas Inc
Project ID	COE-Gambell-New Well [974076]
Printed	October 13, 1997

Enclosed are the analytical results associated with the above project.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by CT&E. A copy of our Quality Control Manual that outlines this program is available your request.

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

If you have any questions regarding this report or if we can be of any other assistance, please call your CT&E Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- U - Indicates the compound was analyzed for but not detected.
- J - Indicates an estimated value that falls below PQL, but is greater than the MDL.
- B - Indicates the analyte is found in the blank associated with the sample.
- * - The analyte has exceeded allowable limits.
- GT - Greater Than
- D - Secondary Dilution
- LT - Less Than
- ! - Surrogate out of range



CT&E Ref.# 974076001
Client Name Montgomery Watson Americas Inc
Project Name/# COE-Gambell-New Well
Client Sample ID 97GAM001 NVW
Matrix Water (Surface, Eff., Ground)
Ordered By
PWSID

Client PO# 605
Printed Date/Time 10/13/97 12:41
Collected Date/Time 07/24/97 08:00
Received Date/Time 07/28/97 08:35
Technical Director: Stephen C. Ede

Released By

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
AK102								
Diesel Range Organics	0.124	0.101	mg/L	AK102 DRO		07/29/97	07/30/97	WAA
Surrogates								
5a Androstane <surrogate>	77.1		%	AK102 DRO	(50-150)	07/29/97	07/30/97	



CT&E Environmental Services Inc.

Laboratory Division

Laboratory Analysis Report

October 13, 1997

Chris Brown
Montgomery Watson Americas Inc
4100 Spenard Rd
Anchorage, AK 99517-2901

Client Name	Montgomery Watson Americas Inc
Project ID	Gambell Transformers [974607]
Printed	October 13, 1997

Enclosed are the analytical results associated with the above project.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by CT&E. A copy of our Quality Control Manual that outlines this program is available at your request.

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

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The following descriptors may be found on your report which will serve to further qualify the data.

- U - Indicates the compound was analyzed for but not detected.
- J - Indicates an estimated value that falls below PQL, but is greater than the MDL.
- B - Indicates the analyte is found in the blank associated with the sample.
- * - The analyte has exceeded allowable limits.
- GT - Greater Than
- D - Secondary Dilution
- LT - Less Than
- ! - Surrogate out of range



CT&E Ref.# 974607001
 Client Name Montgomery Watson Americas Inc
 Project Name/# Gambell Transformers
 Client Sample ID 97GAM010NVW
 Matrix Water (Surface, Eff., Ground)
 Ordered By
 PWSID

Client PO# ANC96CTE04
 Printed Date/Time 10/13/97 12:41
 Collected Date/Time 08/13/97 08:30
 Received Date/Time 08/13/97 17:10
 Technical Director: Stephen C. Ede

Released By

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GRO/602 Combo								
Gasoline Range Organics	0.0400 U	0.0400	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Benzene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Toluene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Ethylbenzene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
P & M -Xylene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
o-Xylene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Surrogates								
4-Bromofluorobenzene <Surr>	79.6		%	AK101/8020	(50-150)	08/13/97	08/14/97	
1,4-Difluorobenzene <Surr>	88.1		%	AK101/8020	(50-150)	08/13/97	08/14/97	
DRO/RRD Combination								
Diesel Range Organics	0.103	0.0995	mg/L	AK102/103		08/13/97	08/15/97	WAA
Residual Range Organics GC	1.49 U	1.49	mg/L	AK102/103		08/13/97	08/15/97	WAA
Surrogates								
5a Androstane <surr>	70.1		%	AK102/103	(50-150)	08/13/97	08/15/97	
d-Triacontane <Surr>	84.8		%	AK102/103	(50-150)	08/13/97	08/15/97	
PCB's by GC ECD								
Aroclor-1016	0.00101 U	0.00101	mg/L	SW846 8081		08/13/97	08/14/97	JLB
Aroclor-1221	0.00101 U	0.00101	mg/L	SW846 8081		08/13/97	08/14/97	JLB
Aroclor-1232	0.00101 U	0.00101	mg/L	SW846 8081		08/13/97	08/14/97	JLB



CT&E Ref.# 974607001
Client Name Montgomery Watson Americas Inc.
Project Name/# Gambell Transformers
Client Sample ID 97GAM010NVW
Matrix Water (Surface, Eff., Ground)
Ordered By
PWSID

Client PO# ANC96CTE04
Printed Date/Time 10/13/97 12:41
Collected Date/Time 08/13/97 08:30
Received Date/Time 08/13/97 17:10
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Aroclor-1242	0.00101 U	0.00101	mg/L	SW846 8081		08/13/97	08/14/97	JLB
Aroclor-1248	0.00101 U	0.00101	mg/L	SW846 8081		08/13/97	08/14/97	JLB
Aroclor-1254	0.00101 U	0.00101	mg/L	SW846 8081		08/13/97	08/14/97	JLB
Aroclor-1260	0.00101 U	0.00101	mg/L	SW846 8081		08/13/97	08/14/97	JLB
Inrogates								
Decachlorobiphenyl <Surr>	68.3		%	SW846 8081	(59-122)	08/13/97	08/14/97	
Tetrachloro-m-xylene <Surr>	87.6		%	SW846 8081	(10-87)	08/13/97	08/14/97	



CT&E Ref.# 974607002
 Client Name Montgomery Watson Americas Inc
 Project Name/# Gambell Transformers
 Client Sample ID Trip Blank
 Matrix Water (Surface, Eff., Ground)
 Ordered By
 PWSID

Client PO# ANC96CTE04
 Printed Date/Time 10/13/97 12:41
 Collected Date/Time 08/13/97 08:30
 Received Date/Time 08/13/97 17:10
 Technical Director: Stephen C. Ede

Released By *Stephen C Ede*

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GRO/602 Combo								
Gasoline Range Organics	0.0400 U	0.0400	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Benzene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Toluene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Ethylbenzene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
P & M -Xylene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
o-Xylene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Surrogates								
4-Bromofluorobenzene <Surr>	77.9		%	AK101/8020	(50-150)	08/13/97	08/14/97	
1,4-Difluorobenzene <Surr>	88.1		%	AK101/8020	(50-150)	08/13/97	08/14/97	

MEMORANDUM



MONTGOMERY WATSON

To: File
From: Bonnie McLean
Subject: Gambell Village Water Supply
Sampling

Date: August 22, 1997
Reference: 1189010.161605

On July 24, 1997, Bonnie McLean collected a water sample (ID: 97GAM 001 N V) from the Village of Gambell's New Water infiltration gallery. Pump #2 was allowed to run 10 minutes by the operator, Iver Campbell. A sample was collected at 8 a.m., and submitted for analysis for Diesel Range Organics (DRO) (Method AK102) and Volatile Organic Compounds (VOC) (Method 8100 M), packed in a cooler containing frozen gel ice, and sealed with a custody seal. Weather prevented transport from St. Lawrence Island until July 26, 1997. During the wait, the sample was kept chilled ($4^{\circ}\text{C} + 2^{\circ}\text{C}$) and was locked in the samplers' quarters. Upon arrival in Anchorage the sample was maintained under the control of the sampler and chilled until it was relinquished at CT & E Environmental Services on July 28, 1997 at 8:35 a.m. The laboratory was made aware of the shortened extraction time remaining verbally, and noted on the Chain-of-Custody.

cc: Victory Harris
Merle Appasingok
Suzanne Beauchamp

/dw/1189010.161605



CT&E Environmental Services Inc.

Laboratory Division

97.4076

PO#: 605

CHAIN OF CUSTODY

Reports to:

Victor Harris
Montgomery Watson
4100 Spennard
Anchorage AK

Invoice to:

[Signature]

Laboratory:

Page 1 of 1
CT&E Environmental Services Inc.
200 W Potter Dr.
Anchorage, AK 99518-1605
Phone (907) 562-2343 Fax: (907) 561-5301

Phone: 266 1140 Fax: 248 8884

QUOTE #

Bonnie McLean

Phone: 266 1141

Fax: 248 8884

Contact person for questions concerning these samples:

Special Instructions: 14-D T.A. -

Project Name/Number										
<u>COE - Gambel - New Well</u>										
Sampled By:										
<u>Bonnie McLean</u>										
Lab #	Sample #	Date/Time Sampled	# of Containers	Sample Matrix	DRO 102 KX 102 VOR					Comments
	<u>97 GAM001 NVW</u>	<u>7/24/97</u> <u>0800</u>	<u>4</u>	<u>W</u>	<u>2</u>	<u>2</u>				<u>H.T. Check</u>

Sample Receipt:	Relinquished By:	Relinquished By:	Relinquished By:
Number of Containers	Signature: <u>[Signature]</u> Time: <u>0835</u>	Signature: _____ Time: _____	Signature: _____ Time: _____
COC Seals/Intact Y/N/NA	Printed Name: <u>BONNIE McLean</u> Date: <u>7/24/97</u>	Printed Name: _____ Date: _____	Printed Name: _____ Date: _____
Temperature	Received By: _____	Received By: _____	Received at Laboratory By: _____
Turnaround Required	Signature: _____ Time: _____	Signature: _____ Time: _____	Signature: <u>Monica Steinborn</u> Time: <u>7/24</u>
Data Deliverables Required Level I Level II Level III	Printed Name: _____ Date: _____	Printed Name: _____ Date: _____	Printed Name: <u>Monica Steinborn</u> Date: <u>0835</u>

97.4607

COC # 1

Montgomery Watson 4100 Spenard Road Anchorage AK 99517 (907)248-8883 Fax (907) 248-8884			USCOE GAMBELL			Laboratory SOIL			WASTE					
CAS SW 8081 (PCB) AK 102/103 (DRO/RRO) AK 101/8021 (GRO/BETX) SW 8081 (PCB) AK 102/103 (DRO/RRO) AK 101/8021 (GRO/BETX) EPA 1311/6010 (TCLP Metals) EPA 1020A/9040B/7.3.3.2/7.3.4.2 (Ignitability, Corrosivity, Reactivity)			SW 8081 (PCB-oil) SW 8081 (PCB-wipe)			SW 8081 (PCB) EPA 1311/6010 (TCLP Metals) EPA 1020A/9040B/7.3.3.2/7.3.4.2 (Ignitability, Corrosivity, Reactivity)								
Samplers: Signature <i>Eshal Tuzman</i>			4oz Amber 20 ml MeOH	4oz Amber None	4oz Amber 20 ml MeOH	2, 1-liter Amber None	2, 1-liter Amber None	2, 40-ml vials HCL	2, 1-liter Amber None	2, 1-liter PE, 250 ml PE None	2, 40 ml None	Surgical swab Hexane		
			Total Containers											
①	8/13	0830	97GAM0101VW	6			X	X	X					
②	8/13	0830	TRIP BL ANKS	2					X					
Relinquished by: <i>Eshal Tuzman</i>			Date <i>8/13/97</i> Time <i>0930</i>	Hand Delivered Y <input checked="" type="checkbox"/>	Shipped Via <i>GOLDSTRAK</i>	Airbill Number <i>4225 5441</i>	Date <i>8/13/97</i> Time <i>AM</i>							
Received for Laboratory by: <i>Monica Steinhorn</i>			Date <i>8/13</i> Time <i>1710</i>	Cooler Temperature °C Upon Arrival	Laboratory Notified Faxed									

Appendix C

Agenda and Sign-in Sheet for Public Meeting



MONTGOMERY WATSON

Agenda
Public Meeting in Gambell
Suspected Buried Transformer Investigation

July 23, 1997 7:00 p.m.

Available for Questions:

Alaska District, Corps of Engineers:	Suzanne Beauchamp, Engineering Manager
Sivuqaq, Inc.:	Merle Apassingok, President
Ak. Dept. of Environmental Conservation:	Katarina Rutkowski, Envir. Specialist
Montgomery Watson:	Victor Harris, Project Manger
Montgomery Watson:	Bonnie McLean, Field Supervisor

Topics to Be Discussed:

- I. Introduction
- II. Background of the Investigation
- III. Project Activities and Schedule
- IV. Water Conservation
- V. Door Prizes
- VI. Open Discussion/Questions



BY Begun DATE 7/23/97 CLIENT USCOE SHEET 2 OF 2
CHKD. BY _____ DESCRIPTION Stanbell Public Meeting JOB NO. _____

- 29. ~~John~~ Kulukchon
- 30. ~~Thomas~~
- 31. Rhona Apassingok
- 32. Herbert Apassingok
- 33. Edmund Apassingok
- 34. Delma "
- 35. Thomas "
- 36. Juni
- 37. Myra Burdick
- 38. Marcella Broshu
- 39. Shena Anesi
- 40. Mike Apatiki
- 41. Debbie Bodowon
- 42. Melani Apassingok
- 43. Alwina Apangalok
- 44. Aul Apangalok
- 45. Charlene Apangalok
- 46. Austin Apangalok
- 47. Juni Campbell
- 48. Melainie Campbell
- 49. Elmer Campbell III
- 50. Olin R. Apatiki
- 51. st e & e i "
- 52. Charla Koozaata
- 53. Michael Koozaata
- 54. Sharon Campbell

30 MAR 1998

CEPOA-EN-EE-II (200-1c)

MEMORANDUM FOR CEPOA-EN-G (Thomas)
CEPOA-EN-EE-TE (Gagnon)
CEPOA-EN-CW-ER (McConnell)

SUBJECT: Contract No. DACA85-93-D-0011, Delivery Order No. 16,
Modification No. 3, Final Report, Investigation of Geophysical
Anomaly, Gambell, St. Lawrence Island, Alaska, December 1997

1. Enclosed for your information is a copy of the subject report for your records, which describes activities performed during August 1997 to identify and remove objects at a suspected transformer burial site. Review comments and responses are also included.
2. Please note that Volume II, Data packages, was assembled as part of the response to comments. A copy of Volume II is included in the CEPOA-EN-G package only.
3. If you have any questions concerning the enclosed report or any other Gambell RI/FS issues, please contact me at (907) 753-5606.

SIGNED

Encl

Richard Jackson
Engineering Manager

**REVIEW
COMMENTS**

PROJECT: Investigation of Geophysical Anomaly
DOCUMENT: Final Report (Montgomery Watson, December 1997)
LOCATION: Gambell, St. Lawrence Island, Alaska

U.S. ARMY CORPS OF ENGINEERS CENPA-EN-CW-ER		DATE: December 12, 1997 REVIEWER: Guy R. McConnell PHONE:	Action taken on comment by: <u>Bonnie McLean</u>		
Item No	Location (pg #, para, etc.)	COMMENTS	REVIEW CONFERENCE A - comment accepted W - comment withdrawn (if neither, explain)	DESIGN OFFICE C - correction made (If not, explain)	Back check by:
1.	page	The report should state the current status of the artifact such as, whether it was returned to the existing Native village or kept by the archaeologist.	A:	Text and Appendix A (page 6), archaeologist (Pg 2-3) report corrected.	
2	page	The report also should state whether the existing Native Village was consulted regarding the reburial of the human remains. This consultation should have been part of the project and is required under Federal legislation particularly in this case, the Native American Graves Protection and Repatriation Act.	A: Text added (page 2-3).	Text added (page 2-3).	
3	page	Typo on Page 6, paragraph 2, should read planing adze bit, not planning adze bit.	A: Corrected	Corrected	

**REVIEW
COMMENTS**

PROJECT: Investigation of Geophysical Anomaly
DOCUMENT: Final Report (Montgomery Watson, December 1997)
LOCATION: Gambell, St. Lawrence Island, Alaska

U.S. ARMY CORPS OF ENGINEERS CENPA-EN-CW-ER		DATE: December 13, 1997 REVIEWER: Kissinger PHONE:	Action taken on comment by: <u>Bonnie McLean</u>		
Item No.	Location (pg #, para, etc.)	COMMENTS	REVIEW CONFERENCE A - comment accepted W - comment withdrawn (if neither, explain)	DESIGN OFFICE C - correction made (If not, explain)	Back check by:
1.	page	Batch QC data is missing. Data for surrogate recovery is included but data for batch LCS, matrix spikes and method blanks are missing.	A: Data added as Volume II, text added to report 2.7.3	C - Data added as Volume II, text added to report 2.7.3 MS/MSD was not required at time of sampling.	

**REVIEW
COMMENTS**

PROJECT: Investigation of Geophysical Anomaly
DOCUMENT: Final Report (Montgomery Watson, December 1997)
LOCATION: Gambell, St. Lawrence Island, Alaska

U.S. ARMY CORPS OF ENGINEERS CINPA-EN-CW-ER		DATE: December 12, 1997 REVIEWER: Bret L. Walters PHONE:	Action taken on comment by: <u>Bonnie McLean</u>		
Item No.	Location (pg #, para, etc.)	COMMENTS	REVIEW CONFERENCE A - comment accepted W - comment withdrawn (if neither, explain)	DESIGN OFFICE C - correction made (If not, explain)	Back check by:
1.	page 2-4	Section 2.7.2: The fourth sentence should end as follows. "in the pre-and post-excavation samples, respectively?".	A:	C-	

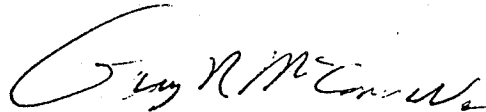
DEC 4 1997

CEPOA-EN-CW-ER

MEMORANDUM FOR CEPOA-EN-EE-II (Jackson)

SUBJECT: Comments regarding report for Contract No. DACA85-93-D-0011, Delivery Order No. 16, Modification No. 3, Draft Report, Investigation of Geophysical Anomaly, Gambell, St. Lawrence Island, Alaska, October 1997.

1. The report should state the current status of the artifact such as, whether it was returned to the existing Native village or kept by the archaeologist.
2. The report also should state whether the existing Native Village was consulted regarding the reburial of the human remains. This consultation should have been part of the project and is required under Federal legislation particularly in this case, the Native American Graves Protection and Repatriation Act.
3. Typo on Page 6, paragraph 2, should read planing adze bit, not planning adze bit.



Guy R. McConnell
Biologist

HTRW-CX COMMENT TRANSMITTAL

12/05/97

<p>Comments Transmitted to Attention Submittal # Action</p>	<p>Commander, Alaska District CEPOA, Richard Jackson 000997 - 65182 Comments are transmitted with this record.</p>	
<p>Project Information Location Site Project Doc Title Phase Designed by</p>	<p>St Lawrence Island Gambell Site Wide Draft Report, Investigation of Geophysical Anomaly, Gambell, St Lawrence Island, AK Draft Montgomery Watson, Anchorage</p>	
<p>DISCIPLINE</p>	<p>ACTION'</p>	<p>SIGNIFICANT OR UNRESOLVED TECHNICAL COMMENTS</p>
<p>Chemistry Geotechnical Health & Safety Risk Assessment Studies/Liaison</p>	<p>RCA NC NC NC ---</p>	<p>Chem : Much of the analytical QC data is missing from the lab report.</p>
<p>REQUESTED ACTION</p>		<p>HTRW-CX Point of Contact</p>
<p>To further our understanding of the issues that affect this project and your district's execution, please provide this office a copy of annotated responses to comments made by your office, other agencies and interested parties.</p>		<p><i>Heidi</i> Heidi Novotny Telephone: (402) 697-2626</p>
		<p>Transmittal of comments approved by:</p>
		<p><i>Ken L. Gregg</i> Ken L. Gregg, P. E. Chief, Environmental Studies and Liaison Branch</p>

'NC = Reviewed; No Comments

NT = No tech involvment

RCA = Reviewed, Comments Attached

CT = Conferred/Deferred to District Counterpart

SCA = Reviewed w/Significant Comments attached

- CEPOA-EN-EE-AI Richard Jackson
- POD
- CENWO-HX-S Heidi Novotny
- CENWO-HX-S (Files)

65182: Investig of magnetic anomaly at St. Lawrence Island, AK - Draft Repor

File: 65182RDK.DBF

Page: 1

Temp ID	Last Name	Office Symbol	Discipline	Page/Sheet	Room Dtl	Post IT
2344055-462	KISSINGER	CENWO-HX-C	CHEM	Appendix B		

Batch QC data is missing. Data for surrogate recovery is included but data for batch LCS, matrix spikes and method blanks are missing.

This information should be included to support data quality.

FINAL
Investigation of Geophysical Anomaly
Gambell, St. Lawrence Island, Alaska

Contract No. Delivery Order No.
DACA85-93-D-0011 0016
Modification No. P0003

VOLUME II
DATA PACKAGES

December 1997

Prepared for:

Department of the Army
United States Army Engineer District, Alaska
Corps of Engineers
P.O. Box 898
Anchorage, Alaska 99506-0898

Prepared by:

Montgomery Watson
4100 Spenard Road
Anchorage, Alaska 99517

**CT&E Environmental Services Inc.
Alaska Division**

Laboratory Data Report

Contents:

Section 1: Case Narrative Information (COC, etc.)

Section 2: CTE Final Reports

Section 3.1, 4.1, 5.1 . . . : Quality Control Summary Forms

Section 3.2, 4.2, 5.2 . . . : Initial Calibrations

Section 3.3, 4.3, 5.3 . . . : Raw Analytical Data, if required

Sections 3 and above are arranged consecutively in the following fashion: Volatiles, SemiVolatiles, Metals, Inorganics, Miscellaneous.

Note: All quality assurance/quality control criteria is in compliance with the Alaska Department of Environmental Conservation (ADEC) and/or CTE's Assurance Program Plan.

Prepared by (Signature) *Rozinda C. Hornig*
(Printed Name) ROZINDA C. HORNIG
(Date) 10-22-97

Reviewed by (Signature) *Elsie M. Brooks*
(Printed Name) Elsie M. Brooks
(Date) 10-29-97

Case Narrative

Customer: JMMENGN

Montgomery Watson Americas Inc

Project: 974607

Gambell Transformers


There were no analytical anomalies associated with your data.

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotct	Run Sub
974607	97GAM010NVW	974607001	WS	CS	AK101	SW5030A	08/13/97	08/13/97	08/14/97	2640VXX	1
974607	97GAM010NVW	974607001	WS	CS	AK102E	SW3510	08/13/97	08/13/97	08/15/97	3120XXX	1
974607	97GAM010NVW	974607001	WS	CS	SW8081	SW3510	08/13/97	08/13/97	08/14/97	3110XXX	1
974607	Trip Blank	974607002	WS	CS	AK101	SW5030A	08/13/97	08/13/97	08/14/97	2640VXX	1
		113554	WS	BD1	AK101	SW5030A	//	08/13/97	08/14/97	2640VXX	1
		113553	WS	BS1	AK101	SW5030A	//	08/13/97	08/14/97	2640VXX	1
		113566	WS	CC1	AK101	NONE	//	08/13/97	08/13/97	2640VXX	1
		113567	WS	CC2	AK101	NONE	//	08/13/97	08/13/97	2640VXX	1
		114787	WS	CC3	AK101	NONE	//	08/14/97	08/14/97	2640VXX	1
		114788	WS	CC4	AK101	NONE	//	08/14/97	08/14/97	2640VXX	1
		113552	WS	LB1	AK101	SW5030A	//	08/13/97	08/14/97	2640VXX	1
		113016	WS	BD1	SW8081	SW3510	//	08/13/97	08/14/97	3110XXX	1
		113015	WS	BS1	SW8081	SW3510	//	08/13/97	08/14/97	3110XXX	1
		113017	WS	BS2	SW8081	SW3510	//	08/13/97	08/14/97	3110XXX	1
		113018	WS	BS3	SW8081	SW3510	//	08/13/97	08/14/97	3110XXX	1
		113621	WS	CC1	SW8081	NONE	//	08/14/97	08/14/97	3110XXX	1
		113622	WS	CC2	SW8081	NONE	//	08/14/97	08/14/97	3110XXX	1
		113623	WS	CC3	SW8081	NONE	//	08/14/97	08/14/97	3110XXX	1
		113624	WS	CC4	SW8081	NONE	//	08/15/97	08/15/97	3110XXX	1
		113620	WS	CC5	SW8081	NONE	//	08/14/97	08/14/97	3110XXX	1
		113014	WS	LB1	SW8081	SW3510	//	08/13/97	08/14/97	3110XXX	1
		113512	WS	BD1	AK102E	SW3510	//	08/13/97	08/15/97	3120XXX	1
		113511	WS	BS1	AK102E	SW3510	//	08/13/97	08/15/97	3120XXX	1
		113804	WS	CC1	AK102E	NONE	//	08/15/97	08/15/97	3120XXX	1
		113805	WS	CC2	AK102E	NONE	//	08/14/97	08/14/97	3120XXX	1
		113806	WS	CC3	AK102E	NONE	//	08/14/97	08/14/97	3120XXX	1
		113809	WS	CC4	AK102E	NONE	//	08/14/97	08/14/97	3120XXX	1
		113834	WS	CC5	AK102E	NONE	//	08/15/97	08/15/97	3120XXX	1
		113835	WS	CC6	AK102E	NONE	//	08/15/97	08/15/97	3120XXX	1
		113802	WS	CC7	AK102E	NONE	//	08/14/97	08/14/97	3120XXX	1
		113510	WS	LB1	AK102E	SW3510	//	08/13/97	08/15/97	3120XXX	1

97.4607

COC #1

<p>Montgomery Watson 4100 Spenard Road Anchorage AK 99517 (907)248-8883 Fax (907) 248-8884</p> 			<p>USCOE GAMBELL</p>			<p>Laboratory SOIL</p>							<p>WASTE</p>		
<p>Samplers: Signature <i>Euse Tuzman</i></p>			SW 8081 (PCB)	AK 102/103 (DRO/IRRO)	AK 101/8021 (CRO/BETX)	SW 8081 (PCB)	AK 102/103 (DRO/IRRO)	AK 101/8021 (CRO/BETX)	EPA 1311/6010 (TCLP Metals)	EPA 1020A/9040B/7.3.3.2/7.3.4.2 (Ignitability, Corrosivity, Reactivity)	SW 8081 (PCB-oil)	SW 8081 (PCB-wipe)	SW 8081 (PCB)	EPA 1311/6010 (TCLP Metals)	EPA 1020A/9040B/7.3.3.2/7.3.4.2 (Ignitability, Corrosivity, Reactivity)
			4oz Amber 20 ml MeOH	4oz Amber None	4oz Amber 20 ml MeOH	2, 1-liter Amber None	2, 1-liter Amber None	2, 40-ml vials HCL	2, 1-liter Amber None	2, 1-liter PE, 250 ml PE None	2, 40 ml None	Surgical swab Hexane			
(1) 8/13	0830	97GAM010NYW	6			X	X	X							
(2) 8/13	0830	TRIP 66 ANK	2					X							
Relinquished by: <i>Euse Tuzman</i>			Date: <i>8/13/97</i> Time: <i>0930</i>	Hand Delivered Y <input checked="" type="checkbox"/>	Shipped Via <i>GOLDSTREAK</i>	Airbill Number <i>4225 5441</i>	Date: <i>8/13/97</i> Time: <i>AM</i>								
Received for Laboratory by: <i>Marcia Steinhorn</i>			Date: <i>8/13</i> Time: <i>1710</i>	Cooler Temperature °C Upon Arrival	Laboratory Notified Faxed										

Army Corp of Engineers Project: YES NO Chem Lab Ref 97.4607

Lab Due Date: _____

Computer W/O#: _____

(new) Account #: _____
 Client Name: Montgomery Watson
 Ordered By: _____
 Via: _____
 Purchase Order#: _____
 Requisition#: _____

Extraction Date: _____
 Holding Time: _____
 Date Due: 8/20 8/15
 Sample Received: 8/13 Time: 1710
 Date Collected: _____ Time: _____
 Address: _____

Paid (Ck#) _____ (Cash) _____

Amount \$: _____

Phone #: _____ Fax: _____

Send Additional Reports to: _____

Phone #: _____ Fax #: _____

Special Instructions: Not enough sample for MS, MSD

Sample #	Description	Matrix	Test Code	Parameter	Amount
	<u>See COC (1-2)</u>			<u>AK101/802/BTEX</u>	
	↓	↓		<u>AK102/103</u>	
	↓	↓		<u>808/PCB</u>	
	X				

EP Tox GC GC Prep H2O Metals Micro O/G Oils QC

Sample Remarks: _____

Chain Of Custody: MS Tags: NO
 Custody Seals: (broken) MS (intact) MS
 Rec'd By: MS
 Logged By: MS
 Entered By: _____
 Proofed By: _____

Temp. of Samples: 5.4°C
 Sample Condition: Good Fair Poor
 Sample Containers: (4) 1L Amber
(4) 40ml VOA

97.4607



CT&E Environmental Services Inc.

Laboratory Division

200 W. Potter Drive
Anchorage, AK 99518-1605
Tel: (907) 562-2343
Fax: (907) 561-5301

SAMPLE RECEIPT CHECK LIST

Is sample temperature between 2.5 - 6.0 °C?	5.4°	<input checked="" type="radio"/> YES	NO	_____
What is the sample temperature	4.5 °C			
Are samples within holding times?		<input checked="" type="radio"/> YES	NO	_____
Were correct container and sample size submitted?		<input checked="" type="radio"/> YES	NO	_____
Were preservatives checked?		<input checked="" type="radio"/> YES	NO	_____
The required preservatives found?		<input checked="" type="radio"/> YES	NO	_____
Do results go to ADEC		YES	NO	<u>Na</u>
Is the P.W.S.I.D.# given with samples		YES	NO	<u>Na</u>
Is this a Corp of Engineers project?		<input checked="" type="radio"/> YES	NO	_____

Additional Information Required on all Corp of Engineers Projects

COE Project: <u>Gambell</u>	CT&E REF. #. <u>97.4607</u>
Date Received: <u>8/13</u>	# of Coolers <u>1</u>
Date Opened: <u>8/13</u> By Who (print) _____	<u>Monica Steinborn</u>
Date Logged in: <u>8/13</u> By Who (print) _____	_____ ↓

Was there a shipping slip (airbill # <u>4225 5441</u>)	<input checked="" type="radio"/> YES	NO	_____
Was the cooler sealed with custody seals?	<input checked="" type="radio"/> YES	NO	_____
Were these seals intact upon arrival?	<input checked="" type="radio"/> YES	NO	_____
Was there a chain of custody (COC) with cooler	<input checked="" type="radio"/> YES	NO	_____
Were the COC's filled out properly?	<input checked="" type="radio"/> YES	NO	_____
Did the COC indicate samples from a COE project?	<input checked="" type="radio"/> YES	NO	_____
Were all samples listed on COC accounted for	<input checked="" type="radio"/> YES	NO	_____
Were samples packed to prevent breakage?	<input checked="" type="radio"/> YES	NO	_____
Were bottles unbroken and clearly labeled?	<input checked="" type="radio"/> YES	NO	_____
Were bottles sealed in separate plastic bags?	<input checked="" type="radio"/> YES	NO	_____
Was there headspace in bottles for volatiles?	YES	<input checked="" type="radio"/> NO	_____

NOTES: _____

Was client notified of problems? YES NO Date/time: _____
 Who was notified? _____ By whom?: _____
 How was this person notified? _____
 Was a copy of this form faxed for confirmation? _____
 Fax # sent to: _____



Member of the SGS Group (Société Générale de Surveillance)

Code List

Code	Name
!	Out of control limits
1C	First Column Result - The Value Obtained from the First Column
2C	Second Column Result - The Value Obtained from the Second Column
<	Less Than
=	Equal To
>	Greater Than
AELF	American Environmental Laboratories, Pensacola, FL
AENP	American Environmental Network, Portland, OR
ALTC	Alta Analytical Lab Incorporated, El Dorado Hills, CA
APPL	Agriculture & Priority Pollutants Laboratories, Fresno, CA
ARDL	Applied Research and Development Lab, Inc., (ARDL) Mt. Vernon, IL
ARI	Analytical Resources, Inc., Seattle, WA
ATCA	Analytica, Anchorage, AK
ATCC	Analytica, CO
ATIA	Analytical Technologies, Inc., Anchorage, AK
ATIR	Analytical Technologies, Inc., Renton, WA
ATIS	Analytical Technologies, Inc., San Diego, CA
ATOX	Air Toxics LTD, Folsom, CA
BCLB	BC Laboratories, Bakersfield, CA
BD	Blank Spike Duplicate
BMLA	Boreochem Mobile Lab & Analytical Services
BRS	Brelje & Race, Santa Rosa, CA
BS	Blank Spike
CASA	Columbia Analytical Services, Inc., Anchorage, AK
CASB	Columbia Analytical Services, Inc., Bothell, WA
CASK	Columbia Analytical Services, Inc., Kelso, WA
CC	Continuing Calibration Verification
CCAC	Coast-to-Coast Analytical Services, Inc., Camarillo, CA
CCSJ	Coast-to-Coast Analytical Services, Inc., San Jose, CA
CDM	CDM Federal Programs Corporation
CHEM	Chemic Laboratory, San Diego, CA
CKY	CKY Inc., Torrance, CA
CLPA	Contract Laboratory Program Accuracy Limits for Spiked Samples
CLPCC	CLP Continuing Calibration Acceptance Criteria
CLPIC	CLP Initial Calibration Acceptance Criteria
CLPLR	Contract Laboratory Program Precision for Lab Replicates
CLPP	Contract Laboratory Program Precision Limits for Spiked Samples
CLTP	Clayton Environmental Consultants, Inc., Pleasanton, CA
CS	Client Sample
CTB	Curtis & Tompkins, Berkeley, CA
CTE	CT&E Environmental Services, Inc., Anchorage, AK
DDL	Method Defined Detection Limit
DMP	D & M Laboratories, Petaluma, CA
DOWL	Dowl Engineering Alaska Test Labs, Anchorage, AK
EBA	EBA
ECEN	Ecology & Environment, Inc.
ECI	EcoChem, Inc.
EQL	Estimated Quantitation Limit
ETCS	ETC, Santa Rosa, CA
FORA	Forensic Analytical
IC	Initial Calibration Verification
IDL	Instrument Detection Limit
IN	Internal Standard

Code	Name
KD	Known (External Reference Material) Duplicate
LAB1	Laboratory 1
LAB2	Laboratory 2
LAL	Lockheed Analytical Laboratory, Las Vegas, NV
LAS	LAS Laboratories, Inc.
LB	Lab Blank
LCC	Laboratory Continuing Calibration Accuracy
LDC	Laboratory Data Consultants
LIC	Laboratory Initial Calibration Accuracy
LLD	Lowest Level of Detection
LLR	Laboratory Established Precision for Lab Replicates
LR	Lab Replicate
LSA	Laboratory Sample Accuracy for Spiked Samples
LSP	Laboratory Sample Precision for Spiked Samples
LTL	Laucks Testing Lab, Inc.
MASA	MultiChem Analytical Services, Anchorage, AK
MASR	MultiChem Analytical Services, Renton, WA
MDL	Method Detection Limit
MEA	Method Established Accuracy for Spiked Samples
MECC	Method Established Continuing Calibration Acceptance Criteria
MEIC	Method Established Initial Calibration Acceptance Criteria
MELR	Method Established Precision for Laboratory Replicates
MEP	Method Established Precision for Spiked Samples
MLR	Matrix Laboratory Replicate Precision
MS	GC/MS Result - Value Confirmed Using GC/MS
MS	Lab Matrix Spike
MSA	Matrix Spike Accuracy for Spiked Samples
MSP	Matrix Spike Precision for Spiked Samples
NA	Not Applicable
NA	Not Available - Result Not Available
NC	Non-Client Sample
NCAB	North Creek Analytical, Bothell, WA
NCAP	North Creek Analytical, Beaverton, OR
ND	Not Detected
NETB	NET Burbank, Burbank, CA
NETC	NET Cambridge, Bedford, MA
NETO	NET Portland, Portland, OR
NETS	NET Pacific, Inc., Santa Rosa, CA
NR	Not Reported - Data Not Reported
NTL	Northern Testing Laboratories, Anchorage, AK
NU	Not Usable - Data Not Usable
OEIR	OnSite Environmental, Inc., Redmond, WA
PAC	Pacific Analytical, Carlsbad, CA
PARA	Paragon Analytics, Inc., CO
PHLE	Philip Environmental
PIC	Pace Analytical Services, Inc., Camarillo, CA
PIHB	Pace Analytical Services, Inc., Huntington Beach, CA
PIL	Pace Analytical Services, Inc., Lenexa, KS
PIM	Pace Analytical Services, Inc., Minneapolis, MN
PIN	Pace Analytical Services, Inc., Novato, CA
PINY	Pace Analytical Services, Inc., New York, NY
PIP	Pace Analytical Services, Inc., Pittsburgh, PA
PITB	Pace Analytical Services, Inc., Tampa Bay, FL
PIWF	Pace Analytical Services, Inc., Wappingers Falls, NY
PQL	Practical Quantitation Limit

Code	Name
PR	Primary Result - The Primary Result for a Parameter
PRL	Parameter Range Limit
QALA	Quality Analytical Laboratores, Inc., Montgomery, AL
QALC	Quality Analytical Laboratories, Inc., Redding, CA
QES	Quanterra Environmental Services, Santa Ana, CA
QESA	Quanterra Environmental Services, Arvada, CO
QESC	Quanterra Environmental Services, North Canton, OH
QESF	Quanterra Environmental Services, Tampa, FL
QESG	Quanterra Environmental Services, Garden Grove,
QESI	Quanterra Environmental Services, City of Industry, CA
QESJ	Quanterra - Research Triangle Park Lab., Raleigh, NC
QESK	Quanterra Environmental Services, Knoxville, TN
QESL	Quanterra Environmental Services, St. Louis, MO
QESN	Quanterra Environmental Services, Anchorage, AK
QESP	Quanterra Environmental Services, Pittsburg, PA
QESR	Quanterra Environmental Services, Richland, WA
QESS	Quanterra Environmental Services, Sacramento, CA
QEST	Quanterra Environmental Services, Austin, TX
QESZ	Quanterra Environmental Services, Anchorage, AK
RM	Known (External Reference Material)
RS	Reagent Solvent
SAS	Sound Analytical Services, Inc., Tacoma, WA
SBSA	Both Reagent and Matrix Sample Accuracy for Surrogates
SBSP	Both Reagent and Matrix Sample Precision for Surrogates
SC3S	S-Cubed, A Division of Maxwell Laboratories, Inc., San Diego, CA
SCLA	Contract Laboratory Program Limits for Surrogate Accuracy
SCLP	Contract Laboratory Program Limits for Surrogate Precision
SD	Lab Matrix Spike Duplicate
SLSA	Laboratory Sample Limits for Accuracy for Surrogates
SLSP	Laboratory Sample Limits for Precision for Surrogates
SMEA	Method Established Limits for Accuracy for Surrogates
SMEP	Method Established Limits for Precision for Surrogates
SMSA	Sample Matrix Limits for Accuracy for Surrogates
SMSP	Sample Matrix Limits for Precision for Surrogates
SPEC	Spectra Laboratory, Inc., Tacoma, WA
SRAD	Standard Reference Accuracy Defined by Agency/Manufacturer
SRMA	Standard Reference Material Accuracy Limits Determined by Lab
SRMP	Standard Reference Material Precision Limits Determined by Lab
SRPD	Standard Reference Precision Defined by Agency/Manufacturer
SU	Surrogate
SWAA	Shannon & Wilson, Inc., Anchorage, AK
SWLB	Southwest Laboratory
SWRI	Southwest Resarch Institute, San Antonio, TX
TI	Tentatively Identified Compound
TRID	Triangle Laboratories, Inc., Durham, NC



CT&E Environmental Services Inc.

Laboratory Division

Laboratory Analysis Report

August 15, 1997

Chris Brown
Montgomery Watson Americas Inc
4100 Spenard Rd
Anchorage, AK 99517-2901

Client Name	Montgomery Watson Americas Inc
Project ID	Gambell Transformers [974607]
Printed	August 15, 1997

Enclosed are the analytical results associated with the above project.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by CT&E. A copy of our Quality Control Manual that outlines this program is available at your request.

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

If you have any questions regarding this report or if we can be of any other assistance, please call your CT&E Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- U - Indicates the compound was analyzed for but not detected.
- J - Indicates an estimated value that falls below PQL, but is greater than the MDL.
- B - Indicates the analyte is found in the blank associated with the sample.
- * - The analyte has exceeded allowable limits.
- GT - Greater Than
- D - Secondary Dilution
- LT - Less Than
- ! - Surrogate out of range



CT&E Ref.# 974607001
 Client Name Montgomery Watson Americas Inc
 Project Name/# Gambell Transformers
 Client Sample ID 97GAM010NVW
 Matrix Water (Surface, Eff., Ground)
 Ordered By
 PWSID

Client PO# ANC96CTE04
 Printed Date/Time 08/15/97 16:18
 Collected Date/Time 08/13/97 08:30
 Received Date/Time 08/13/97 17:10
 Technical Director: Stephen C. Ede

Released By *Simon P. Nelson*

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GRO/602 Combo								
Gasoline Range Organics	0.0400 U	0.0400	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Benzene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Toluene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Ethylbenzene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
p & m -Xylene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
o-Xylene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Surrogates								
4-Bromofluorobenzene <Surr>	79.6		%	AK101/8020	(50-150)	08/13/97	08/14/97	
1,4-Difluorobenzene <Surr>	88.1		%	AK101/8020	(50-150)	08/13/97	08/14/97	
DRO/RRO Combination								
Diesel Range Organics	0.103	0.0995	mg/L	AK102/103		08/13/97	08/15/97	WAA
Residual Range Organics GC	1.49 U	1.49	mg/L	AK102/103		08/13/97	08/15/97	WAA
Surrogates								
5a Androstane <surr>	70.1		%	AK102/103	(50-150)	08/13/97	08/15/97	
d-Triacontane <Surr>	84.8		%	AK102/103	(50-150)	08/13/97	08/15/97	
PCB's by GC ECD								
Aroclor-1016	0.00101 U	0.00101	mg/L	SW846 8081		08/13/97	08/14/97	JLB
Aroclor-1221	0.00101 U	0.00101	mg/L	SW846 8081		08/13/97	08/14/97	JLB
Aroclor-1232	0.00101 U	0.00101	mg/L	SW846 8081		08/13/97	08/14/97	JLB
Aroclor-1242	0.00101 U	0.00101	mg/L	SW846 8081		08/13/97	08/14/97	JLB
Aroclor-1248	0.00101 U	0.00101	mg/L	SW846 8081		08/13/97	08/14/97	JLB



CT&E Ref.# 974607001
Client Name Montgomery Watson Americas Inc
Project Name/# Gambell Transformers
Client Sample ID 97GAM010NVW
Matrix Water (Surface, Eff., Ground)
Ordered By
PWSID

Client PO# ANC96CTE04
Printed Date/Time 08/15/97 16:18
Collected Date/Time 08/13/97 08:30
Received Date/Time 08/13/97 17:10
Technical Director: Stephen C. Ede

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
Surrogates								
Aroclor-1254	0.00101 U	0.00101	mg/L	SW846 8081		08/13/97	08/14/97	JLB
Aroclor-1260	0.00101 U	0.00101	mg/L	SW846 8081		08/13/97	08/14/97	JLB
Surrogates								
Decachlorobiphenyl <Surr>	68.3		%	SW846 8081	(59-122)	08/13/97	08/14/97	
Tetrachloro-m-xylene <Surr>	87.6		%	SW846 8081	(10-87)	08/13/97	08/14/97	



CT&E Ref.# 974607002
 Client Name Montgomery Watson Americas Inc
 Project Name/# Gambell Transformers
 Client Sample ID Trip Blank
 Matrix Water (Surface, Eff., Ground)
 Ordered By
 PWSID

Client PO# ANC96CTE04
 Printed Date/Time 08/15/97 16:18
 Collected Date/Time 08/13/97 08:30
 Received Date/Time 08/13/97 17:10
 Technical Director: Stephen C. Ede

Released By

Sample Remarks:

Parameter	Results	PQL	Units	Method	Allowable Limits	Prep Date	Analysis Date	Init
GRO/602 Combo								
Gasoline Range Organics	0.0400 U	0.0400	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Benzene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Toluene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
methylbenzene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
p- & m -Xylene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
o-Xylene	0.0010 U	0.0010	mg/L	AK101/8020		08/13/97	08/14/97	GSM
Surrogates								
4-Bromofluorobenzene <Surr>	77.9		%	AK101/8020	(50-150)	08/13/97	08/14/97	
1,4-Difluorobenzene <Surr>	88.1		%	AK101/8020	(50-150)	08/13/97	08/14/97	

Volatiles Sample QC Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Workorder Number: 974607-1,2

Analysis Lot Number: VDA06060813
Prep Lot Number: VX 2640

Analysis: **Aromatic Volatile Organics/Gasoline Range Organics**
Method: **BTEX by EPA 8020/602/AK101(8015M)**
Matrix: **Solid/Liquid**

Analysis:

Assurance Notes:

Acceptance Criteria:

- | | | Yes | No | N/A | |
|------------------|-------------------|-------------------------------------|--------------------------|-------------------------------------|---|
| A. Holding Time: | All criteria met. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 14 days from sample collection for TCLP extraction. |
| | All criteria met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 14 days from sample collection (or TCLP extraction) for analysis. |
| B. Surrogates: | All criteria met. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 50% - 150% Recovery |

C. Notes:

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

Analyst's Signature: GMariano

Printed Name & Date: Grace S. Mariano 8/13/97

Reviewer's Signature: [Signature]

Printed Name & Date: Kevin Mahler 8/14

Volatiles Quality Control Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Analysis Date: 8/13/97

Analysis Lot Number: VDA06060813

Analysis: **Aromatic Volatile Organics/Gasoline Range Organics**
 Method: **BTEX by EPA 8020/602/AK101(8015M)**
 Matrix: **Solid/Liquid**

Analysis:	Assurance Notes:	Yes No*		Acceptance Criteria:
		<input type="checkbox"/>	<input type="checkbox"/>	
A. Calibration:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<25% Relative Standard Deviation
B. Method Blank:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All concentrations are below the Practical Quantitation Limit
C. Continuing Calibration Verification Std:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RF<15% Difference, 75% - 125% Recovery
D. Laboratory Standard:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	75% - 125% Recovery
E. Quality Control Sample:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Method Specified
F. Laboratory Control Sample:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	80% - 120% Recovery
G. Laboratory Control Sample Duplicate:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	80% - 120% Recovery
	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0% - 25% Relative Percent Difference
H. QC Surrogates:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	50% - 150% Recovery
I. Notes:	<u>VPH calibration method VDA0624 for all samples.</u>			
	<hr/>			
	<hr/>			
	<hr/>			
	<hr/>			

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

***Out-of-control conditions require a supervisor's signature.**

Analyst's Signature: 

Supervisor's Signature: _____

Printed Name & Date: Grace S. Mariano 8/13/97

Date: _____

Project Name: Gambell Transformers		Analysis: Gasoline Range Organics, Alaska Dept. of				
Project No: NA		Method: AK101				
		Prep Meth: SW5030A				
Field ID: 97GAM010NVW		Lab Samp ID: 974607001				
Descr/Location:		Rec'd Date: 08/13/97				
Sample Date: 08/13/97		Prep Date: 08/13/97				
Sample Time: 0830		Analysis Date: 08/14/97				
Matrix: Surface Water		QC Batch: 2640VXX				
Basis: Not Filtered		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Benzene	0.001	0.0010 PQL		ND	MG/L	1
Toluene	0.001	0.0010 PQL		ND	MG/L	1
Ethylbenzene	0.001	0.0010 PQL		ND	MG/L	1
Gasoline Range Organics	0.04	0.0400 PQL		ND	MG/L	1
m,p-Xylene (Sum of Isomers)	0.001	0.0010 PQL		ND	MG/L	1
o-Xylene	0.001	0.0010 PQL		ND	MG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene		50-150 SMEA		79.6%		1
1,4-Difluorobenzene		50-150 SMEA		88.1%		1

Approved by: _____

Date: _____

Project Name: Gambell Transformers	Analysis: Gasoline Range Organics, Alaska Dept. of					
Project No: NA	Method: AK101					
	Prep Meth: SW5030A					
Field ID: Trip Blank	Lab Samp ID: 974607002					
Descr/Location:	Rec'd Date: 08/13/97					
Sample Date: 08/13/97	Prep Date: 08/13/97					
Sample Time: 0830	Analysis Date: 08/14/97					
Matrix: Surface Water	QC Batch: 2640VXX					
Basis: Not Filtered	Notes:					
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Benzene	0.001	0.0010 PQL		ND	MG/L	1
Toluene	0.001	0.0010 PQL		ND	MG/L	1
Ethylbenzene	0.001	0.0010 PQL		ND	MG/L	1
Gasoline Range Organics	0.04	0.0400 PQL		ND	MG/L	1
m,p-Xylene (Sum of Isomers)	0.001	0.0010 PQL		ND	MG/L	1
o-Xylene	0.001	0.0010 PQL		ND	MG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene		50-150 SMEA		77.9%		1
1,4-Difluorobenzene		50-150 SMEA		88.1%		1

Approved by: _____

Date: _____

QA/QC Report Method Blank Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 5

QC Batch: 2640VXX Matrix: Surface Water Lab Samp ID: 113552 Analysis Date: 08/14/97 Basis: Not Filtered	Analysis: Gasoline Range Organics, Alaska Dept. of Method: AK101 Prep Meth: SW5030A Prep Date: 08/13/97 Notes:					
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Benzene	0.001	0.0010 PQL		ND	MG/L	1
Toluene	0.001	0.0010 PQL		ND	MG/L	1
Ethylbenzene	0.001	0.0010 PQL		ND	MG/L	1
Gasoline Range Organics	0.04	0.0400 PQL		ND	MG/L	1
m,p-Xylene (Sum of Isomers)	0.001	0.0010 PQL		ND	MG/L	1
o-Xylene	0.001	0.0010 PQL		ND	MG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene		50-150 SMEA		81.3%		1
1,4-Difluorobenzene		50-150 SMEA		87.9%		1

QA/QC Report
Blank Spike/Duplicate Blank Spike Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 6

QC Batch: 2640VXX												
Matrix: Surface Water												
Lab Samp ID: 113553												
Analyte	Analysis Method	Spike Level		Spike Result		Units	% Recoveries			Acceptance Criteria		
		LCS	LCD	LCS	LCD		LCS	LCD	RPD	%Rec	RPD	
Benzene	AK101	0.0403	0.0403	0.0389	0.0400	MG/L	96.5	99.3	2.9	120-80	MEA	20MEP
Ethylbenzene	AK101	0.0259	0.0259	0.0263	0.0269	MG/L	102	104	1.9	120-80	MEA	20MEP
Gasoline Range Organics	AK101	0.9	0.9	0.85	0.84	MG/L	94.4	93.3	1.2	120-60	MEA	20MEP
Toluene	AK101	0.153	0.153	0.149	0.153	MG/L	97.4	100	2.6	120-80	MEA	20MEP
m,p-Xylene (Sum of Isomers)	AK101	0.0955	0.0955	0.0939	0.0962	MG/L	98.3	101	2.7	120-80	MEA	20MEP
o-Xylene	AK101	0.0366	0.0366	0.0359	0.0369	MG/L	98.1	101	2.9	120-80	MEA	20MEP
1,4-Difluorobenzene	AK101	100.	100.	105.	104.	PERCENT	105	104	0.96	150-50	SMEA	20SMEP
4-Bromofluorobenzene	AK101	100.	100.	91.1	88.4	PERCENT	91.1	88.4	3.0	150-50	SMEA	20SMEP

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

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QC Batch: 2640VXX Matrix: Surface Water Lab Samp ID: 113566							
Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria	
Benzene	AK101	0.02	0.0197	MG/L	98.5	125-75	MECC
Ethylbenzene	AK101	0.02	0.0198	MG/L	99.0	125-75	MECC
Toluene	AK101	0.02	0.0197	MG/L	98.5	125-75	MECC
m,p-Xylene (Sum of Isomers)	AK101	0.04	0.0412	MG/L	103	125-75	MECC
o-Xylene	AK101	0.02	0.0201	MG/L	101	125-75	MECC
1,4-Difluorobenzene	AK101	100.	91.	PERCE	91.0	150-50	SMEA
4-Bromofluorobenzene	AK101	100.	78.	PERCE	78.0	150-50	SMEA

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

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QC Batch: 2640VXX						
Matrix: Surface Water						
Lab Samp ID: 113567						
Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
Gasoline Range Organics	AK101	0.2	0.20	MG/L	100	125-75 MECC
1,4-Difluorobenzene	AK101	100.	88.4	PERCE	88.4	150-50 SMEA
4-Bromofluorobenzene	AK101	100.	90.8	PERCE	90.8	150-50 SMEA

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 15

QC Batch: 2640VXX Matrix: Surface Water Lab Samp ID: 114787						
Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
Benzene	AK101	0.0403	0.0364	MG/L	90.3	125-75 MECC
Ethylbenzene	AK101	0.0259	0.0246	MG/L	95.0	125-75 MECC
Gasoline Range Organics	AK101	0.9	0.86	MG/L	95.6	125-75 MECC
Toluene	AK101	0.153	0.141	MG/L	92.2	125-75 MECC
m,p-Xylene (Sum of Isomers)	AK101	0.0955	0.0876	MG/L	91.7	125-75 MECC
o-Xylene	AK101	0.0366	0.0335	MG/L	91.5	125-75 MECC
1,4-Difluorobenzene	AK101	100.	102.	PERCE	102	150-50 SMEA
4-Bromofluorobenzene	AK101	100.	94.	PERCE	94.0	150-50 SMEA

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

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QC Batch: 2640VXX Matrix: Surface Water Lab Samp ID: 114788						
Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
Benzene	AK101	0.0403	0.0369	MG/L	91.6	125-75 MECC
Ethylbenzene	AK101	0.0259	0.0250	MG/L	96.5	125-75 MECC
Gasoline Range Organics	AK101	0.9	0.84	MG/L	93.3	125-75 MECC
Toluene	AK101	0.153	0.143	MG/L	93.5	125-75 MECC
m,p-Xylene (Sum of isomers)	AK101	0.0955	0.0892	MG/L	93.4	125-75 MECC
o-Xylene	AK101	0.0366	0.0342	MG/L	93.4	125-75 MECC
1,4-Difluorobenzene	AK101	100.	103.	PERCE	103	150-50 SMEA
4-Bromofluorobenzene	AK101	100.	92.	PERCE	92.0	150-50 SMEA

PROJECT	HSN	SAMPL	RUN DATE	RUN INSTRUDILU	ANALYTICAL	PREP BAT	SEQUENCE
	113565	IB	8/13/97 9:13:00 PM	VDA	12919VFC		1
	113566	CCV2	8/13/97 9:33:00 PM	VDA	12919VFC		2
	113567	CCV	8/13/97 9:54:00 PM	VDA	12919VFC		3
	114470	LCS	8/13/97 10:35:00 PM	VDA	12919VFC	2657VXX	4
	114471	LCSD	8/13/97 10:55:00 PM	VDA	12919VFC	2657VXX	5
974437	974437014	PS	8/13/97 11:15:00 PM	VDA	12919VFC	2657VXX	6
974437	974437011	PS	8/13/97 11:36:00 PM	VDA	12919VFC	2657VXX	7
974437	974437012	PS	8/13/97 11:56:00 PM	VDA	12919VFC	2657VXX	8
974508	974508005	PS	8/14/97 12:37:23 AM	VDA	12919VFC	2657VXX	9
974499	974499001	PS	8/14/97 12:57:00 AM	VDA	12919VFC	2657VXX	10
974499	974499002	PS	8/14/97 1:18:00 AM	VDA	12919VFC	2657VXX	11
974499	974499004	PS	8/14/97 1:38:00 AM	VDA	12919VFC	2657VXX	12
974499	974499003	PS	8/14/97 1:59:00 AM	VDA	12919VFC	2657VXX	13
	114783	LS	8/14/97 2:39:00 AM	VDA	12919VFC		14
	112491	MB	8/14/97 2:59:00 AM	VDA	12919VFC	2619VXX	15
	112492	LCS	8/14/97 3:20:00 AM	VDA	12919VFC	2619VXX	16
	112493	LCSD	8/14/97 3:40:00 AM	VDA	12919VFC	2619VXX	17
974441	974441001	PS	8/14/97 4:01:00 AM	VDA	12919VFC	2619VXX	18
974441	974441002	PS	8/14/97 4:21:00 AM	VDA	12919VFC	2619VXX	19
974441	974441003	PS	8/14/97 4:42:00 AM	VDA	12919VFC	2619VXX	20
974441	974441004	PS	8/14/97 5:02:00 AM	VDA	12919VFC	2619VXX	21
974441	974441005	PS	8/14/97 5:22:00 AM	VDA	12919VFC	2619VXX	22
974441	974441006	PS	8/14/97 5:43:00 AM	VDA	12919VFC	2619VXX	23
974441	974441007	PS	8/14/97 6:03:00 AM	VDA	12919VFC	2619VXX	24
974441	974441008	PS	8/14/97 6:24:00 AM	VDA	12919VFC	2619VXX	25
974441	974441011	PS	8/14/97 6:44:00 AM	VDA	12919VFC	2619VXX	26
	114784	LS	8/14/97 8:06:00 AM	VDA	12919VFC		27
974441	974441010	PS	8/14/97 8:26:00 AM	VDA	12919VFC	2619VXX	28
974441	974441012	PS	8/14/97 8:47:00 AM	VDA	12919VFC	2619VXX	29
	114785	IB	8/14/97 12:02:00 PM	VDA	12919VFC		30
	114786	LS	8/14/97 12:22:00 PM	VDA	12919VFC		31
974441	974441013	PS	8/14/97 12:43:00 PM	VDA	12919VFC	2619VXX	32
974441	974441014	PS	8/14/97 1:23:00 PM	VDA	12919VFC	2619VXX	33
974441	974441015	PS	8/14/97 1:43:00 PM	VDA	12919VFC	2619VXX	34
974441	974441016	PS	8/14/97 2:03:00 PM	VDA	12919VFC	2619VXX	35
974441	974441017	PS	8/14/97 2:24:00 PM	VDA	12919VFC	2619VXX	36
974441	974441018	PS	8/14/97 2:44:00 PM	VDA	12919VFC	2619VXX	37
974441	974441019	PS	8/14/97 3:04:00 PM	VDA	12919VFC	2619VXX	38
974441	974441020	PS	8/14/97 3:24:00 PM	VDA	12919VFC	2619VXX	39
	113552	MB	8/14/97 3:44:00 PM	VDA	12919VFC	2640VXX	40
	114787	LS	8/14/97 4:04:00 PM	VDA	12919VFC		41
	113553	LCS	8/14/97 5:27:00 PM	VDA	12919VFC	2640VXX	42
	113554	LCSD	8/14/97 5:47:00 PM	VDA	12919VFC	2640VXX	43
974607	974607001	PS	8/14/97 6:07:00 PM	VDA	12919VFC	2640VXX	44
974607	974607002	PS	8/14/97 6:27:00 PM	VDA	12919VFC	2640VXX	45
974194	974194014	PS	8/14/97 6:48:00 PM	VDA	12919VFC	2625VXX	46
974194	974194013	PS	8/14/97 7:08:00 PM	VDA	12919VFC	2625VXX	47
	114788	LS	8/14/97 9:28:00 PM	VDA	12919VFC		48

VFC 2919

RUNLOG

Start of Analysis Lot VDA06060813

#	Vial	SampleName	Analysis_Lot	Date Acquired	Prep_Lot	Dilution	Additional_Comments
1	5	IB	VDA06060813	08/13/97 09:13:53 PM	0813VH01	1.00000	
2	6	CCV2	VDA06060813	08/13/97 09:33:53 PM	0813VH01	1.00000	
3	7	CCV	VDA06060813	08/13/97 09:54:24 PM	0813VH01	1.00000	
4	8	QC	VDA06060813	08/13/97 10:14:31 PM	0813VH01	1.00000	
5	9	LCS AK101	VDA06060813	08/13/97 10:35:00 PM	0804VS01	1.00000	
6	10	LCSD AK101	VDA06060813	08/13/97 10:55:07 PM	0804VS01	1.00000	
7	11	974437014	VDA06060813	08/13/97 11:15:35 PM	0804VS01	1.00000	
8	12	974437011	VDA06060813	08/13/97 11:36:08 PM	0729VS01	1.00000	
9	13	974437012	VDA06060813	08/13/97 11:56:34 PM	0731VS01	1.00000	
10	14	974437013	VDA06060813	08/14/97 12:17:02 AM	0804VS01	1.00000	
11	15	974508005	VDA06060813	08/14/97 12:37:23 AM	0806VS01	1.00000	
12	16	974499001	VDA06060813	08/14/97 12:57:50 AM	0807VS01	1.00000	
13	1	974499002	VDA06060813	08/14/97 01:18:13 AM	0807VS01	1.00000	
14	2	974499004	VDA06060813	08/14/97 01:38:52 AM	0807VS01	1.00000	
15	3	974499003	VDA06060813	08/14/97 01:59:02 AM	0807VS01	1.00000	
16	4	BLK	VDA06060813	08/14/97 02:19:17 AM	0807VS01	1.00000	
17	5	LS	VDA06060813	08/14/97 02:39:38 AM	0807VS01	1.00000	
18	6	MB	VDA06060813	08/14/97 02:59:53 AM	0813VS01	1.00000	
19	7	LCS SOIL	VDA06060813	08/14/97 03:20:24 AM	0813VS01	1.00000	
20	8	LCSD SOIL	VDA06060813	08/14/97 03:40:53 AM	0813VS01	1.00000	
21	9	974441001	VDA06060813	08/14/97 04:01:23 AM	0813VS01	1.00000	
22	10	974441002	VDA06060813	08/14/97 04:21:47 AM	0813VS01	1.00000	
23	11	974441003	VDA06060813	08/14/97 04:42:12 AM	0813VS01	1.00000	
24	12	974441004	VDA06060813	08/14/97 05:02:36 AM	0813VS01	1.00000	
25	13	974441005	VDA06060813	08/14/97 05:22:58 AM	0813VS01	1.00000	
26	14	974441006	VDA06060813	08/14/97 05:43:19 AM	0813VS01	1.00000	
27	15	974441007	VDA06060813	08/14/97 06:03:41 AM	0813VS01	1.00000	
28	16	974441008	VDA06060813	08/14/97 06:24:03 AM	0813VS01	1.00000	
29	1	974441011	VDA06060813	08/14/97 06:44:28 AM	0813VS01	1.00000	
30	2	974441009	VDA06060813	08/14/97 07:04:49 AM	0813VS01	1.00000	
31	3	BLK	VDA06060813	08/14/97 07:25:14 AM	0813VS01	1.00000	
32	4	BLK	VDA06060813	08/14/97 07:45:40 AM	0813VS01	1.00000	
33	5	LS	VDA06060813	08/14/97 08:06:08 AM	0813VS01	1.00000	
34	6	974441010	VDA06060813	08/14/97 08:26:41 AM	0813VS01	1.00000	

#	Vial	SampleName	Analysis_Lot	Date Acquired	Prep_Lot	Dilution	Additional_Comments
35	7	974441012	VDA06060813	08/14/97 08:47:08 AM	0813VS01	1.00000	
36	15	IB	VDA06060813	08/14/97 12:02:28 PM	0813VS01	1.00000	
37	2	LS	VDA06060813	08/14/97 12:22:32 PM	0813VS01	1.00000	
38	3	974441013	VDA06060813	08/14/97 12:43:10 PM	0813VS01	1.00000	
39	4	BLK	VDA06060813	08/14/97 01:03:22 PM	0813VS01	1.00000	
40	4	974441014	VDA06060813	08/14/97 01:23:23 PM	0813VS01	1.00000	
41	6	974441015	VDA06060813	08/14/97 01:43:26 PM	0813VS01	1.00000	
42	7	974441016	VDA06060813	08/14/97 02:03:59 PM	0813VS01	1.00000	
43	8	974441017	VDA06060813	08/14/97 02:24:12 PM	0813VS01	1.00000	
44	9	974441018	VDA06060813	08/14/97 02:44:13 PM	0813VS01	1.00000	
45	10	974441019	VDA06060813	08/14/97 03:04:17 PM	0813VS01	1.00000	
46	11	974441020	VDA06060813	08/14/97 03:24:16 PM	0813VS01	1.00000	
47	12	113552	VDA06060813	08/14/97 03:44:22 PM	0813VS01	1.00000	MB H ₂ O
48	13	LS	VDA06060813	08/14/97 04:04:55 PM	0813VS01	1.00000	
49	14	113553	VDA06060813	08/14/97 05:27:16 PM	0814VH01	1.00000	LCS H ₂ O
50	15	113554	VDA06060813	08/14/97 05:47:49 PM	0814VH01	1.00000	LCS D H ₂ O
51	16	974607001	VDA06060813	08/14/97 06:07:56 PM	0814VH01	1.00000	
52	1	974607002	VDA06060813	08/14/97 06:27:58 PM	0814VH01	1.00000	
53	2	974194014	VDA06060813	08/14/97 06:48:04 PM	0814VH01	1.00000	
54	3	974194013	VDA06060813	08/14/97 07:08:06 PM	0814VH01	1.00000	
55	4	IB	VDA06060813	08/14/97 07:28:09 PM	0814VH01	1.00000	
56	5	974441008	VDA06060813	08/14/97 07:48:11 PM	0814VH01	10.00000	
57	6	974441015	VDA06060813	08/14/97 08:08:18 PM	0814VH01	10.00000	
58	7	974441016	VDA06060813	08/14/97 08:28:20 PM	0814VH01	10.00000	
59	8	974441017	VDA06060813	08/14/97 08:48:24 PM	0814VH01	10.00000	
60	9	BLK	VDA06060813	08/14/97 09:08:26 PM	0814VH01	1.00000	
61	10	LS	VDA06060813	08/14/97 09:28:29 PM	0814VH01	1.00000	

End of Analysis Lot VDA06060813

Processing Method: VDA_PID_0606

Millennium v2.13

Date Printed: 16:21:33, June 7, 1997

Method Name: VDA_PID_0606
 Date Created: 06/06/97 23:02:36
 Method Type: GC

Calculated Custom Field Formulas

Response_Factor Amount/Response/Dilution
 True_GRO GRO(Amount) - Surrogate(Amount)
 True_Surr1 CConst1/Surr_1/CConst1
 True_Surr2 CConst2/Surr_2/CConst2
 Surr_Rec_1 Amount/Dilution*SampleWeight*True_Surr1*100
 Surr_Rec_2 Amount/Dilution*SampleWeight*True_Surr2*100
 Sln_Conc Amount/Dilution*SampleWeight
 RF_GRO GRO(Area)/GRO(Amount)*Dilution/SampleWeight

Calibration Parameters

Averaging None
 RT Window † 2.50
 Update RT Never
 CCalRefl

Peak Integration Parameters

Minimum Area 1000 uV*sec
 Minimum Height 40 uV
 Threshold 50.000 uV/sec
 Peak Width 3.00 sec

Event Table

#	Start (min)	Event	Value
1	0.092	Forward Horizontal by Time	
2	0.422	Set Minimum Height	2000000.000
3	2.853	Set Minimum Height	20.000
4	10.166	Set Minimum Height	2000000.000

Component Table

#	Name	Retention Time (min)	RT Window (min)	Peak Match	Quant By
1	Benzene	4.237	0.429	Closest	Area
2	1,4-Difluorobenzene <Surr/IS>	4.650	0.350	Closest	Area
3	aaa-TFT	5.400	0.377	Closest	Area
4	Toluene	6.512	0.338	Closest	Area
5	Ethylbenzene	7.883	0.148	Closest	Area
6	P & M -Xylene	8.057	0.172	Closest	Area
7	O -Xylene	8.351	0.231	Closest	Area
8	4-Bromofluorobenzene	8.643	0.255	Closest	Area

RF
 → 16.166
 → 17.743
 → 20.779
 → 18.57
 → 20.409

Peak Results Component Summary for Response_Factor

#	SampleName	Benzene	1,4-Difluorobenzene <Surr/IS>	aaa-TFT
1	BTEX STD-1	19.1689	42.9963	0.0000
2	BTEX STD-2	16.2455	40.3598	0.0000
3	BTEX STD-3	16.0132	39.5785	0.0000
4	BTEX STD-4	15.3102	37.8437	0.0000
5	BTEX STD-5	16.2747	39.1184	0.0000
6	BTEX STD-6	16.3234	40.1125	0.0000

-- Peak Results Component Summary for Response_Factor Summary --

Benzene Mean: 16.5560 +/- 1.33443
 Benzene %RSD: 8.060
 1,4-Difluorobenzene <Surr/IS> Mean: 40.0015 +/- 1.71607
 1,4-Difluorobenzene <Surr/IS> %RSD: 4.290
 aaa-TFT Mean: 0.0000 +/- 0.00000
 aaa-TFT %RSD:

Peak Results Component Summary for Response_Factor

#	Toluene	Ethylbenzene	P & M -Xylene	O -Xylene	4-Bromofluorobenzene
1	19.2297	23.1181	19.0520	20.5173	22.6948
2	17.4338	20.0841	17.0568	19.4271	21.5524
3	17.7398	20.8632	17.9005	20.3372	21.6592
4	17.1074	20.0004	17.4812	19.4726	20.1906
5	17.5090	20.4240	18.2379	20.0508	19.9275
6	18.0798	21.2416	19.1373	20.9228	20.9500

-- Peak Results Component Summary for Response_Factor Summary --

Toluene Mean: 17.8499 +/- 0.74960
 Toluene %RSD: 4.199
 Ethylbenzene Mean: 20.9552 +/- 1.15942
 Ethylbenzene %RSD: 5.533
 P & M -Xylene Mean: 18.1443 +/- 0.83672
 P & M -Xylene %RSD: 4.611
 O -Xylene Mean: 20.1213 +/- 0.59220
 O -Xylene %RSD: 2.943
 4-Bromofluorobenzene Mean: 21.1624 +/- 1.02583
 4-Bromofluorobenzene %RSD: 4.847

Component Table

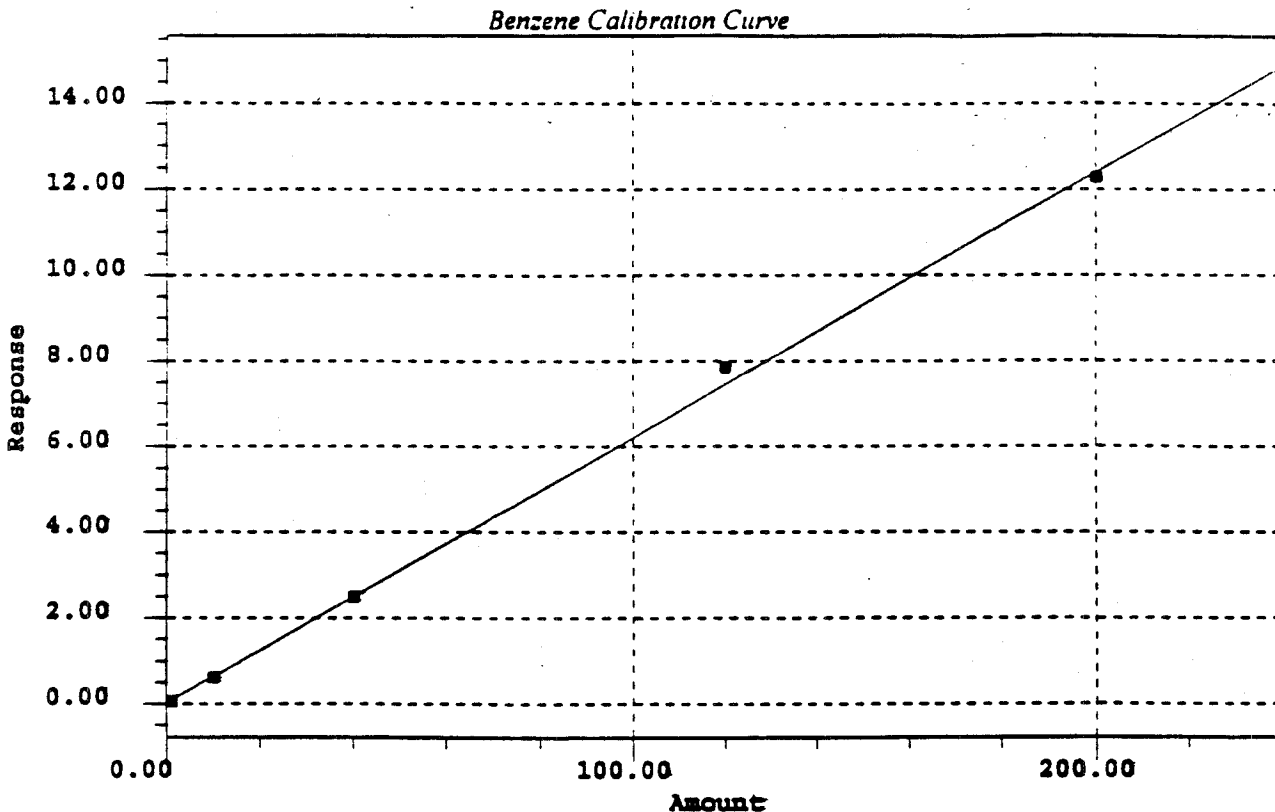
#	Fit Type	Weighting	Int Std	RT Reference	Must Peak	Default
1	Linear thru Zero	None	aaa-TFT	aaa-TFT	No	No
2	Linear thru Zero	None	aaa-TFT	aaa-TFT	No	No
3	Linear thru Zero	None			No	No
4	Linear thru Zero	None	aaa-TFT	aaa-TFT	No	No
5	Linear thru Zero	None	aaa-TFT	aaa-TFT	No	No
6	Linear thru Zero	None	aaa-TFT	aaa-TFT	No	No
7	Linear thru Zero	None	aaa-TFT	aaa-TFT	No	No
8	Linear thru Zero	None	aaa-TFT	aaa-TFT	No	No

Component Table

#	Component Type	CConst1	CConst2
1	Single Peak	0.000000000	0.000000000
2	Single Peak	1.000000000	0.000000000
3	Single Peak	0.000000000	0.000000000
4	Single Peak	0.000000000	0.000000000
5	Single Peak	0.000000000	0.000000000
6	Single Peak	0.000000000	0.000000000
7	Single Peak	0.000000000	0.000000000
8	Single Peak	0.000000000	1.000000000

Table Timed Group Table' contains no data.

Table Named Group Table' contains no data.



Benzene Calibration Information			
Processing Method	VDA_PID_0606	System	VDA_L3_S1
Channel	SATIN	Date	06-JUN-97
Type	LC	Name	Benzene
Retention Time	4.237 min	Order	1
A	0.000000	B	0.061857 <i>RF = 16.166</i>
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999486	R ²	0.998972
Standard Error	0.200081		

Benzene Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	1.000000	0.052168	0.843369	-15.663	No
2	10.000000	0.615555	9.951327	-0.487	No
3	40.000000	2.497942	40.382807	0.957	No
4	120.000000	7.837930	126.711360	5.593	No
5	200.000000	12.289011	198.669460	-0.665	No
6	240.000000	14.702810	237.691983	-0.962	No

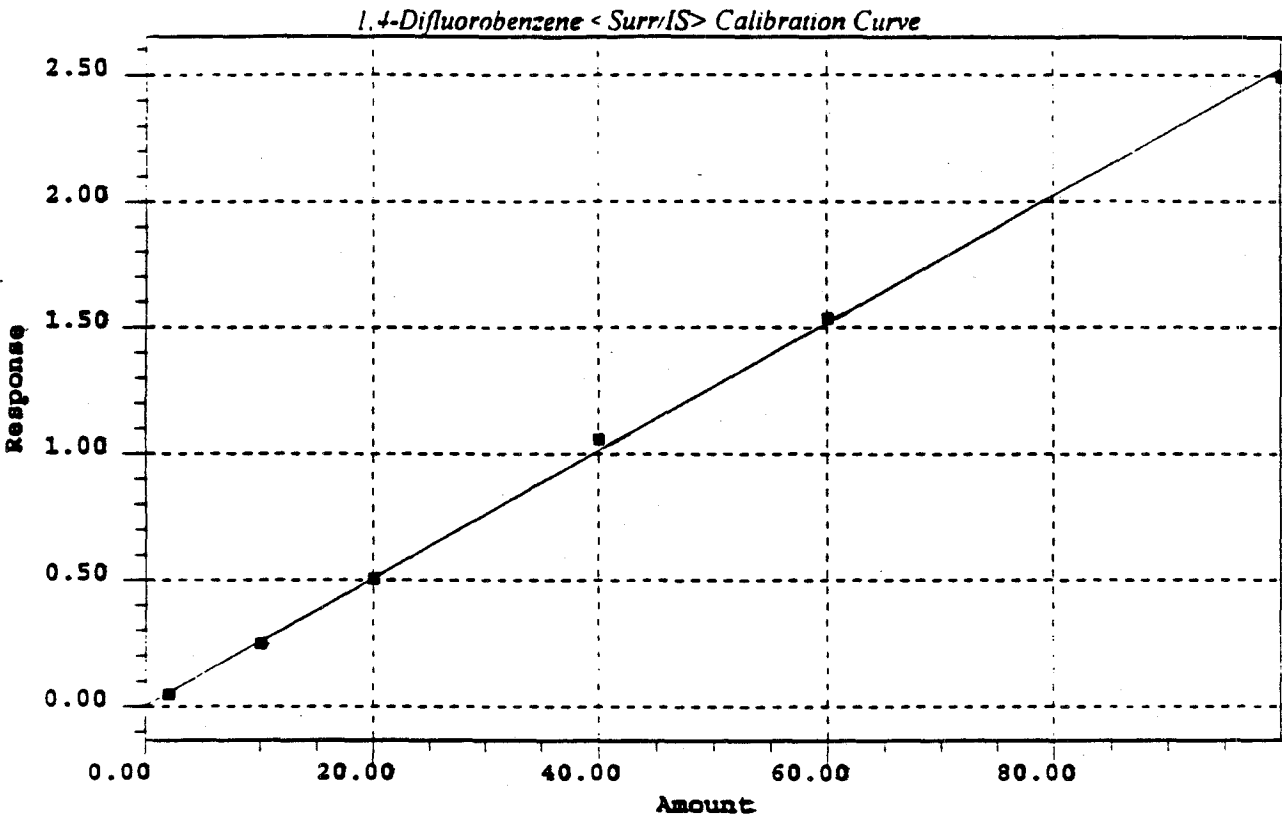
Benzene Point Table

#	Ignore?
1	No

Benzene Point Table

#	Ignore?
2	No
3	No
4	No
5	No
6	No

Table 'Benzene Average Table' contains no data.



1,4-Difluorobenzene <Surr/IS> Calibration Information

g Method	VDA_PID_0606	System	VDA_L3_S1
	SATIN	Date	06-JUN-97
	LC	Name	1,4-Difluorobenzene <Surr/IS>
Time	4.650 min	Order	1
	0.000000	B	0.025235
	0.000000	D	0.000000
	0.000000	F	0.000000
	0.999572	R^2	0.999145
Error	0.026907		

1,4-Difluorobenzene <Surr/IS> Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	2.000000	0.046516	1.843331	-7.833	No
2	10.000000	0.247771	9.818725	-1.813	No
3	20.000000	0.505325	20.025103	0.126	No
4	40.000000	1.056980	41.886174	4.715	No

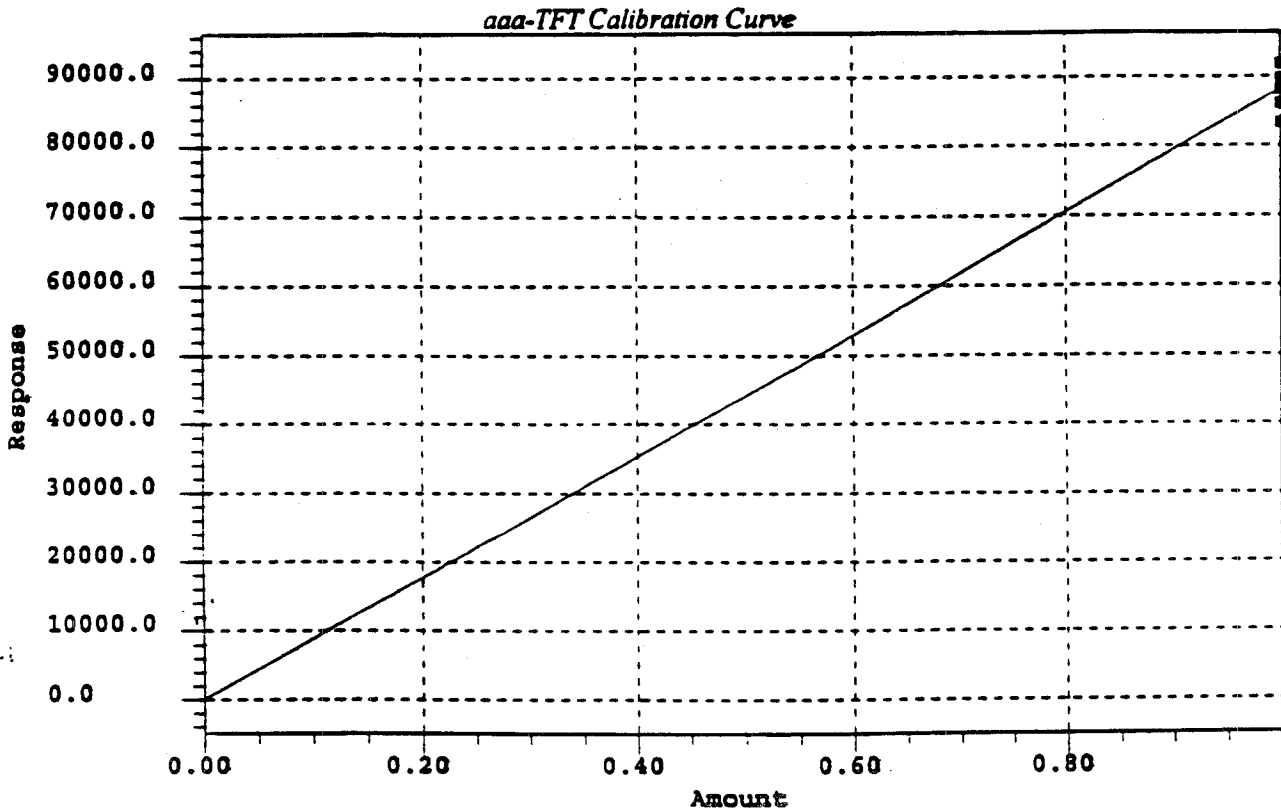
1,4-Difluorobenzene <Surr/IS> Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
5	60.000000	1.533805	60.781910	1.303	No
6	100.000000	2.492989	98.792624	-1.207	No

1,4-Difluorobenzene <Surr/IS> Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No
6	No

Table '1,4-Difluorobenzene <Surr/IS> Average Table' contains no data.



aaa-TFT Calibration Information

Processing Method	VDA_PID_0606	System	VDA_L3_S1
Channel	SATIN	Date	06-JUN-97
Type	LC	Name	aaa-TFT
Retention Time	5.400 min	Order	1
A	0.000000	B	88031.530000
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.000000	R ²	0.000000
Standard Error	3004.279713		

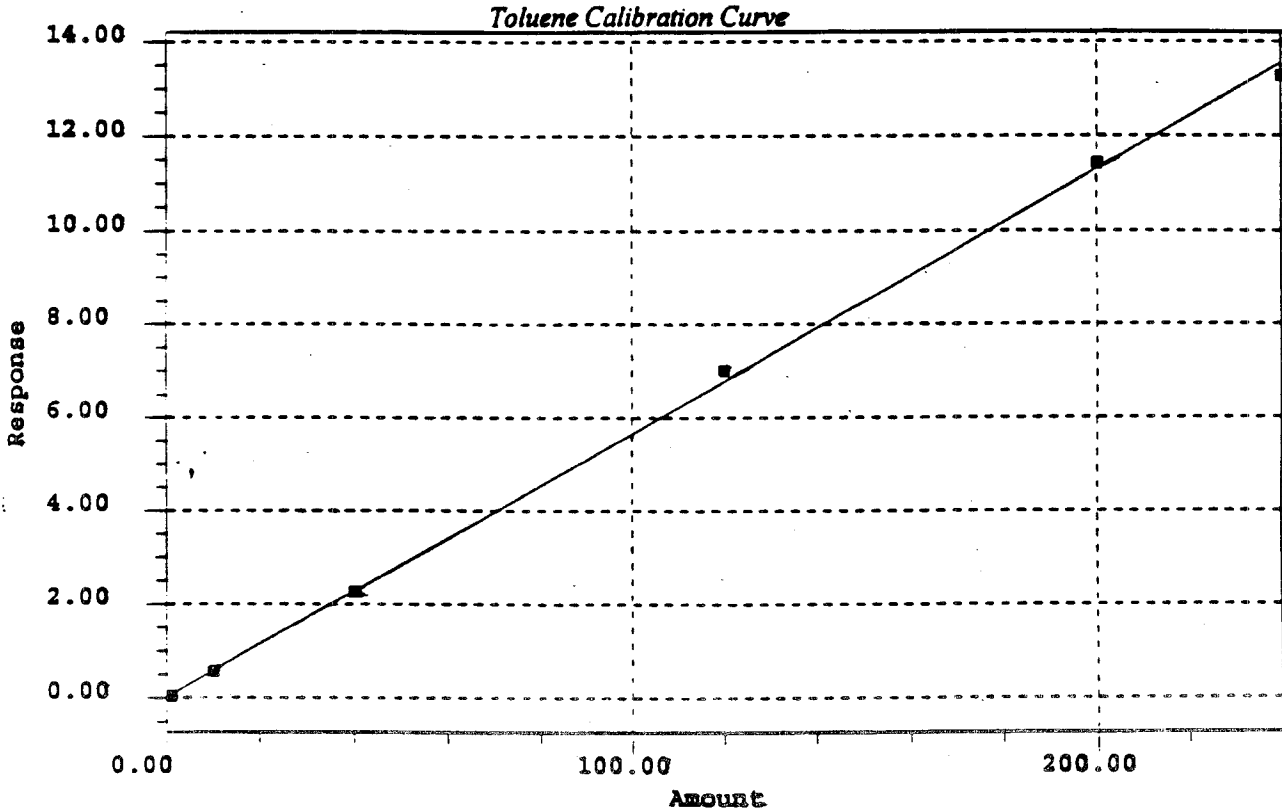
aaa-TFT Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	1.000000	83273.700000	0.945953	-5.405	No
2	1.000000	86089.919999	0.977944	-2.206	No
3	1.000000	88256.019999	1.002550	0.255	No
4	1.000000	88950.520002	1.010439	1.044	No
5	1.000000	89715.800000	1.019133	1.913	No
6	1.000000	91903.219998	1.043981	4.398	No

aaa-TFT Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No
6	No

Table 'aaa-TFT Average Table' contains no data.



Toluene Calibration Information

Processing Method	VDA PID_0606	System	VDA L3_S1
Channel	SATIN	Date	06-JUN-97
Type	LC	Name	Toluene
Retention Time	6.512 min	Order	1

A 0.000000 B 0.056360
 C 0.000000 D 0.000000
 E 0.000000 F 0.000000
 R 0.999538 R^2 0.999077
 Standard Error 0.172876

RF: 17743

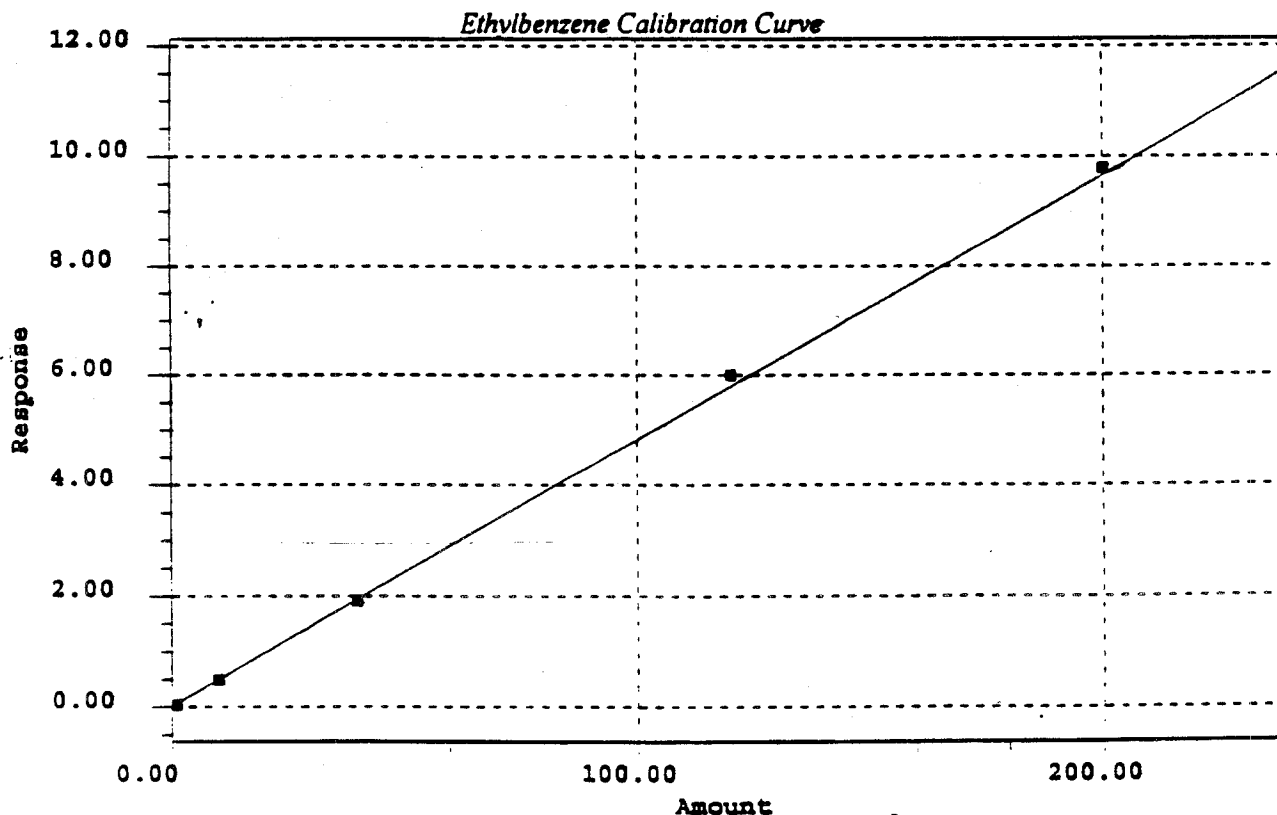
Toluene Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	1.000000	0.052003	0.922699	-7.730	No
2	10.000000	0.573599	10.177486	1.775	No
3	40.000000	2.254812	40.007584	0.019	No
4	120.000000	7.014505	124.459799	3.716	No
5	200.000000	11.422698	202.675266	1.338	No
6	240.000000	13.274512	235.532375	-1.862	No

Toluene Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No
6	No

Table 'Toluene Average Table' contains no data.



Ethylbenzene Calibration Information

Processing Method	VDA_PID_0606	System	VDA_L3_S1
Channel	SATIN	Date	06-JUN-97
Type	LC	Name	Ethylbenzene
Retention Time	7.883 min	Order	1
A	0.000000	B	0.048125 <i>RF: 20.779</i>
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999397	R^2	0.998795
Standard Error	0.168617		

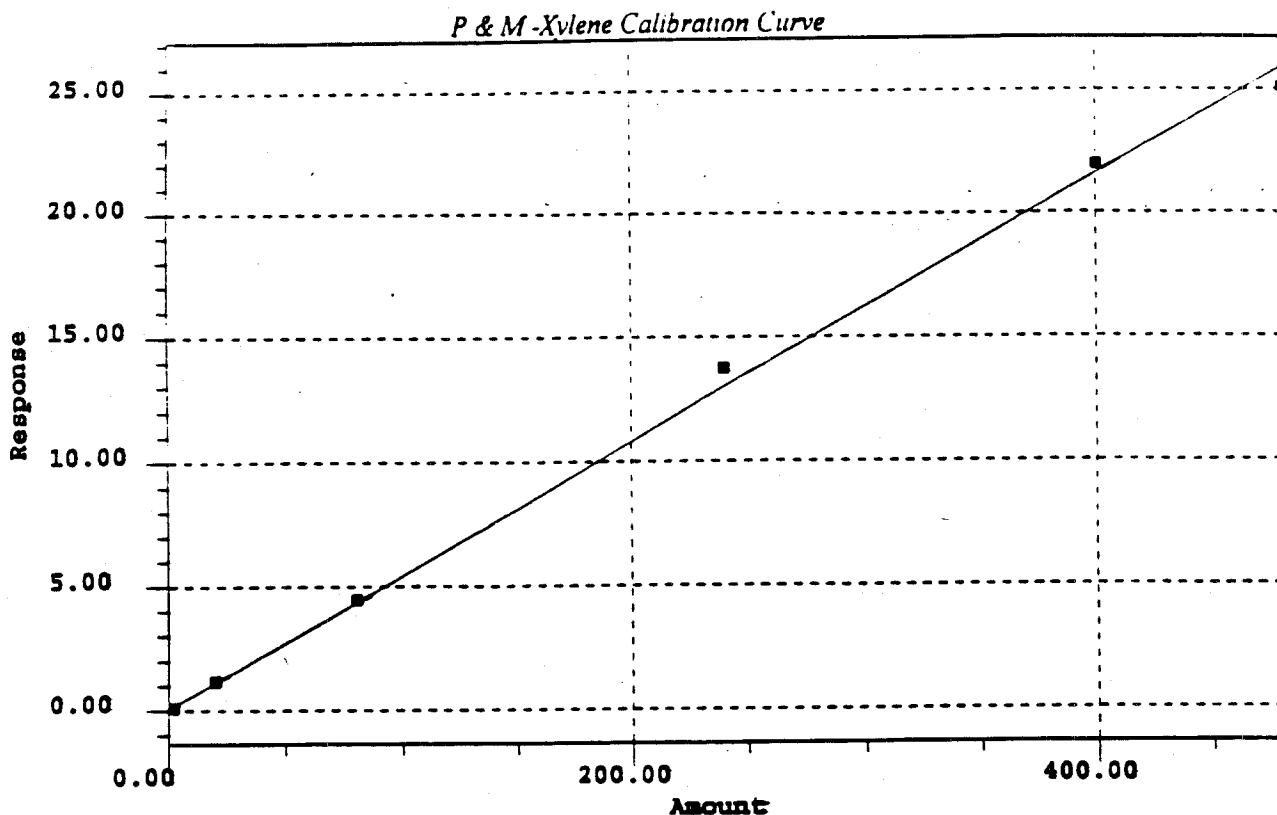
Ethylbenzene Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	1.000000	0.043256	0.898833	-10.117	No
2	10.000000	0.497906	10.346135	3.461	No
3	40.000000	1.917249	39.839107	-0.402	No
4	120.000000	5.999876	124.673295	3.894	No
5	200.000000	9.792391	203.479147	1.740	No
6	240.000000	11.298588	234.776878	-2.176	No

Ethylbenzene Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No
6	No

Table 'Ethylbenzene Average Table' contains no data.



P & M-Xylene Calibration Information

Processing Method	VDA_PID_0606	System	VDA L3_S1
Channel	SATIN	Date	06-JUN-97
Type	LC	Name	P & M -Xylene
Retention Time	8.057 min	Order	1
A	0.000000	B	0.053844 <i>RF = 18.572</i>
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.998778	R ²	0.997558
Standard Error	0.533645		

P & M-Xylene Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	2.000000	0.104976	1.949637	-2.518	No
2	20.000000	1.172550	21.776848	8.884	No
3	80.000000	4.469153	83.002040	3.753	No
4	240.000000	13.729006	254.977924	6.241	No
5	400.000000	21.932330	407.331746	1.833	No
6	480.000000	25.081947	465.827084	-2.953	No

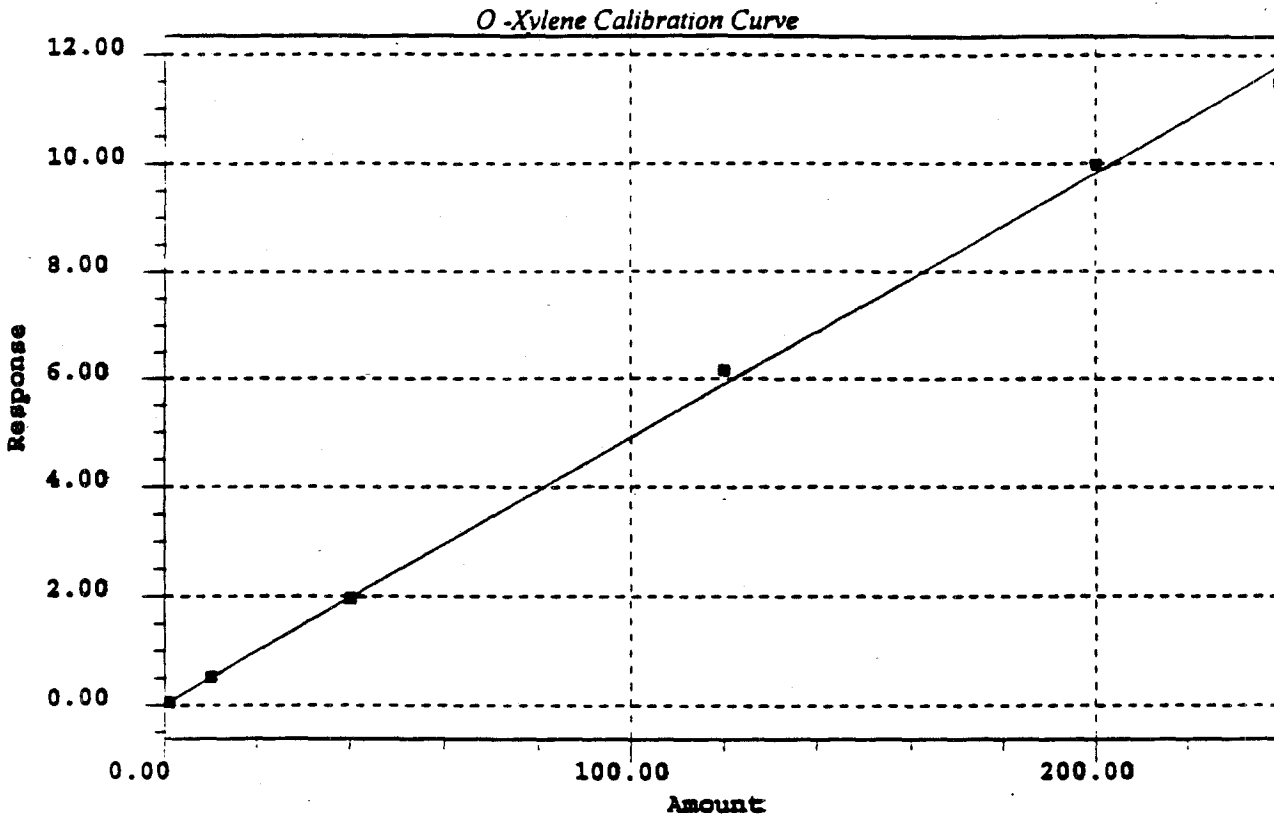
P & M-Xylene Point Table

#	Ignore?
1	No
2	No
3	No

P & M-Xylene Point Table

#	Ignore?
4	NO
5	NO
6	NO

Table 'P & M-Xylene Average Table' contains no data.



O-Xylene Calibration Information

Processing Method	VDA_PID_0606	System	VDA_L3_S1
Channel	SATIN	Date	06-JUN-97
Type	LC	Name	O-Xylene
Retention Time	8.351 min	Order	1
A	0.000000	B	0.048999
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999201	R ²	0.998402
Standard Error	0.197297		

RF = 20.409

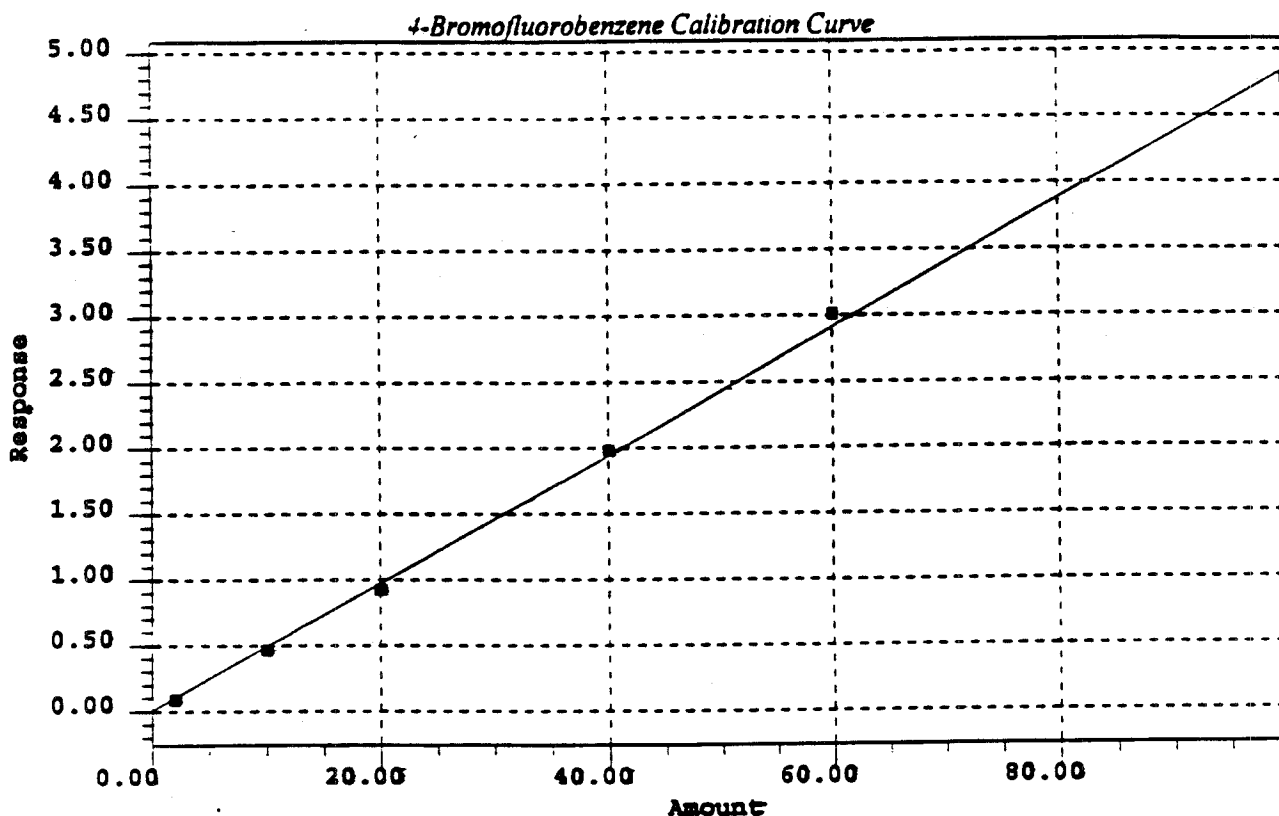
O-Xylene Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	1.000000	0.048739	0.994691	-0.531	No
2	10.000000	0.514744	10.505104	5.051	No
3	40.000000	1.966835	40.139941	0.350	No
4	120.000000	6.162494	125.766594	4.805	No
5	200.000000	9.974673	203.567033	1.784	No
6	240.000000	11.470764	234.099829	-2.458	No

O-Xylene Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No
6	No

Table 'O-Xylene Average Table' contains no data.



4-Bromofluorobenzene Calibration Information

Processing Method	VDA PID_0606	System	VDA_L3_S1
Channel	SATIN	Date	06-JUN-97
Type	LC	Name	4-Bromofluorobenzene
Retention Time	8.643 min	Order	1
A	0.000000	B	0.048428
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999355	R ²	0.998710
Standard Error	0.063830		

4-Bromofluorobenzene Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	2.000000	0.088126	1.819733	-9.013	No
2	10.000000	0.463986	9.580979	-4.190	No
3	20.000000	0.923395	19.067428	-4.663	No

4-Bromofluorobenzene Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
4	40.000000	1.981115	40.908588	2.271	No
5	60.000000	3.010913	62.173166	3.622	No
6	100.000000	4.773277	98.564687	-1.435	No

4-Bromofluorobenzene Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No
6	No

Table '4-Bromofluorobenzene Average Table' contains no data.

Start of Analysis Lot VDA06060606
 VDA06060609

#	Vial	SampleName	Analysis_Lot	Date Acquired	Prep_Lot	Dilution	Additional_Comments
1	2	BTEX STD-1	VDA06060606	06/06/97 20:16:19	0606VH01	1.00000	
2	3	BTEX STD-2	VDA06060606	06/06/97 20:36:44	0606VH01	1.00000	
3	4	BTEX STD-3	VDA06060606	06/06/97 20:57:09	0606VH01	1.00000	
4	5	BTEX STD-4	VDA06060606	06/06/97 21:17:34	0606VH01	1.00000	
5	6	BTEX STD-5	VDA06060606	06/06/97 21:38:11	0606VH01	1.00000	
6	7	BTEX STD-6	VDA06060606	06/06/97 21:58:44	0606VH01	1.00000	
7	9	CCV2	VDA06060606	06/06/97 22:19:12	0606VH01	1.00000	
8	10	LCS1	VDA06060606	06/06/97 22:39:37	0606VH01	1.00000	
9	11	LCS2	VDA06060606	06/06/97 23:00:03	0606VH01	1.00000	
10	15	CCV2	VDA06060606	06/07/97 15:51:04	0606VH01	1.00000	
11	1	IB	VDA06060609	06/09/97 08:25:44	0609VH01	1.00000	
12	2	CCV2	VDA06060609	06/09/97 08:52:03	0609VH01	1.00000	
13	3	CCV	VDA06060609	06/09/97 09:12:23	0609VH01	1.00000	
14	4	QC	VDA06060609	06/09/97 09:32:53	0609VH01	1.00000	
15	12	972938001	VDA06060609	06/09/97 13:14:49	0604VS01	1.00000	
16	14	972938003	VDA06060609	06/09/97 13:35:00	0604VS01	1.00000	
17	15	972938004	VDA06060609	06/09/97 13:55:35	0604VS01	1.00000	
18	3	BLK	VDA06060609	06/09/97 15:20:43	0604VS01	1.00000	
19	4	96032	VDA06060609	06/09/97 15:41:27	0609VS01	1.00000	
20	5	972938008	VDA06060609	06/09/97 16:02:06	0605VS01	1.00000	
21	6	972938009	VDA06060609	06/09/97 16:22:17	0605VS01	1.00000	
22	7	972938010	VDA06060609	06/09/97 16:43:02	0605VS01	1.00000	
23	12	972859001	VDA06060609	06/09/97 18:30:12	0605VS01	1.00000	
24	13	972859002	VDA06060609	06/09/97 18:50:22	0605VS01	1.00000	
25	14	972859003	VDA06060609	06/09/97 19:10:59	0605VS01	1.00000	
26	15	96031	VDA06060609	06/09/97 19:31:35	0605VS01	1.00000	
27	16	96033	VDA06060609	06/09/97 19:52:11	0605VS01	1.00000	
28	17	972859004	VDA06060609	06/09/97 20:12:23	0605VS01	1.00000	
29	18	972048001	VDA06060609	06/09/97 20:32:57	0609VS01	10.00000	
30	19	LS	VDA06060609	06/09/97 20:53:31	0605VS01	1.00000	

End of Analysis Lot VDA06060606

Processing Method: VDA_FID_0624

Millennium v2.13

Date Printed: 14:54:52, June 25, 1997

Method Name: VDA_FID_0624
 Date Created: 06/25/97 12:54:23
 Method Type: GC

Calculated Custom Field Formulas

Response_Factor Amount/Response/Dilution
 True_GRO GRO[Amount] - Surrogate[Amount]
 True_Surr1 CConst1/Surr_1/CConst1
 True_Surr2 CConst2/Surr_2/CConst2
 Surr_Rec_1 Amount/Dilution*SampleWeight*True_Surr1*100
 Surr_Rec_2 Amount/Dilution*SampleWeight*True_Surr2*100
 Sln_Conc Amount/Dilution*SampleWeight
 RF_GRO GRO[Area]/GRO[Amount]*Dilution/SampleWeight

Calibration Parameters

Averaging None
 RT Window % 10.00
 Update RT Never
 CCalRef1

Peak Integration Parameters

Minimum Area 200 uV*sec
 Minimum Height 25 uV
 Threshold 2.000 uV/sec
 Peak Width 6.00 sec

Event Table

#	Start (min)	Event	Value
1	0.429	Forward Horizontal by Time	
2	0.707	Set Minimum Height	2000000.000
3	1.821	Set Minimum Height	25.000
4	10.286	Set Minimum Height	2000000.000

Component Table

#	Name	Retention Time (min)	RT Window (min)	Peak Match	Quant By
1	GRO	2.650			Area
2	Hexane	2.734	0.371	Closest	Area
3	Difluorobenzene	4.645	0.332	Closest	Area
4	aaa-TFT	5.389	0.352	Closest	Area
5	4-Bromofluorobenzene <Surr>	8.640	0.249	Closest	Area
6	Decane	9.391	0.198	Closest	Area
7	Surrogate				Area

Component Table

#	Fit Type	Weighting	RT Reference	Must Peak	Default	Component Type
1	Linear thru Zero	None		No	No	Timed Group

Component Table

#	Fit Type	Weighting	RT Reference	Must Peak	Default	Component Type
2	Linear thru Zero	None	aaa-TFT	No	No	Single Peak
3	Linear thru Zero	None	aaa-TFT	No	No	Single Peak
4	Linear thru Zero	None		No	No	Single Peak
5	Linear thru Zero	None	aaa-TFT	No	No	Single Peak
6	Linear thru Zero	None	aaa-TFT	No	No	Single Peak
7	Linear thru Zero	None		No	No	Named Group

Component Table

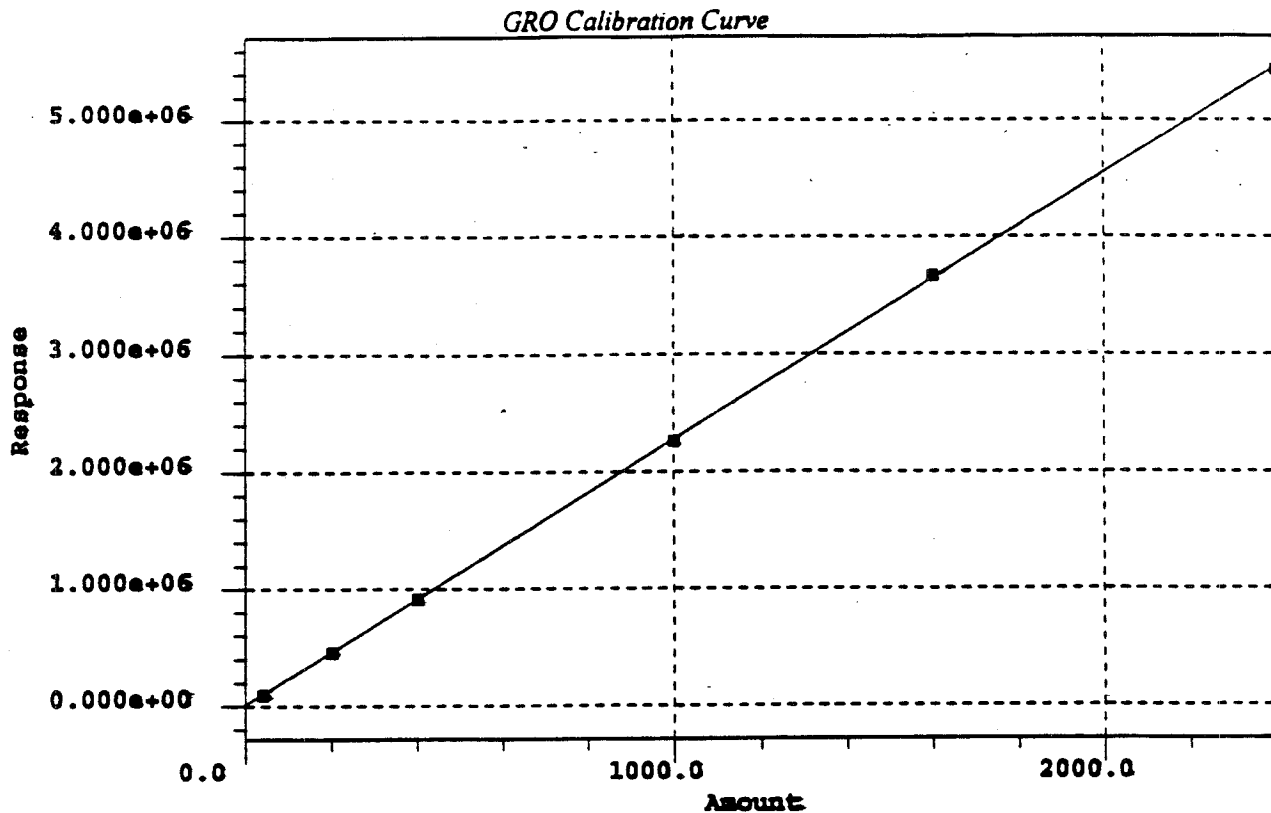
#	CConst1	CConst2
1	0.000000000	0.000000000
2	0.000000000	0.000000000
3	1.000000000	0.000000000
4	0.000000000	0.000000000
5	0.000000000	1.000000000
6	0.000000000	0.000000000
7	0.000000000	0.000000000

Timed Group Table

#	Group Name	Start (min)	Stop (min)
1	GRO	2.650	9.343

Named Group Information

Group Name Surrogate
 Set Retention Time None
 Peak #1: Difluorobenzene
 Peak #2: aaa-TFT
 Peak #3: 4-Bromofluorobenzene <Surr>



GRO Calibration Information

Processing Method	VDA_FID_0624	System	VDA_L3_S1
Channel	SATIN-2	Date	25-JUN-97
Type	LC	Name	GRO
Retention Time	2.650 min	Order	1
A	0.000000	B	2269.529501
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999964	R ²	0.999929
Standard Error	17578.264946		

GRO Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	40.000000	91896.558930	40.491458	1.229	No
2	200.000000	453080.518799	199.636320	-0.182	No
3	400.000000	911836.697589	401.773450	0.443	No
4	1000.000000	2260496.198795	996.019747	-0.398	No
5	1600.000000	3664254.600000	1614.543719	0.909	No
6	2400.000000	5428009.122388	2391.689167	-0.346	No

GRO Point Table

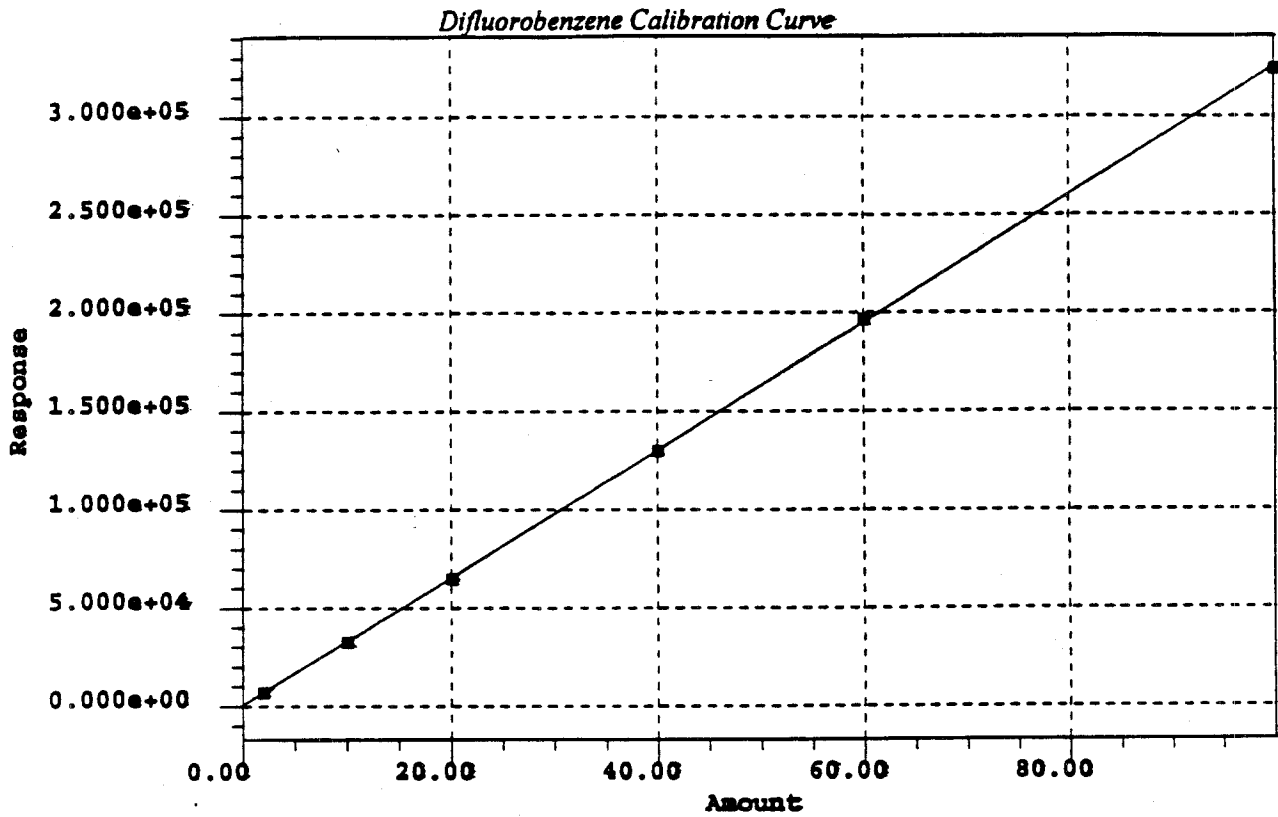
#	Ignore?
1	No

GRO Point Table

#	Ignore?
2	No
3	No
4	No
5	No
6	No

Table 'GRO Average Table' contains no data.

Hexane has no calibration curve



Disfluorobenzene Calibration Information

Processing Method	VDA_FID_0624	System	VDA_L3_S1
Channel	SATIN-2	Date	25-JUN-97
Type	LC	Name	Disfluorobenzene
Retention Time	4.645 min	Order	1
A	0.000000	B	3246.879957
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999975	R ²	0.999949
Standard Error	846.269966		

Disfluorobenzene Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	2.000000	6568.820051	2.023118	1.156	No
2	10.000000	32350.520165	9.963571	-0.364	No

Difluorobenzene Point Table

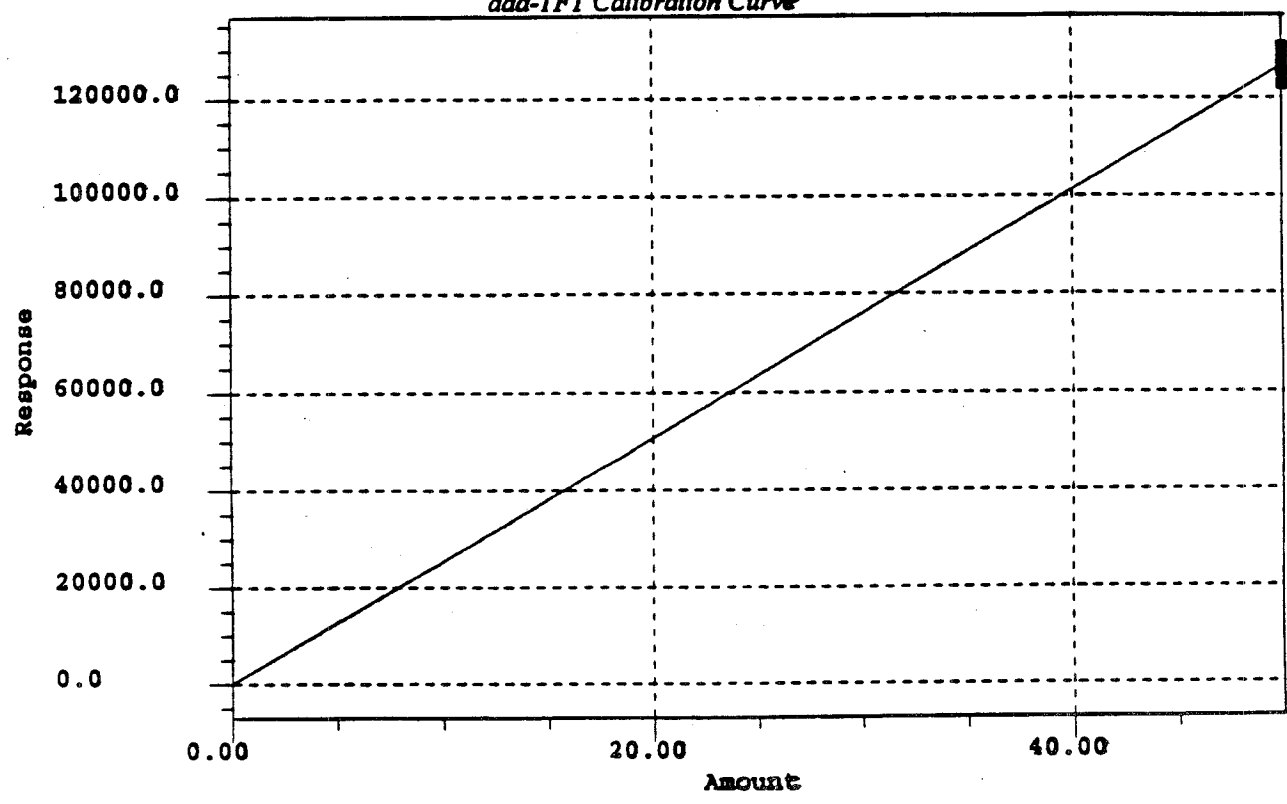
#	Amount	Response	Calc. Amount	% Deviation	Manual
3	20.000000	64591.400000	19.893375	-0.533	No
4	40.000000	130062.300000	40.057625	0.144	No
5	60.000000	196397.500000	60.488069	0.813	No
6	100.000000	323741.900000	99.708614	-0.291	No

Difluorobenzene Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No
6	No

Table 'Difluorobenzene Average Table' contains no data.

aaa-TFT Calibration Curve



aaa-TFT Calibration Information

Processing Method	VDA_FID_0624	System	VDA_L3_S1
Channel	SATIN-2	Date	25-JUN-97
Type	LC	Name	aaa-TFT
Retention Time	5.389 min	Order	1
A	0.000000	B	2526.477734
C	0.000000	D	0.000000
E	0.000000	F	0.000000

R 0.000000 R² 0.000000
 Standard Error 2538.057226

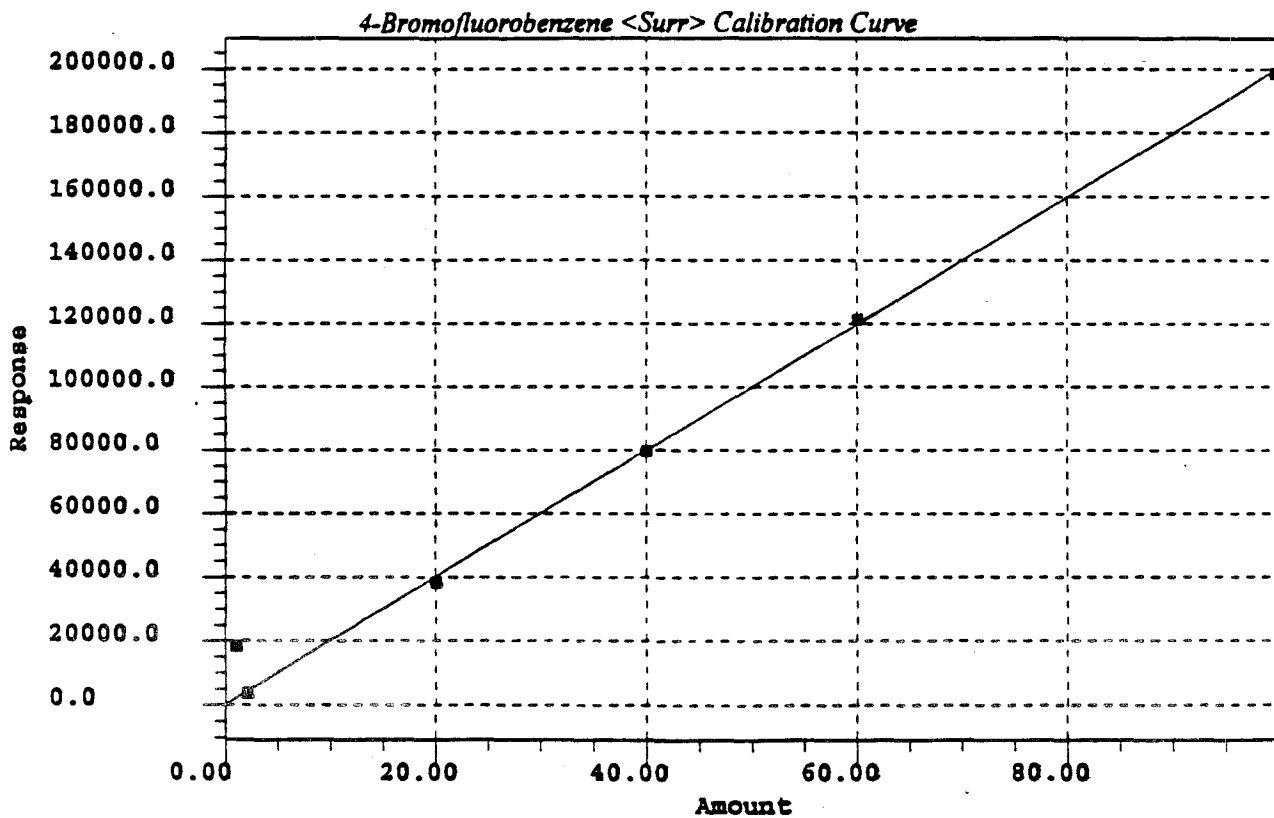
aaa-TFT Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	50.000000	122762.700000	48.590454	-2.819	No
2	50.000000	125430.700000	49.646470	-0.707	No
3	50.000000	125673.400199	49.742532	-0.515	No
4	50.000000	125966.800000	49.858662	-0.283	No
5	50.000000	127777.800000	50.575470	1.151	No
6	50.000000	130331.920101	51.586412	3.173	No

aaa-TFT Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No
6	No

Table 'aaa-TFT Average Table' contains no data.



4-Bromofluorobenzene <Surr> Calibration Information

ing Method VDA_FID_0624 System VDA_L3_S1

SATIN-2 Date 25-JUN-97
 LC Name 4-Bromofluorobenzene <Surr>
 on Time 8.640 min Order 1
 0.000000 B 1993.923030
 0.000000 D 0.000000
 0.000000 F 0.000000
 d Error 0.994893 R^2 0.989813 .999709
 7419.868960 K .999854

4-Bromofluorobenzene <Surr> Point Table

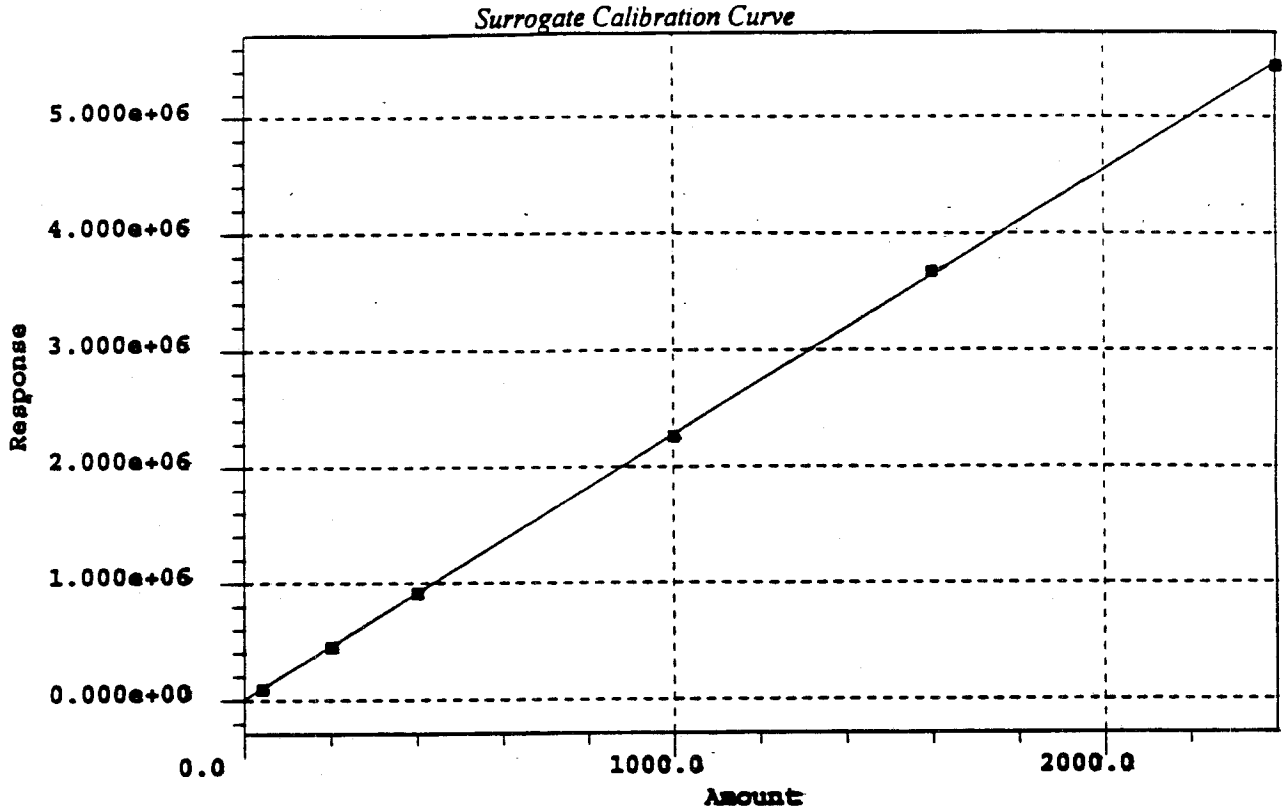
#	Amount	Response	Calc. Amount	% Deviation	Manual
1	1.000000	18382.240084	9.219132	821.913	No
2	2.000000	3801.320042	1.906453	-4.677	No
3	20.000000	38285.600000	19.201142	-3.994	No
4	40.000000	79847.300000	40.045327	0.113	No
5	60.000000	121426.500000	60.898289	1.497	No
6	100.000000	198439.900000	99.522347	-0.478	No

4-Bromofluorobenzene <Surr> Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No
6	No

Table '4-Bromofluorobenzene <Surr> Average Table' contains no data.

Decane has no calibration curve



Surrogate Calibration Information

Processing Method	VDA_FID_0624	System	VDA_L3_S1
Channel	SATIN-2	Date	25-JUN-97
Type	LC	Name	Surrogate
Retention Time	min	Order	1
A	0.000000	B	2269.529501
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999964	R ²	0.999929
Standard Error	17578.264946		

Surrogate Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	40.000000	91896.558930	40.491458	1.229	Yes
2	200.000000	453080.518799	199.636320	-0.182	Yes
3	400.000000	911836.697589	401.773450	0.443	Yes
4	1000.000000	2260496.198795	996.019747	-0.398	Yes
5	1600.000000	3664254.600000	1614.543719	0.909	Yes
6	2400.000000	5428009.122388	2391.689167	-0.346	Yes

Surrogate Point Table

#	Ignore?
1	No
2	No
3	No

Surrogate Point Table

#	Ignore?
4	No
5	No
6	No

Table 'Surrogate Average Table' contains no data.

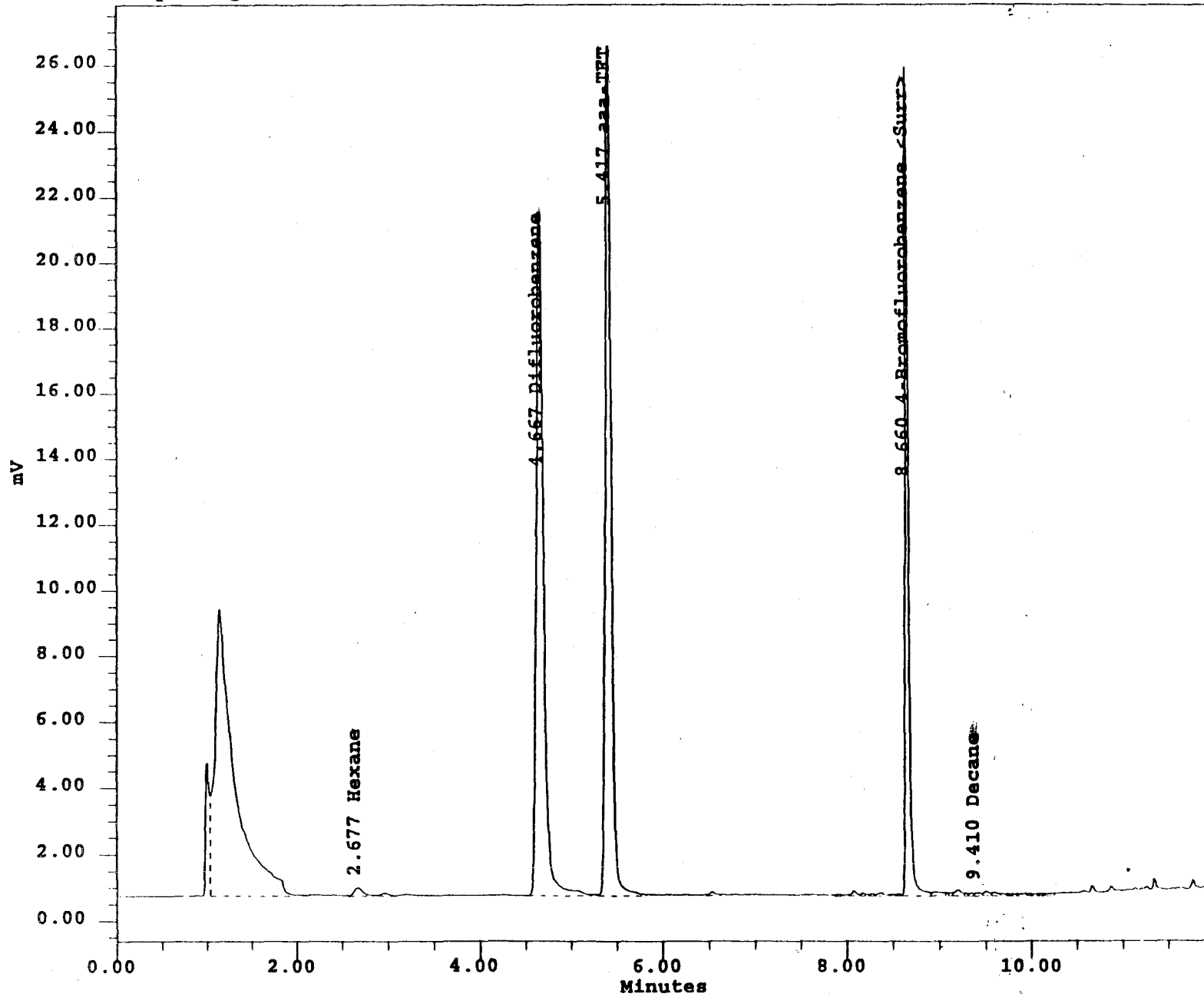
Start of Analysis Lot VDA06060624

RL ;

#	Vial	SampleName	Analysis_Lot	Date Acquired	Prep_Lot	Dilution	Additional_Comments
1	15	BLK	VDA06060624	06/24/97 19:58:01	0624VH01	1.00000	
2	16	Unk.	VDA06060624	06/24/97 20:18:22	0624VH01	1.00000	
3	11	VPH STD-1	VDA06060624	06/24/97 20:38:40	0624VH01	1.00000	
4	12	VPH STD-2	VDA06060624	06/24/97 20:59:01	0624VH01	1.00000	
5	13	VPH STD-3	VDA06060624	06/24/97 21:19:22	0624VH01	1.00000	
6	14	VPH STD-4	VDA06060624	06/24/97 21:39:43	0624VH01	1.00000	
7	15	VPH STD-5	VDA06060624	06/24/97 22:00:06	0624VH01	1.00000	
8	16	VPH STD-6	VDA06060624	06/24/97 22:20:28	0624VH01	1.00000	
9	1	IB	VDA06060624	06/24/97 22:40:50	0624VH01	1.00000	
10	2	CCV	VDA06060624	06/24/97 23:01:12	0624VH01	1.00000	
11	3	CCV2	VDA06060624	06/24/97 23:21:34	0624VH01	1.00000	
12	4	QC	VDA06060624	06/24/97 23:41:53	0624VH01	1.00000	
13	5	MB	VDA06060624	06/25/97 00:11:00	0624VS01	1.00000	
14	3	LCS	VDA06060624	06/25/97 00:31:11	0624VS01	1.00000	
15	4	LCSD	VDA06060624	06/25/97 00:51:20	0624VS01	1.00000	
16	5	Unk.	VDA06060624	06/25/97 01:12:02	0624VS01	1.00000	
17	6	UNK	VDA06060624	06/25/97 01:32:43	0624VS01	1.00000	
18	7	UNK	VDA06060624	06/25/97 01:53:01	0624VS01	1.00000	
19	8	UNK	VDA06060624	06/25/97 02:13:25	0624VS01	1.00000	
20	9	UNK	VDA06060624	06/25/97 02:33:51	0624VS01	1.00000	
21	10	UNK	VDA06060624	06/25/97 02:54:18	0624VS01	1.00000	

End of Analysis Lot VDA06060624

SampleName: IB Analysis Lot: VDA06060813 Prep Lot: 0813VH01
Date Acquired: 08/13/97 09:13:53 PM Channel Descr.: FID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName IB
Analysis_Lot VDA06060813
Prep_Lot 0813VH01
Channel Descr. FID

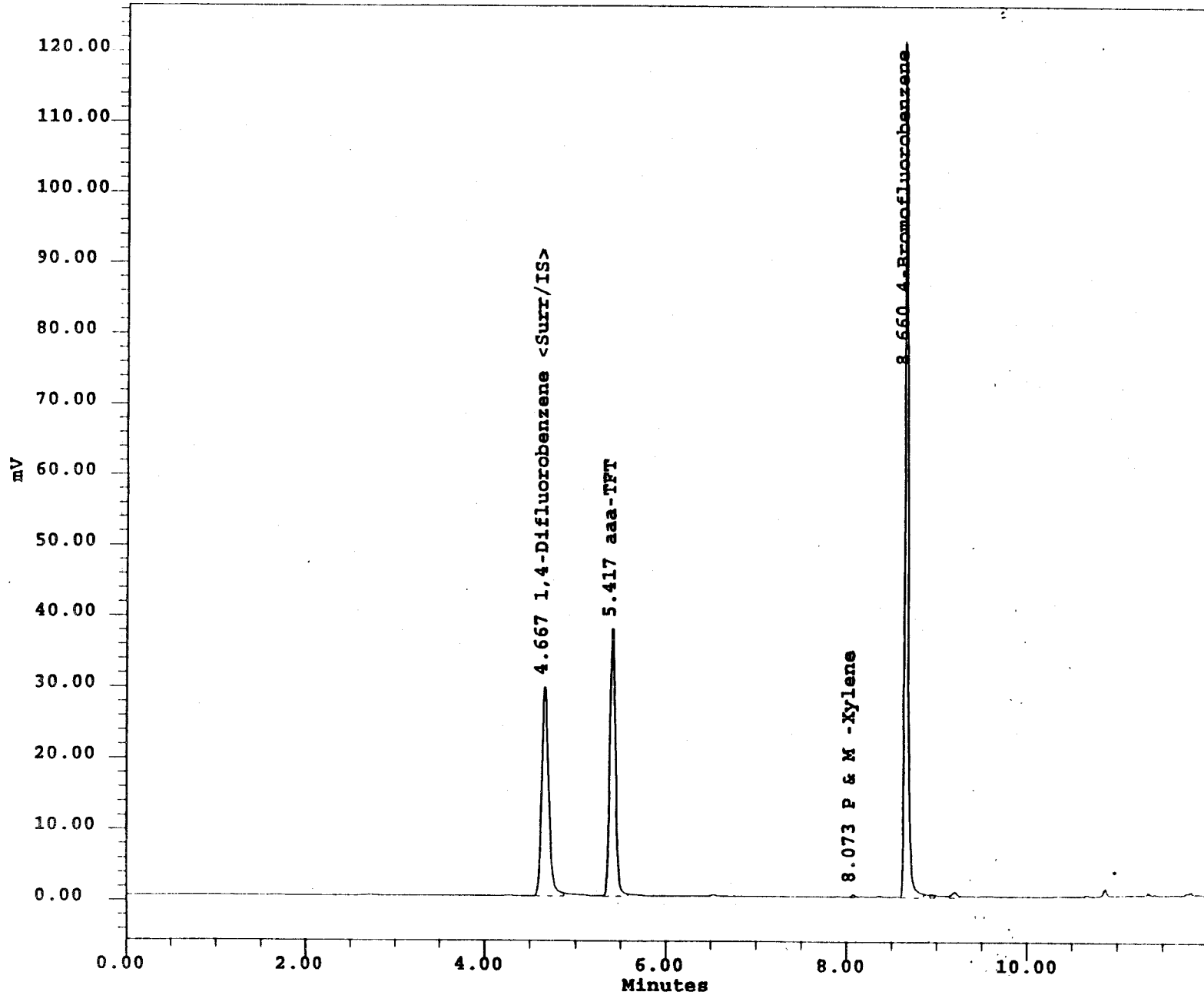
Acq Meth Set VDA_Mth_Set
Date Acquired 08/13/97 09:13:53 PM
Processing Method VDA_FID_0624

Dilution 1.000
SampleWeight 1.000
Initials GSM

VPH_Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Sur_Rec_1 (%)	Sur_Rec_2 (%)	True_GRO
1	Surrogate		291570	128.47			3.052
2	Hexane	2.68	1612				3.052
3	GRO	2.68	298497	131.52			3.052
4	Difluorobenzene	4.67	114468	35.25	88.1		3.052
5	aaa-TFT	5.42	114148	45.18			3.052
6	4-Bromofluorobenzene	8.66	62955	31.59		79.0	3.052
7	Decane	9.41	415				3.052

SampleName: IB Analysis Lot: VDA06060813 Prep_Lot: 0813VH01
Date Acquired: 08/13/97 09:13:53 PM Channel Descr.: PID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName IB
Analysis_Lot VDA06060813
Prep_Lot 0813VH01
Channel Descr. PID

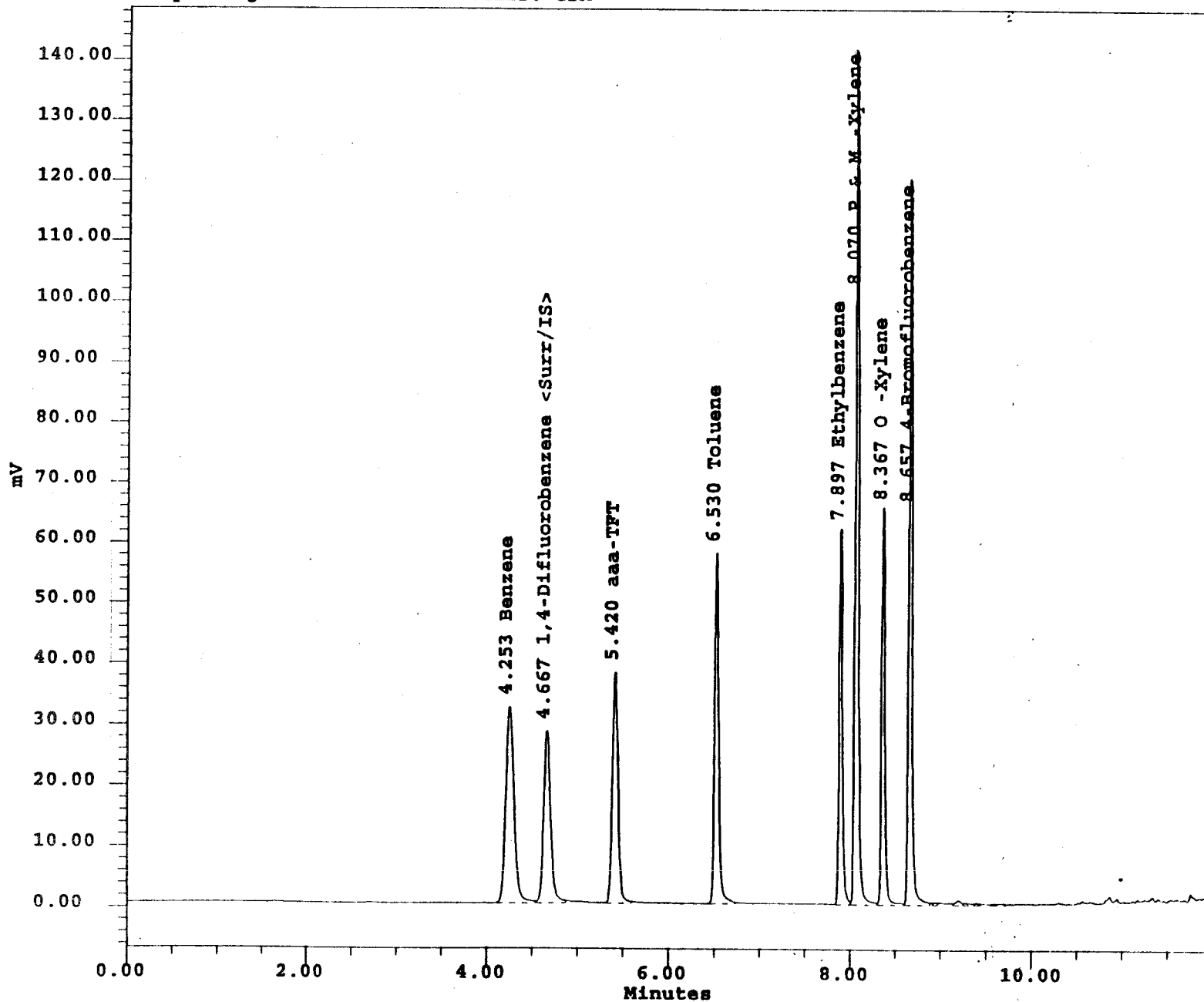
Acq Meth Set VDA_Mth_Set
Date Acquired 08/13/97 09:13:53 PM
Processing Method VDA_PID_0606

Dilution 1.000
SampleWeight 1.000
Initials GSM

Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Amount (PPB)	Sur_Rec_1 (%)	Sur_Rec_2 (%)
1	1,4-Difluorobenzene	4.67	157875	38.00	37.997	95.0	
2	aaa-TFT	5.42	164653	1.00	1.000		
3	P & M -Xylene	8.07	1115	0.13	0.126		
4	4-Bromofluorobenzene	8.66	300946	37.74	37.742		94.4

SampleName: CCV2 Analysis Lot: VDA06060813 Prep Lot: 0813VH01
Date Acquired: 08/13/97 09:33:53 PM Channel Descr.: PID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName CCV2
Analysis_Lot VDA06060813
Prep_Lot 0813VH01
Channel Descr. PID

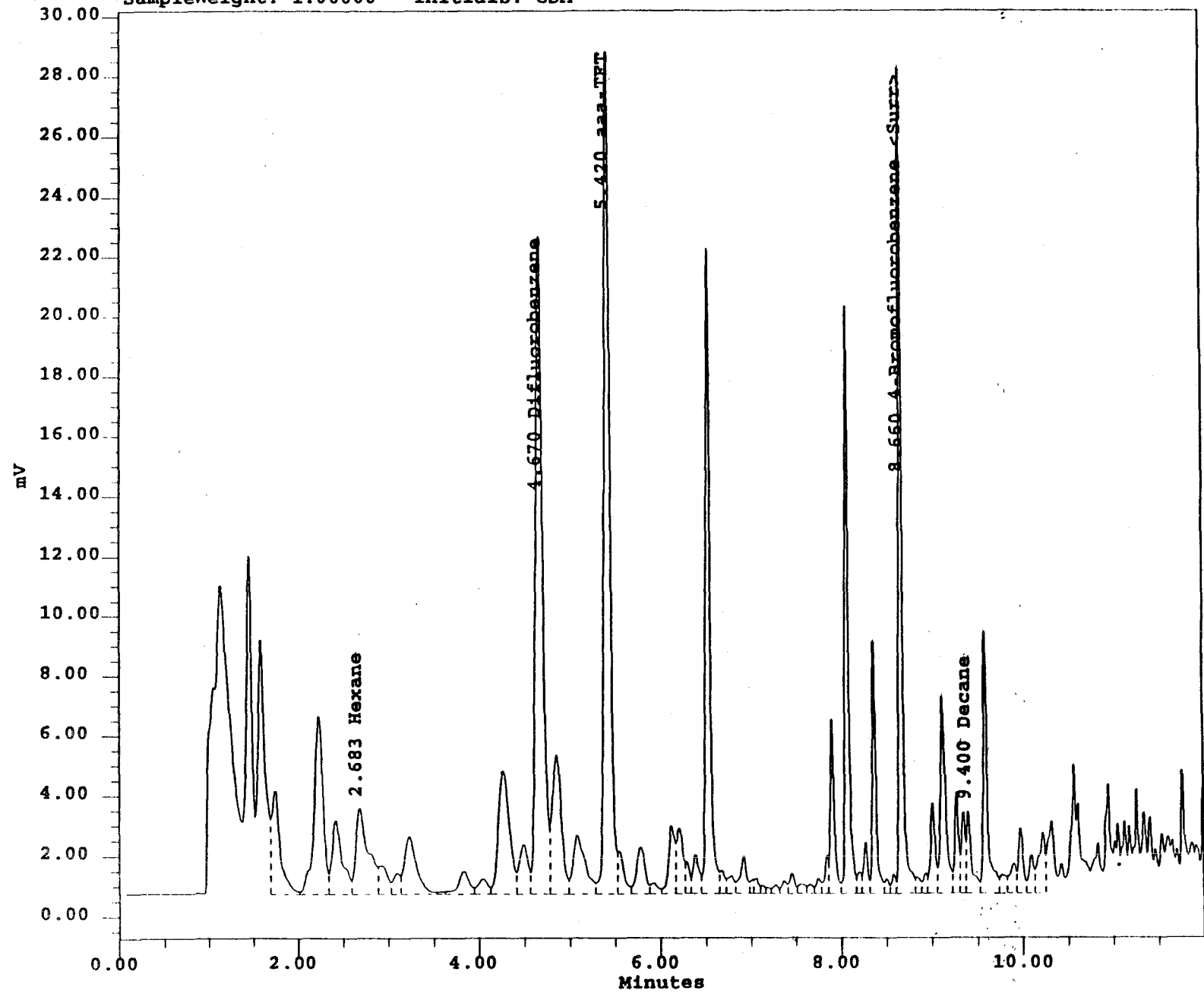
Acq Meth Set VDA_Mth_Set
Date Acquired 08/13/97 09:33:53 PM
Processing Method VDA_PID_0606

Dilution 1.000
SampleWeight 1.000
Initials GSM

Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Amount (PPB)	Sur_Rec_1 (%)	Sur_Rec_2 (%)
1	Benzene	4.25	201524	19.71	19.708		
2	1,4-Difluorobenzene	4.67	151773	36.38	36.383	91.0	
3	aaa-TFT	5.42	165312	1.00	1.000		
4	Toluene	6.53	183548	19.70	19.701		
5	Ethylbenzene	7.90	157868	19.84	19.844		
6	P & M -Xylene	8.07	367116	41.24	41.244		
7	O -Xylene	8.37	163102	20.13	20.134		
8	4-Bromofluorobenzene	8.66	294450	36.78	36.780		91.9

SampleName: CCV Analysis_Lot: VDA06060813 Prep_Lot: 0813VH01
Date Acquired: 08/13/97 09:54:24 PM Channel Descr.: FID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName CCV
Analysis_Lot VDA06060813
Prep_Lot 0813VH01
Channel Descr. FID

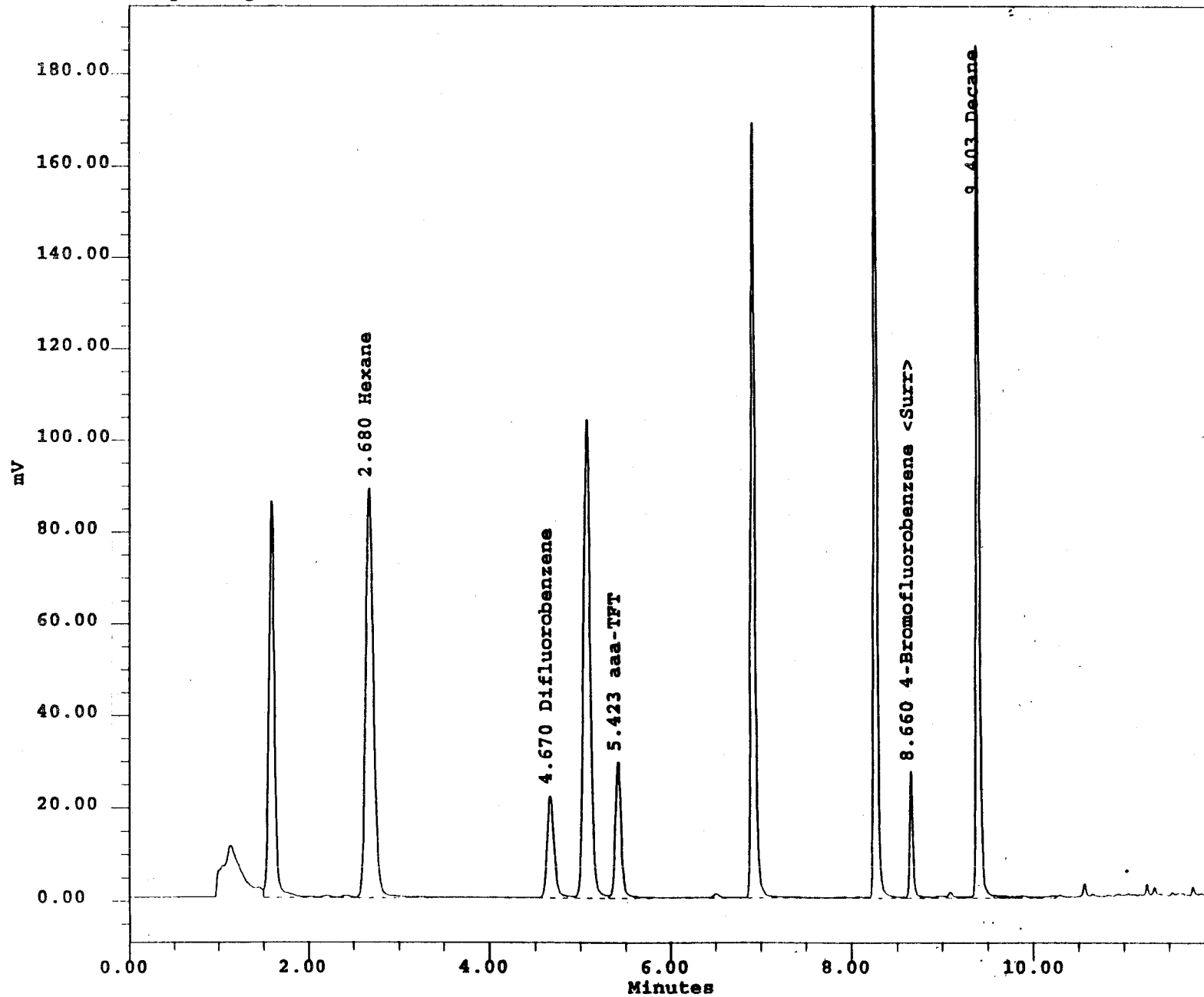
Acq Meth Set VDA_Mth_Set
Date Acquired 08/13/97 09:54:24 PM
Processing Method VDA_FID_0624

Dilution 1.000
SampleWeight 1.000
Initials GSM

VPH_Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Sur_Rec_1 (%)	Sur_Rec_2 (%)	True_GRO
1	Surrogate		318319	140.26			204.485
2	Hexane	2.68	26971				204.485
3	GRO	2.68	782404	344.74			204.485
4	Difluorobenzene	4.67	119348	36.76	91.9		204.485
5	aaa-TFT	5.42	126608	50.11			204.485
6	4-Bromofluorobenzene	8.66	72363	36.31		90.8	204.485
7	Decane	9.40	10021				204.485

SampleName: QC Analysis Lot: VDA06060813 Prep Lot: 0813VH01
Date Acquired: 08/13/97 10:14:31 PM Channel Descr.: FID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName QC
Analysis_Lot VDA06060813
Prep_Lot 0813VH01
Channel Descr. FID

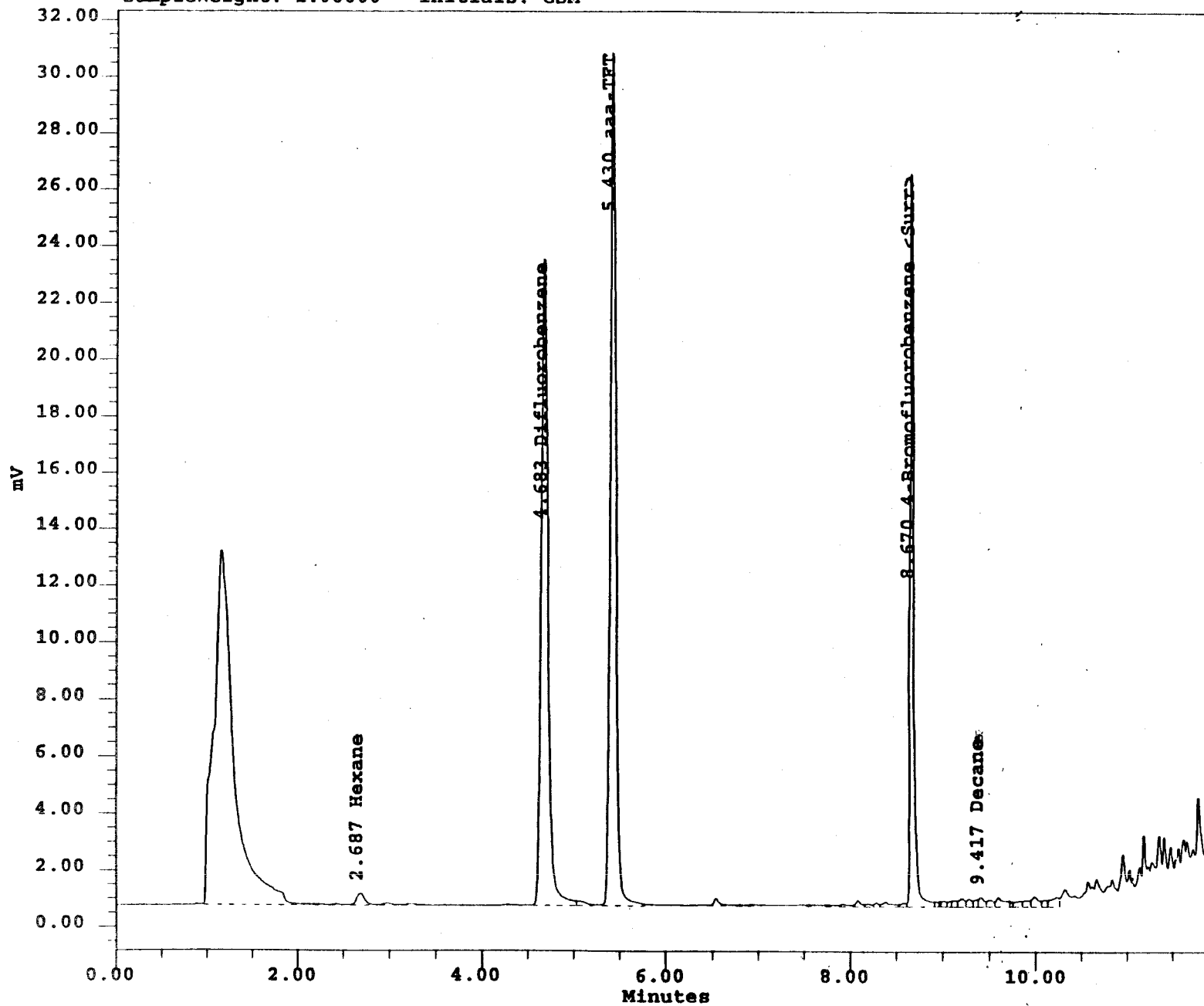
Acq Meth Set VDA_Mth_Set
Date Acquired 08/13/97 10:14:31 PM
Processing Method VDA_FID_0624

Dilution 1.000
SampleWeight 1.000
Initials GSM

VPH_Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Sur_Rec_1 (%)	Sur_Rec_2 (%)	True_GRO
1	Surrogate		316796	139.59			932.669
2	Hexane	2.68	521880				932.669
3	GRO	2.68	2433516	1072.26			932.669
4	Difluorobenzene	4.67	116753	35.96	89.9		932.669
5	aaa-TFT	5.42	131422	52.02			932.669
6	4-Bromofluorobenzene	8.66	68622	34.43		86.1	932.669
7	Decane	9.40	491490				932.669

SampleName: 113552 Analysis_Lot: VDA06060813 Prep_Lot: 0813VS01
Date Acquired: 08/14/97 03:44:22 PM Channel Descr.: FID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName 113552
Analysis_Lot VDA06060813
Prep_Lot 0813VS01
Channel Descr. FID

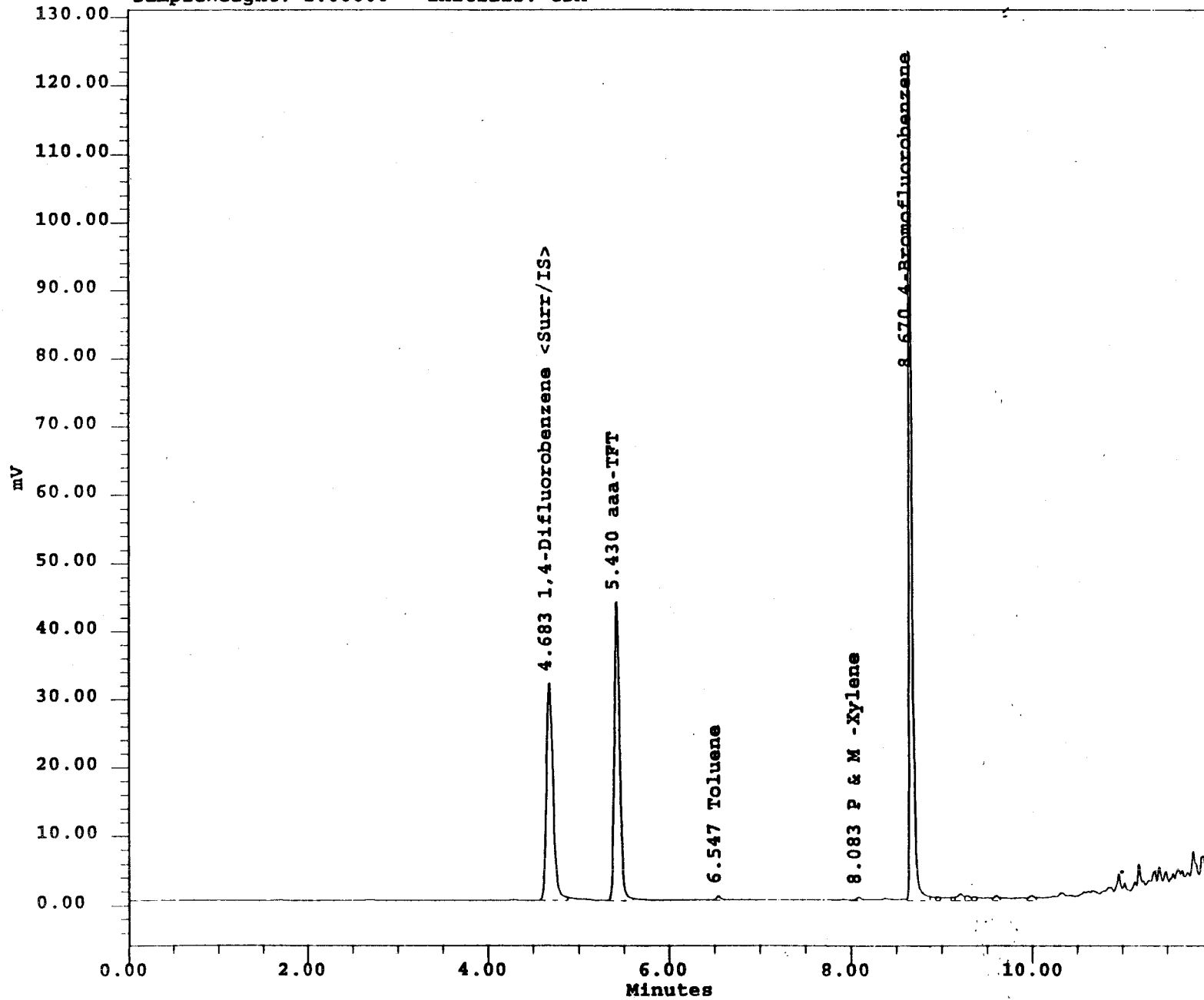
Acq Meth Set VDA_Mth_Set
Date Acquired 08/14/97 03:44:22 PM
Processing Method VDA_FID_0624

Dilution 1.000
SampleWeight 1.000
Initials GSM

VPH_Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Sur_Rec_1 (%)	Sur_Rec_2 (%)	True_GRO
1	Surrogate		309788	136.50			7.165
2	Hexane	2.69	2494				7.165
3	GRO	2.69	326049	143.66			7.165
4	Difluorobenzene	4.68	117789	36.28	90.7		7.165
5	aaa-TFT	5.43	127155	50.33			7.165
6	4-Bromofluorobenzene	8.67	64845	32.54		81.3	7.165
7	Decane	9.42	1359				7.165

SampleName: 113552 Analysis_Lot: VDA06060813 Prep_Lot: 0813VS01
Date Acquired: 08/14/97 03:44:22 PM Channel Descr.: PID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName 113552
Analysis_Lot VDA06060813
Prep_Lot 0813VS01
Channel Descr. PID

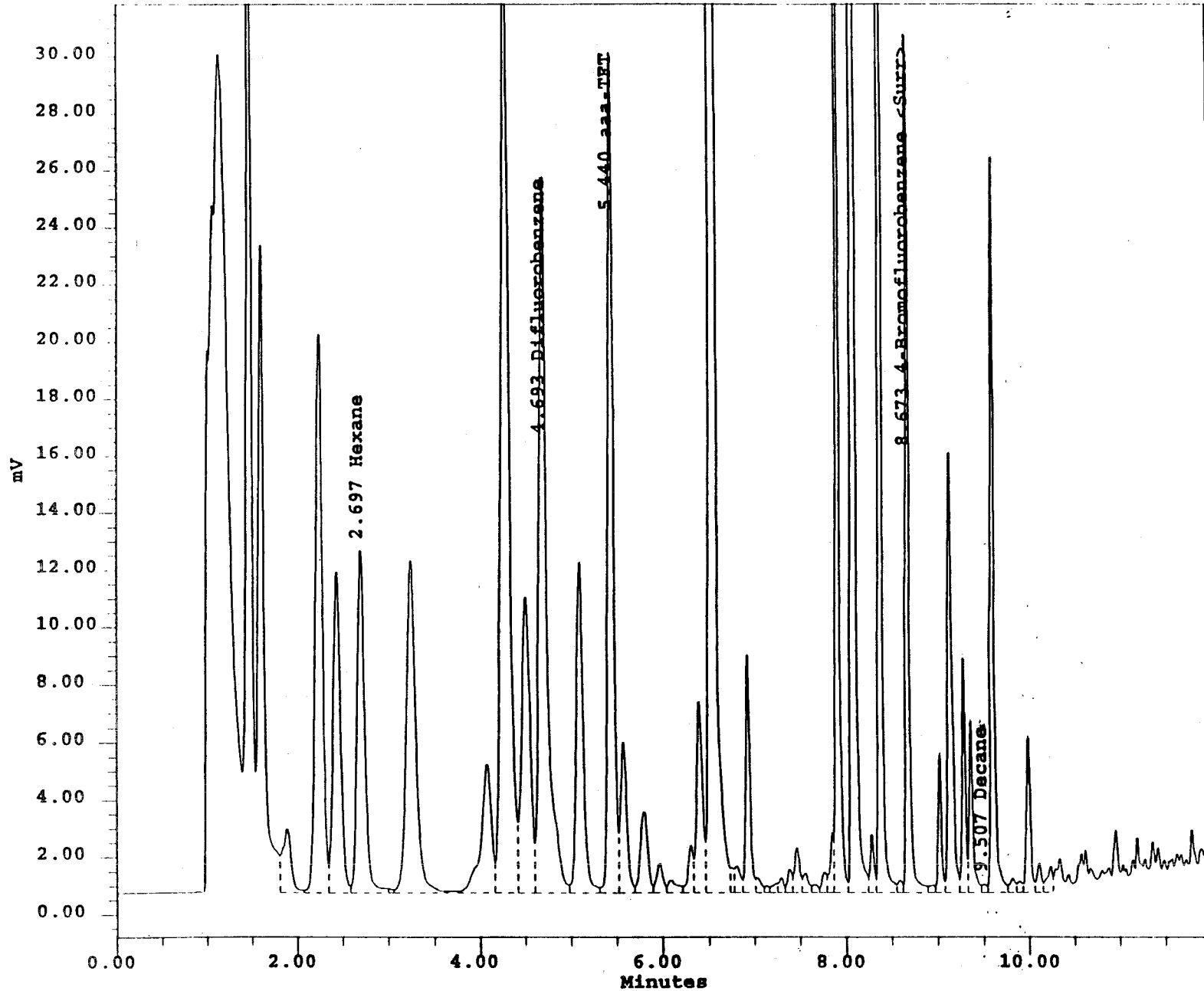
Acq Meth Set VDA_Mth_Set
Date Acquired 08/14/97 03:44:22 PM
Processing Method VDA_PID_0606

Dilution 1.000
SampleWeight 1.000
Initials GSM

Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Amount (PPB)	Sur_Rec_1 (%)	Sur_Rec_2 (%)
1	1,4-Difluorobenzene	4.68	161771	35.17	35.174	87.9	
2	aaa-TFT	5.43	182257	1.00	1.000		
3	Toluene	6.55	2035	0.20	0.198		
4	P & M -Xylene	8.08	1708	0.17	0.174		
5	4-Bromofluorobenzene	8.67	305804	34.65	34.647		86.6

SampleName: LS Analysis Lot: VDA06060813 Prep Lot: 0813VS01
Date Acquired: 08/14/97 04:04:55 PM Channel Descr.: FID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName LS
Analysis_Lot VDA06060813
Prep_Lot 0813VS01
Channel Descr. FID

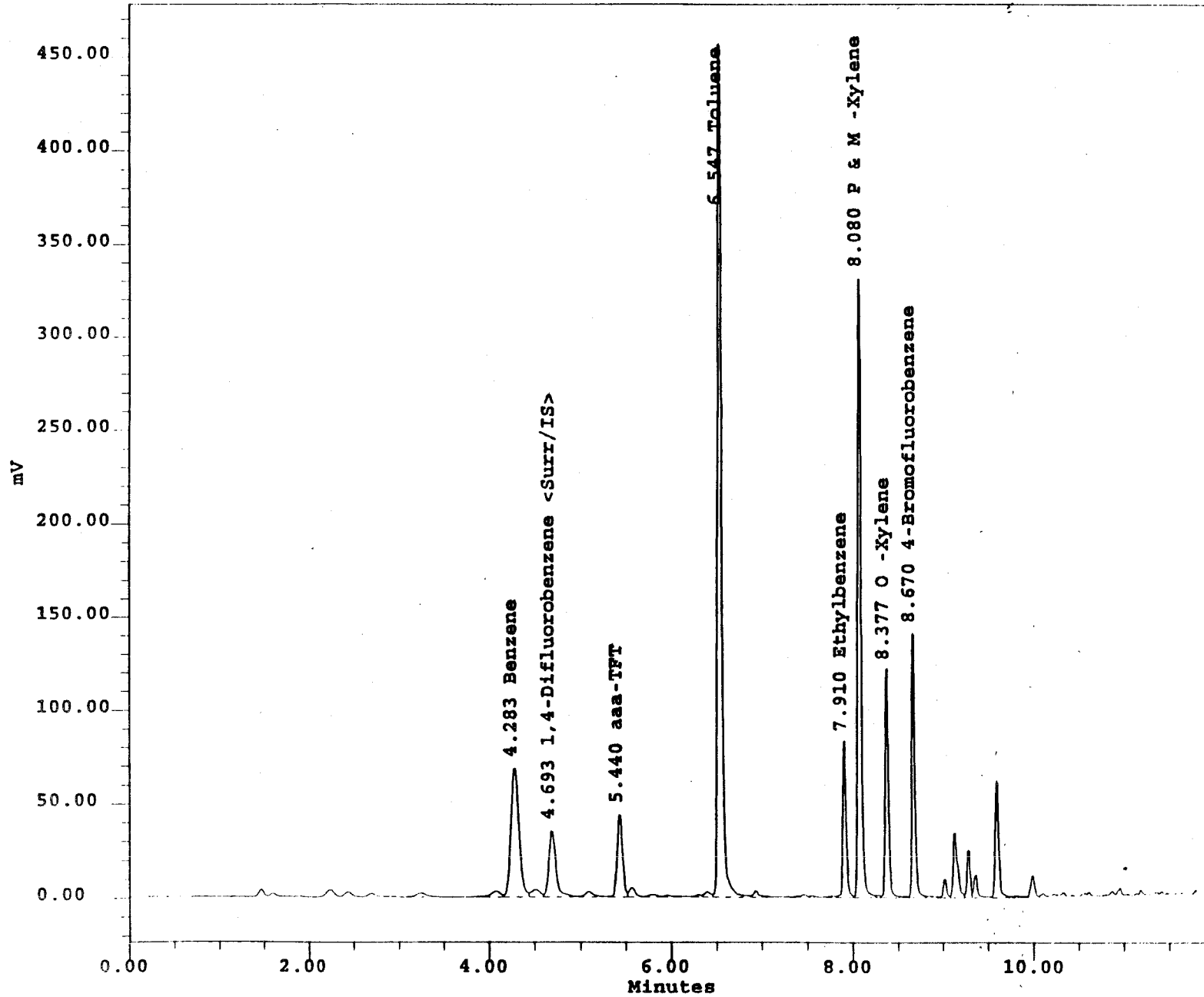
Acq Meth Set VDA_Mth_Set
Date Acquired 08/14/97 04:04:55 PM
Processing Method VDA_FID_0624

Dilution 1.000
SampleWeight 1.000
Initials GSM

VPH_Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Sur_Rec_1 (%)	Sur_Rec_2 (%)	True_GRO
1	Surrogate		344546	151.81			855.772
2	Hexane	2.70	68456				855.772
3	GRO	2.70	2286747	1007.59			855.772
4	Difluorobenzene	4.69	147219	45.34	113.4		855.772
5	aaa-TFT	5.44	122383	48.44			855.772
6	4-Bromofluorobenzene	8.67	74944	37.61		94.0	855.772
7	Decane	9.51	1089				855.772

SampleName: LS Analysis_Lot: VDA06060813 Prep_Lot: 0813VS01
Date Acquired: 08/14/97 04:04:55 PM Channel Descr.: PID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName LS
Analysis_Lot VDA06060813
Prep_Lot 0813VS01
Channel Descr. PID

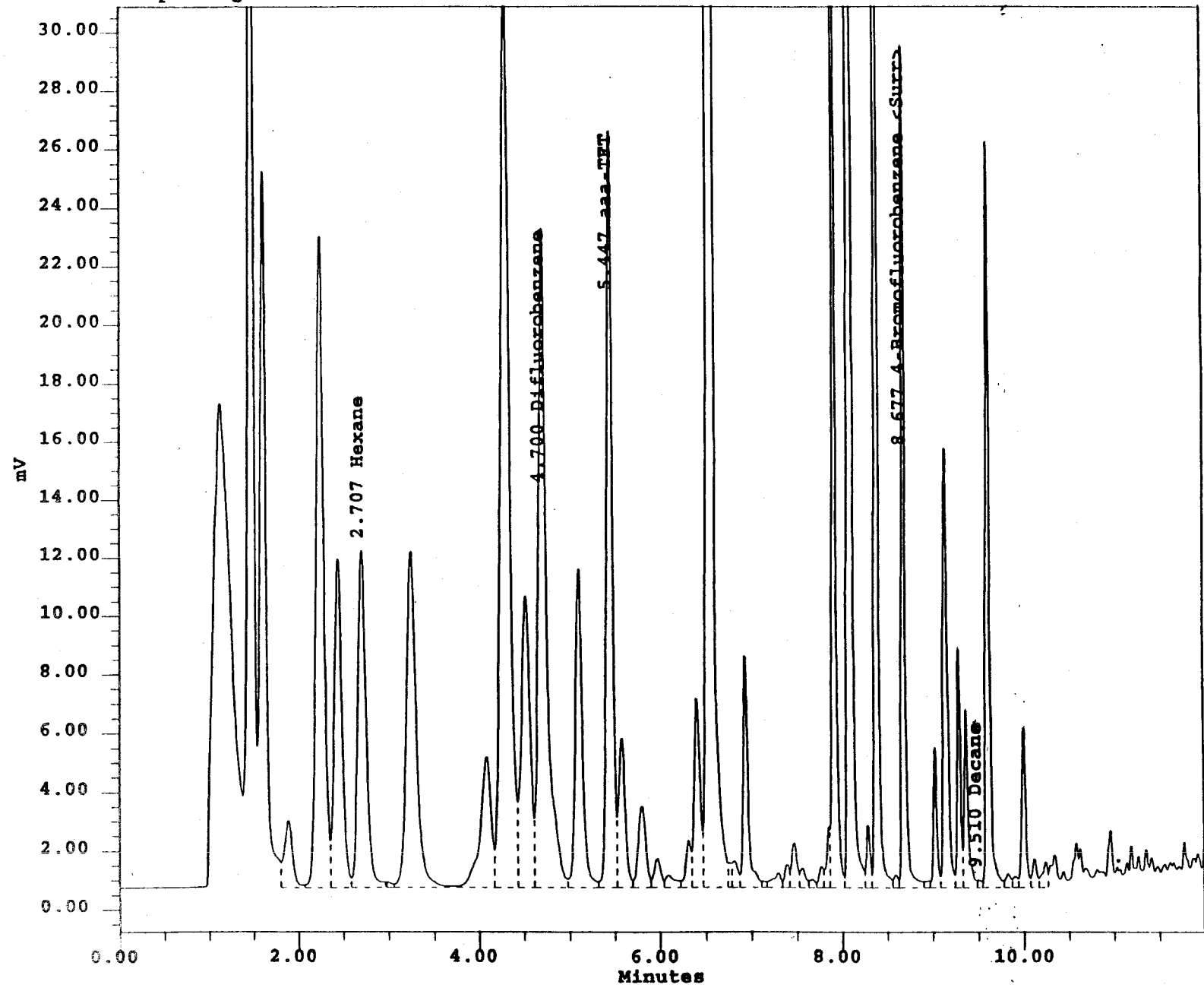
Acq Meth Set VDA_Mth_Set
Date Acquired 08/14/97 04:04:55 PM
Processing Method VDA_PID_0606

Dilution 1.000
SampleWeight 1.000
Initials GSM

Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Amount (PPB)	Sur_Rec_1 (%)	Sur_Rec_2 (%)
1	Benzene	4.28	405498	36.40	36.397		
2	1,4-Difluorobenzene	4.69	185540	40.82	40.823	102.1	
3	aaa-TFT	5.44	180110	1.00	1.000		
4	Toluene	6.55	1426640	140.54	140.543		
5	Ethylbenzene	7.91	213154	24.59	24.592		
6	P & M -Xylene	8.08	849819	87.63	87.630		
7	O -Xylene	8.38	295987	33.54	33.536		
8	4-Bromofluorobenzene	8.67	340523	39.04	39.040		97.6

SampleName: 113553 Analysis Lot: VDA06060813 Prep Lot: 0814VH01
Date Acquired: 08/14/97 05:27:16 PM Channel Descr.: FID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName 113553
Analysis_Lot VDA06060813
Prep_Lot 0814VH01
Channel Descr. FID

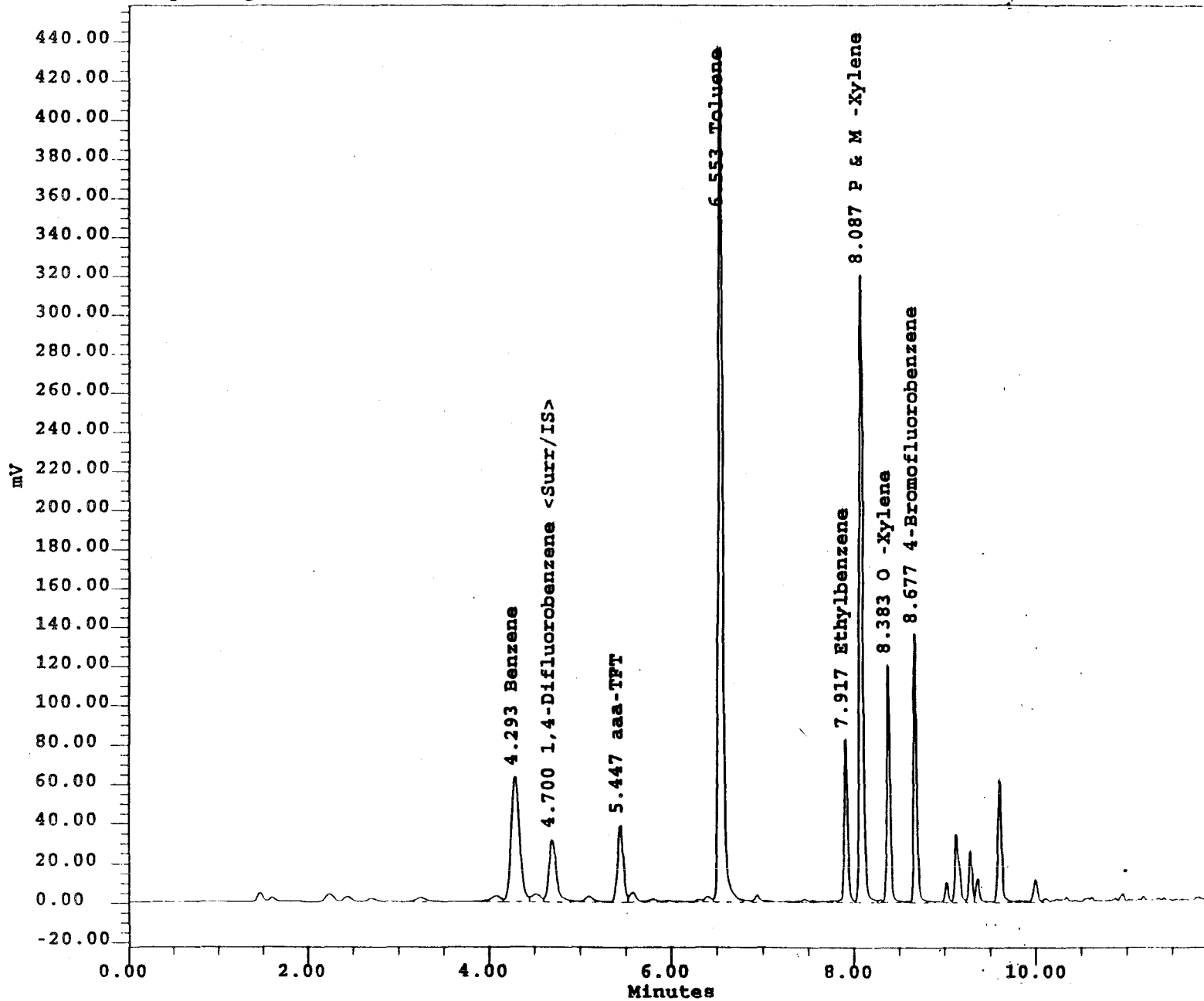
Acq Meth Set VDA_Mth_Set
Date Acquired 08/14/97 05:27:16 PM
Processing Method VDA_FID_0624

Dilution 1.000
SampleWeight 1.000
Initials GSM

VPH Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Sur_Rec_1 (%)	Sur_Rec_2 (%)	True_GRO
1	Surrogate		328659	144.81			853.888
2	Hexane	2.71	72152				853.888
3	GRO	2.71	2266583	998.70			853.888
4	Difluorobenzene	4.70	142619	43.92	109.8		853.888
5	aaa-TFT	5.45	113454	44.91			853.888
6	4-Bromofluorobenzene	8.68	72586	36.42		91.1	853.888
7	Decane	9.51	819				853.888

SampleName: 113553 Analysis Lot: VDA06060813 Prep Lot: 0814VH01
Date Acquired: 08/14/97 05:27:16 PM Channel Descr.: PID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName 113553
Analysis_Lot VDA06060813
Prep_Lot 0814VH01
Channel Descr. PID

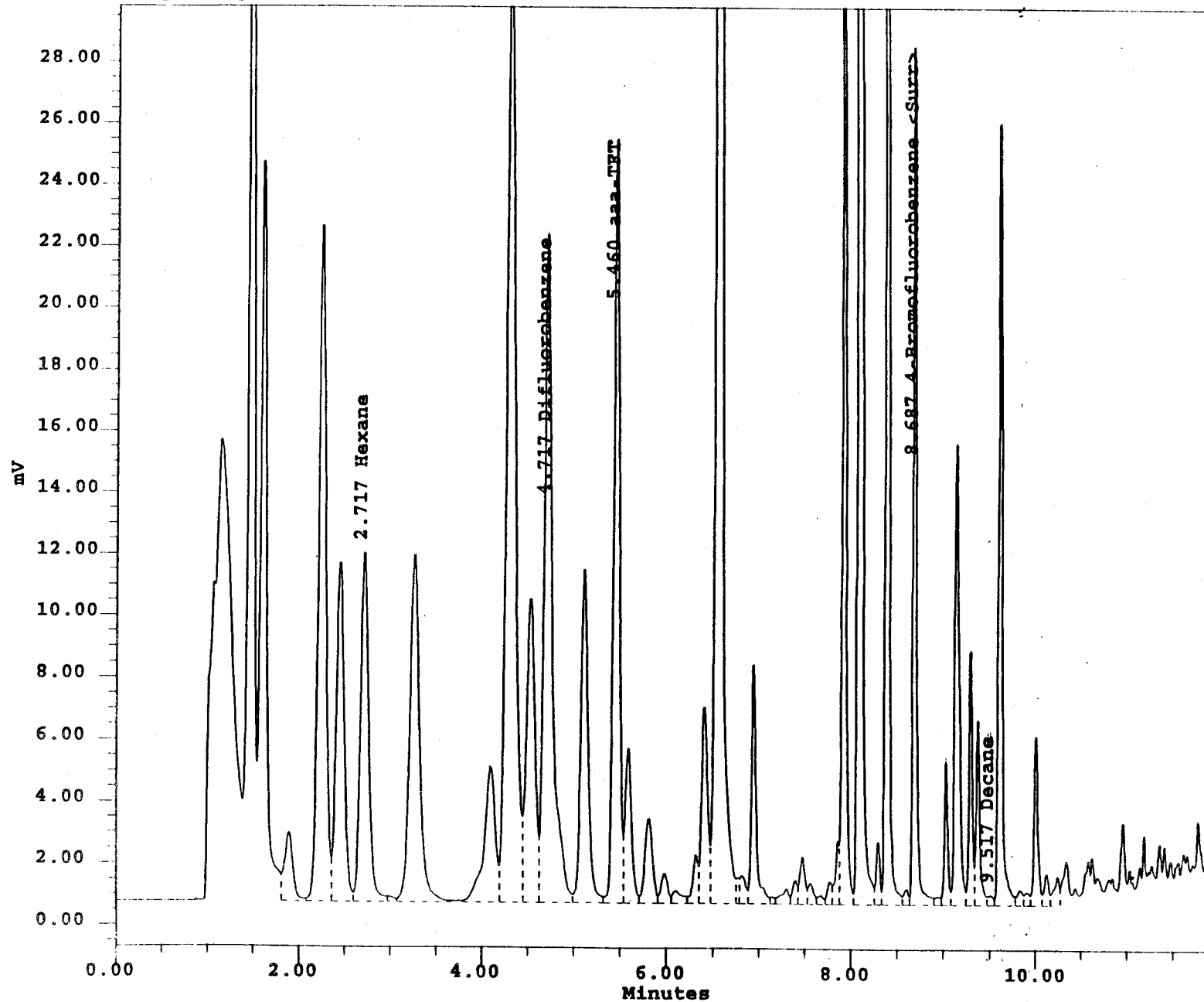
Acq Meth Set VDA_Mth_Set
Date Acquired 08/14/97 05:27:16 PM
Processing Method VDA_PID_0606

Dilution 1.000
SampleWeight 1.000
Initials GSM

Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Amount (PPB)	Sur_Rec_1 (%)	Sur_Rec_2 (%)
1	Benzene	4.29	404813	38.89	38.895		
2	1,4-Difluorobenzene	4.70	179076	42.18	42.176	105.4	
3	aaa-TFT	5.45	168258	1.00	1.000		
4	Toluene	6.55	1412498	148.95	148.952		
5	Ethylbenzene	7.92	212860	26.29	26.288		
6	P & M -Xylene	8.09	850880	93.92	93.920		
7	O -Xylene	8.38	295776	35.87	35.873		
8	4-Bromofluorobenzene	8.68	332471	40.80	40.802		102.0

SampleName: 113554 Analysis_Lot: VDA06060813 Prep_Lot: 0814VH01
Date Acquired: 08/14/97 05:47:49 PM Channel Descr.: FID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName 113554
Analysis_Lot VDA06060813
Prep_Lot 0814VH01
Channel Descr. FID

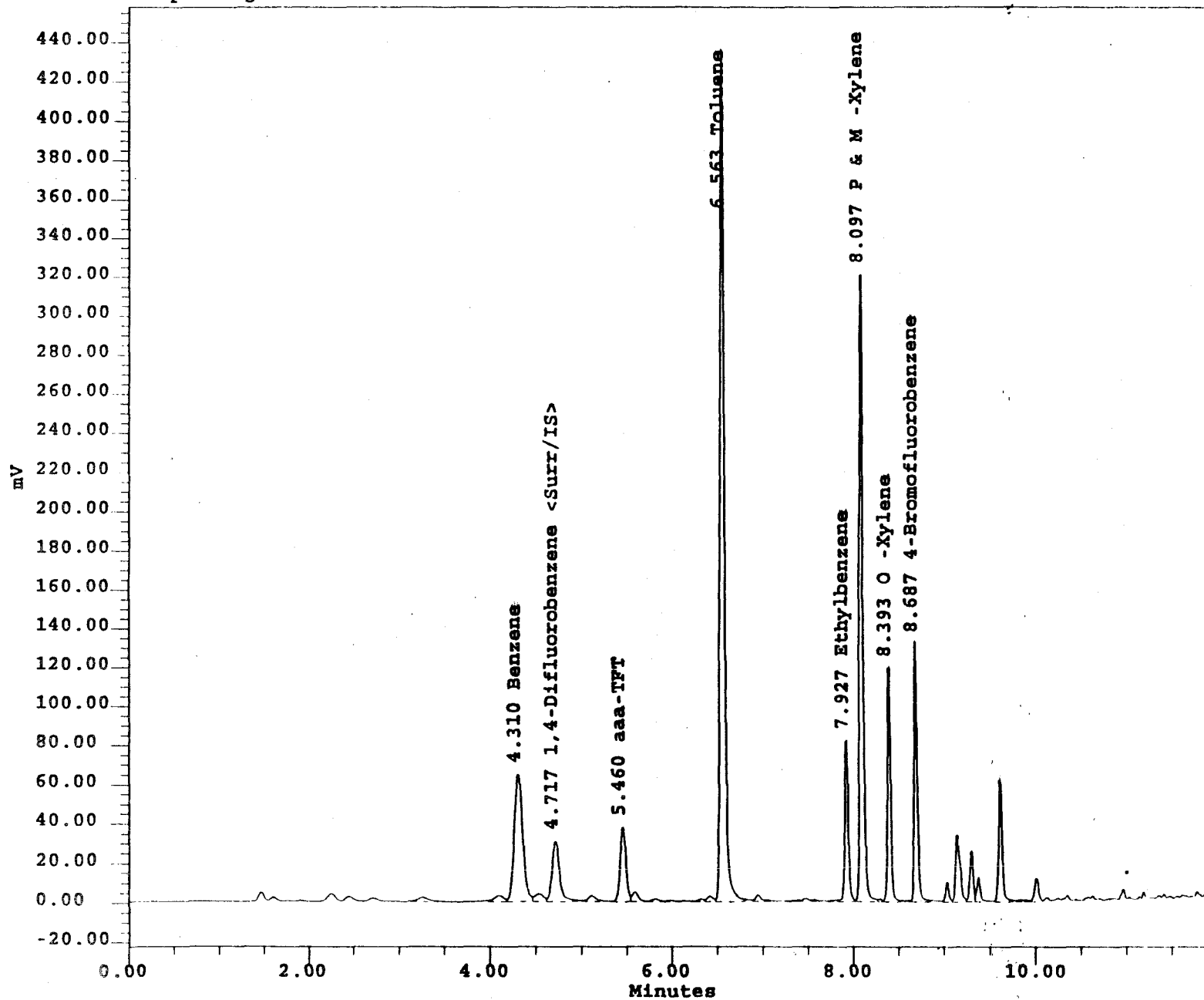
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Date Acquired 08/14/97 05:47:49 PM
Processing Method VDA_FID_0624

Dilution 1.000
SampleWeight 1.000
Initials GSM

VPH Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Sur_Rec_1 (%)	Sur_Rec_2 (%)	True_GRO
1	Surrogate		314514	138.58			840.132
2	Hexane	2.72	70531				840.132
3	GRO	2.72	2221220	978.71			840.132
4	Difluorobenzene	4.72	135884	41.85	104.6		840.132
5	aaa-TFT	5.46	108151	42.81			840.132
6	4-Bromofluorobenzene	8.69	70479	35.37		88.4	840.132
7	Decane	9.52	1363				840.132

SampleName: 113554 Analysis Lot: VDA06060813 Prep Lot: 0814VH01
Date Acquired: 08/14/97 05:47:49 PM Channel Descr.: PID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName 113554
Analysis_Lot VDA06060813
Prep_Lot 0814VH01
Channel Descr. PID

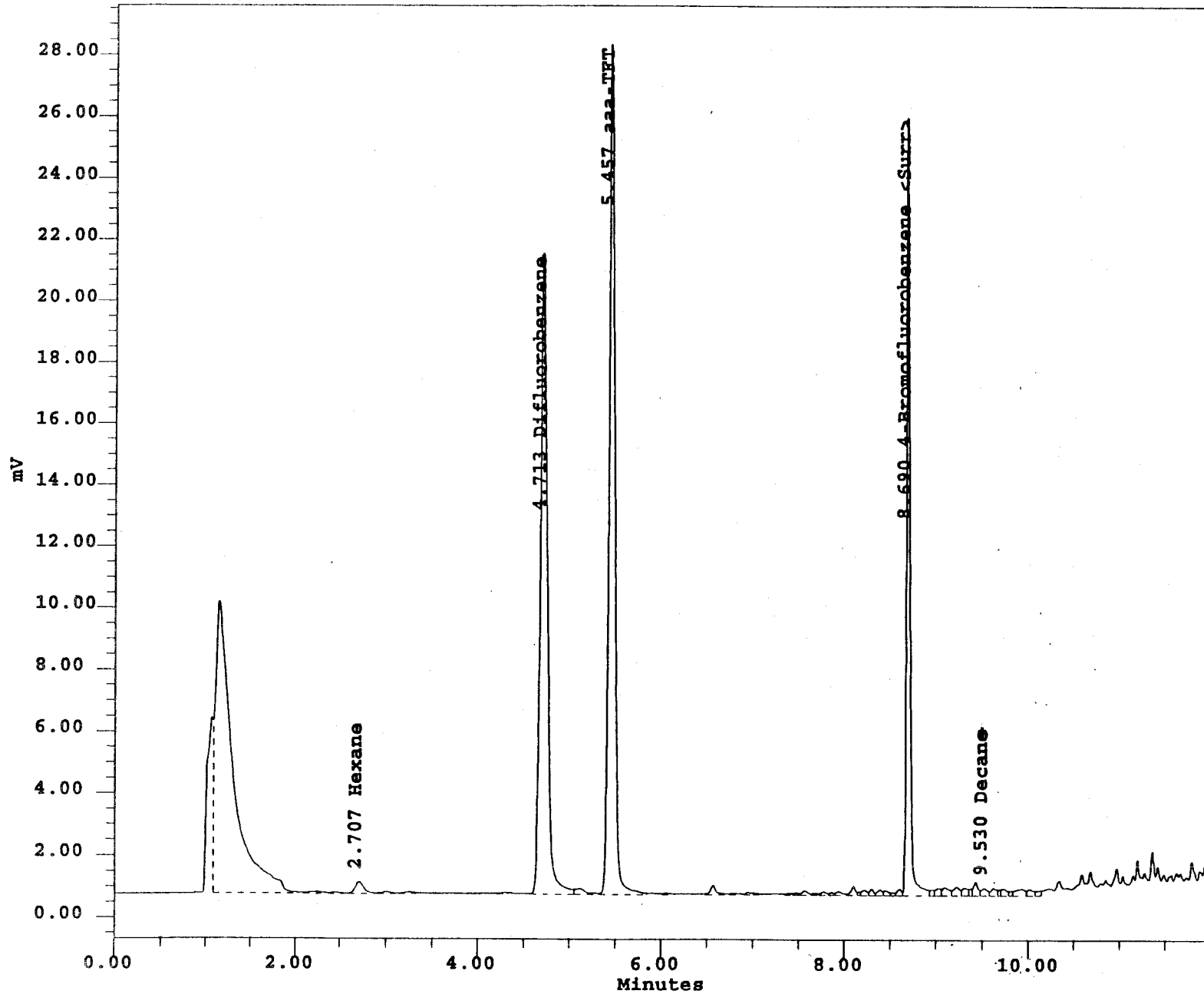
Acq Meth Set VDA_Mth_Set
Date Acquired 08/14/97 05:47:49 PM
Processing Method VDA_PID_0606

Dilution 1.000
SampleWeight 1.000
Initials GSM

Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Amount (PPB)	Sur_Rec_1 (%)	Sur_Rec_2 (%)
1	Benzene	4.31	402666	39.98	39.982		
2	1,4-Difluorobenzene	4.72	171600	41.77	41.766	104.4	
3	aaa-TFT	5.46	162815	1.00	1.000		
4	Toluene	6.56	1403158	152.91	152.913		
5	Ethylbenzene	7.93	210809	26.90	26.904		
6	P & M -Xylene	8.10	843714	96.24	96.242		
7	O -Xylene	8.39	294048	36.86	36.855		
8	4-Bromofluorobenzene	8.69	321193	40.74	40.736		101.8

SampleName: 974607001 Analysis Lot: VDA06060813 Prep Lot: 0814VH01
Date Acquired: 08/14/97 06:07:56 PM Channel Descr.: FID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName 974607001
Analysis_Lot VDA06060813
Prep_Lot 0814VH01
Channel Descr. FID

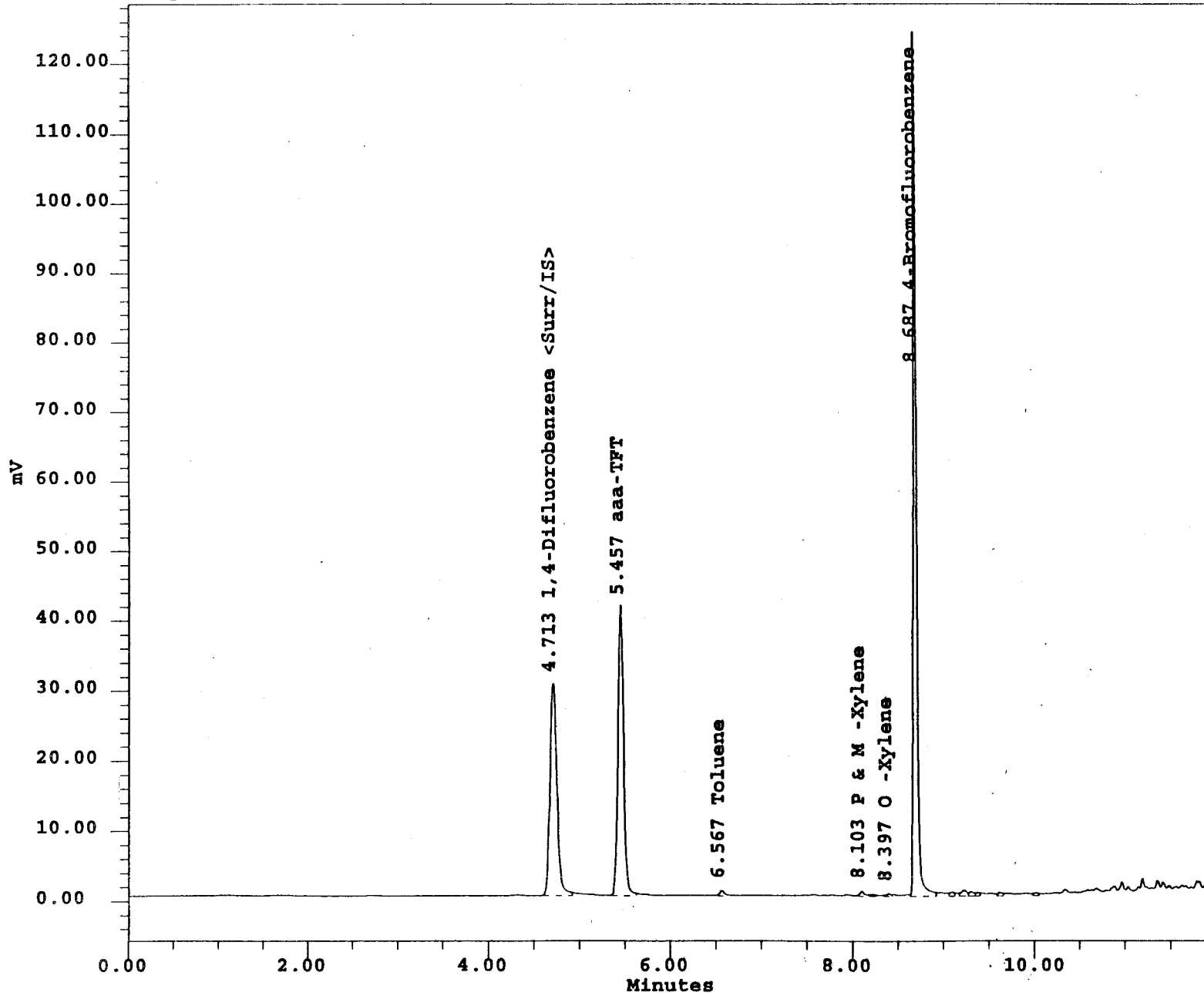
Acq Meth Set VDA_Mth_Set
Date Acquired 08/14/97 06:07:56 PM
Processing Method VDA_FID_0624

Dilution 1.000
SampleWeight 1.000
Initials GSM

VPH Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Sur_Rec_1 (%)	Sur_Rec_2 (%)	True_GRO
1	Surrogate		295115	130.03			8.993
2	Hexane	2.71	2414				8.993
3	GRO	2.71	315525	139.03			8.993
4	Difluorobenzene	4.71	111060	34.21	85.5		8.993
5	aaa-TFT	5.46	120570	47.72			8.993
6	4-Bromofluorobenzene	8.69	63485	31.86		79.6	8.993
7	Decane	9.53	1090				8.993

SampleName: 974607001 Analysis_Lot: VDA06060813 Prep_Lot: 0814VH01
Date Acquired: 08/14/97 06:07:56 PM Channel Descr.: PID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName 974607001
Analysis_Lot VDA06060813
Prep_Lot 0814VH01
Channel Descr. PID

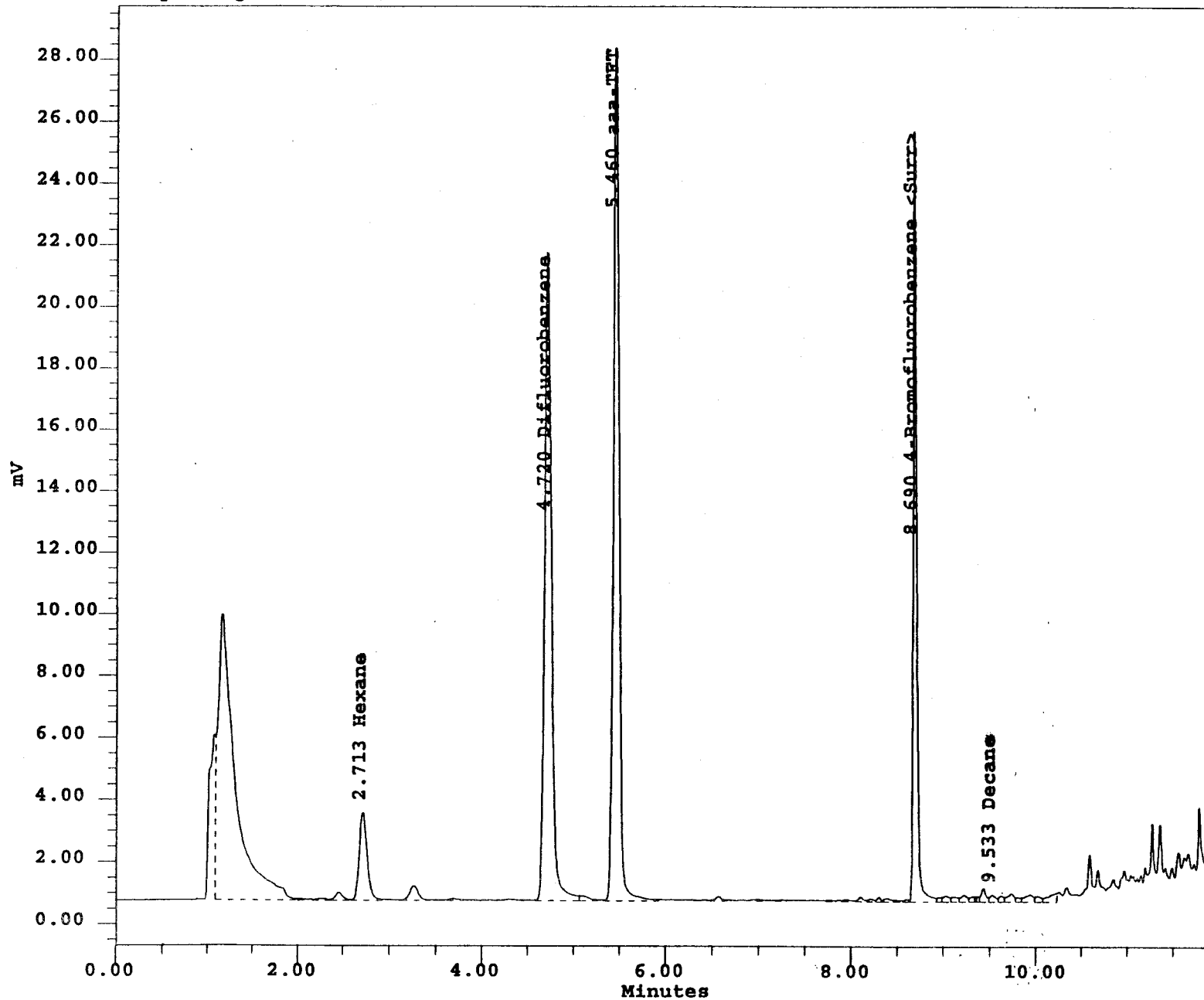
Acq Meth Set VDA_Mth_Set
Date Acquired 08/14/97 06:07:56 PM
Processing Method VDA_PID_0606

Dilution 1.000
SampleWeight 1.000
Initials GSM

Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Amount (PPB)	Sur_Rec_1 (%)	Sur_Rec_2 (%)
1	1,4-Difluorobenzene	4.71	159582	35.25	35.247	88.1	
2	aaa-TFT	5.46	179416	1.00	1.000		
3	Toluene	6.57	2518	0.25	0.249		
4	P & M -Xylene	8.10	2406	0.25	0.249		
5	O -Xylene	8.40	1296	0.15	0.147		
6	4-Bromofluorobenzene	8.69	307324	35.37	35.370		88.4

SampleName: 974607002 Analysis_Lot: VDA06060813 Prep_Lot: 0814VH01
Date Acquired: 08/14/97 06:27:58 PM Channel Descr.: FID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName 974607002
Analysis_Lot VDA06060813
Prep_Lot 0814VH01
Channel Descr. FID

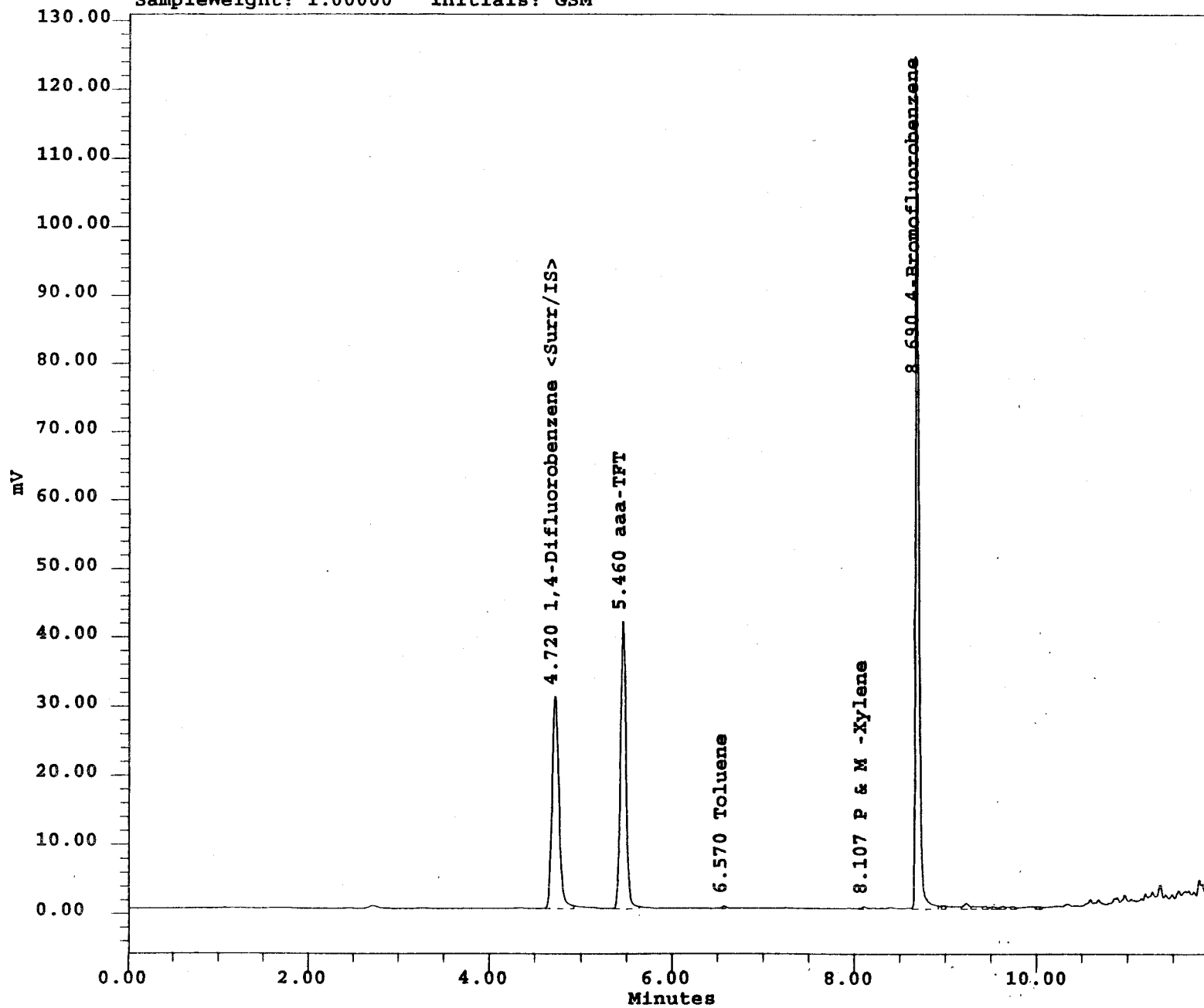
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Date Acquired 08/14/97 06:27:58 PM
Processing Method VDA_FID_0624

Dilution 1.000
SampleWeight 1.000
Initials GSM

VPH_Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Sur_Rec_1 (%)	Sur_Rec_2 (%)	True_GRO
1	Surrogate		292660	128.95			12.899
2	Hexane	2.71	16761				12.899
3	GRO	2.71	321934	141.85			12.899
4	Difluorobenzene	4.72	110351	33.99	85.0		12.899
5	aaa-TFT	5.46	120201	47.58			12.899
6	4-Bromofluorobenzene	8.69	62108	31.16		77.9	12.899
7	Decane	9.53	975				12.899

SampleName: 974607002 Analysis_Lot: VDA06060813 Prep_Lot: 0814VH01
Date Acquired: 08/14/97 06:27:58 PM Channel Descr.: PID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName 974607002
Analysis_Lot VDA06060813
Prep_Lot 0814VH01
Channel Descr. PID

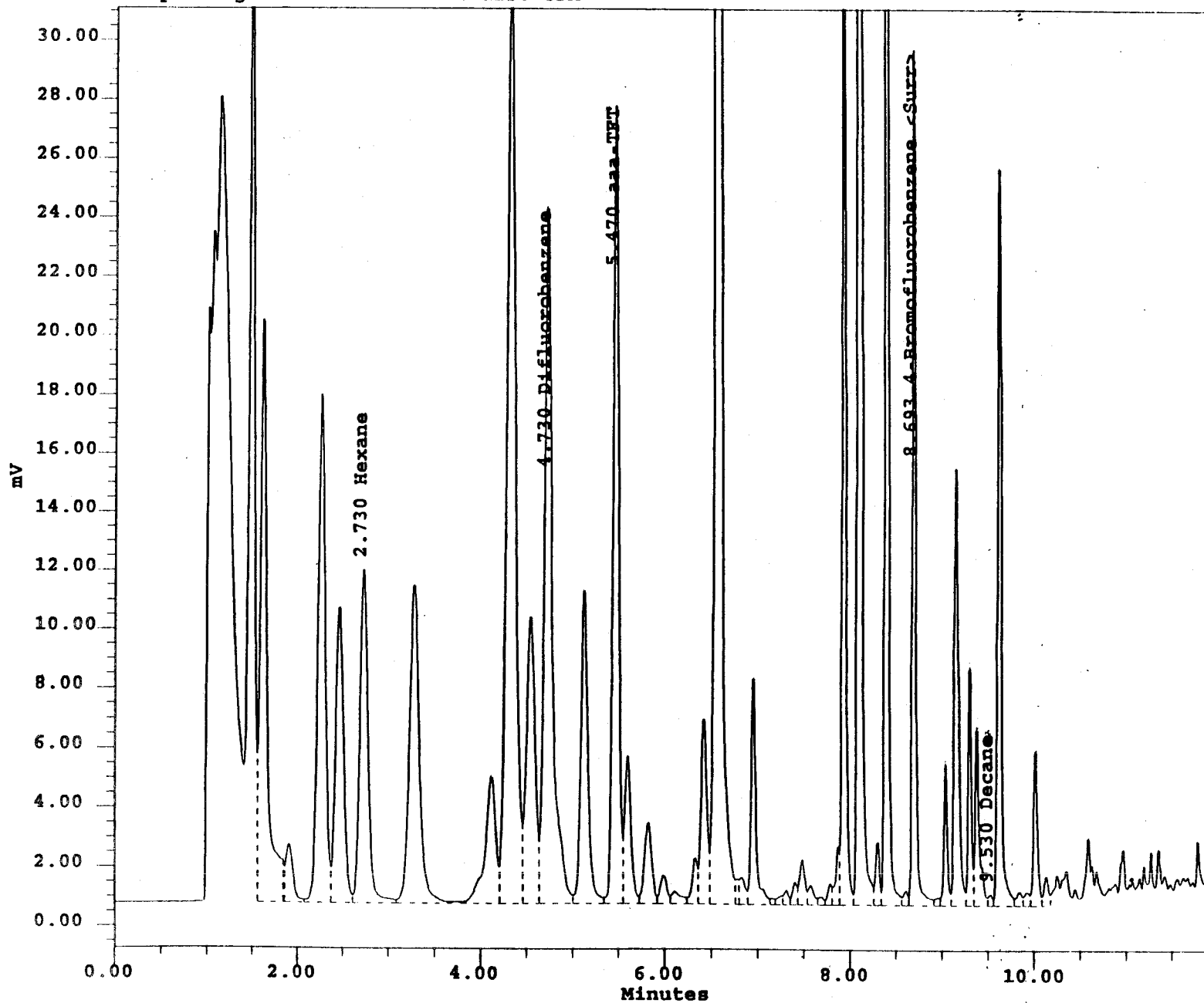
Acq Meth Set VDA_Mth_Set
Date Acquired 08/14/97 06:27:58 PM
Processing Method VDA_PID_0606

Dilution 1.000
SampleWeight 1.000
Initials GSM

Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Amount (PPB)	Sur_Rec_1 (%)	Sur_Rec_2 (%)
1	1,4-Difluorobenzene	4.72	158895	35.22	35.223	88.1	
2	aaa-TFT	5.46	178768	1.00	1.000		
3	Toluene	6.57	1174	0.12	0.117		
4	P & M -Xylene	8.11	1106	0.11	0.115		
5	4-Bromofluorobenzene	8.69	305107	35.24	35.242		88.1

SampleName: LS Analysis Lot: VDA06060813 Prep Lot: 0814VH01
Date Acquired: 08/14/97 09:28:29 PM Channel Descr.: FID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName LS
Analysis_Lot VDA06060813
Prep_Lot 0814VH01
Channel Descr. FID

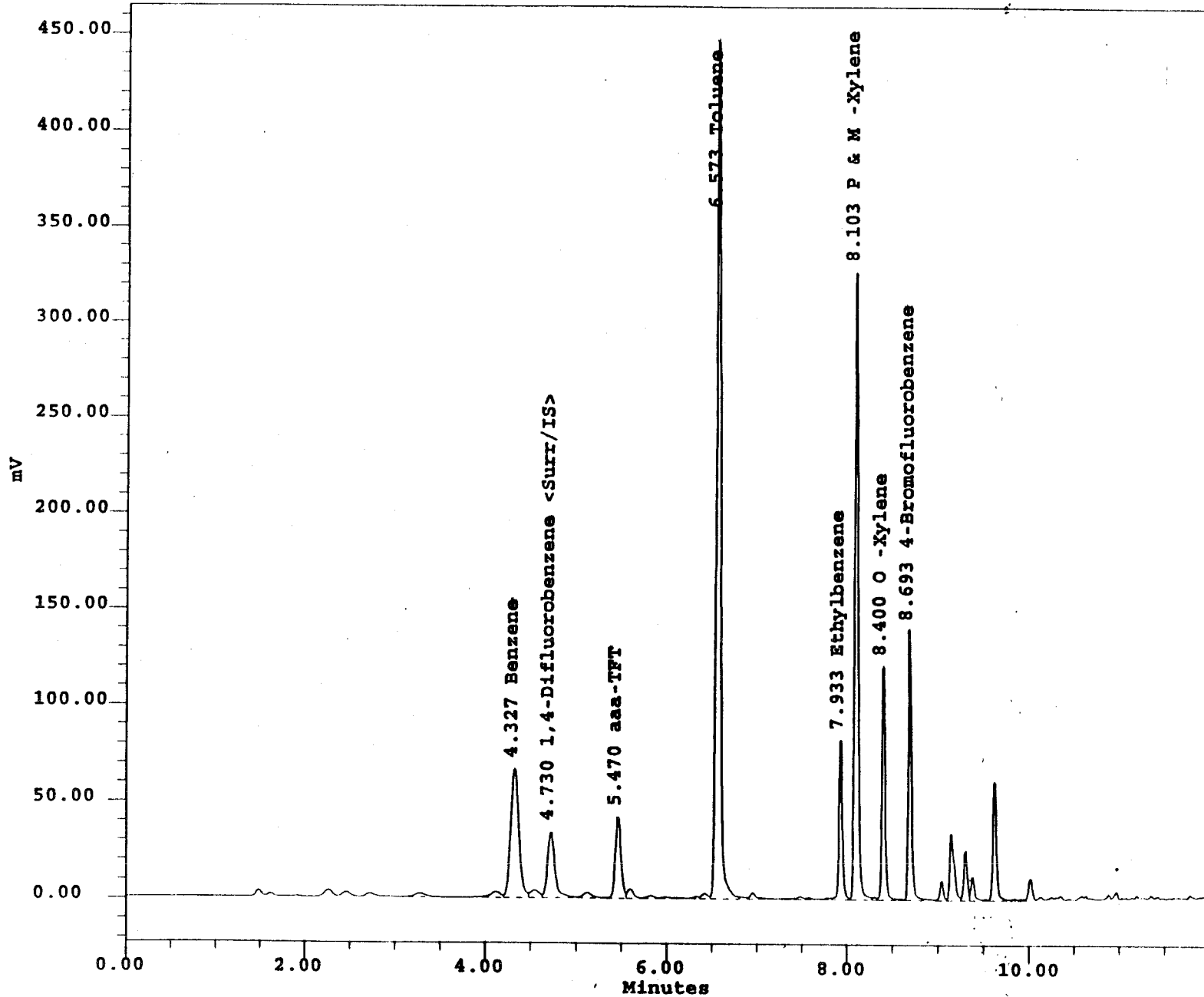
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Date Acquired 08/14/97 09:28:29 PM
Processing Method VDA_FID_0624

Dilution 1.000
SampleWeight 1.000
Initials GSM

VPH Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Sur_Rec_1 (%)	Sur_Rec_2 (%)	True_GRO
1	Surrogate		333986	147.16			835.330
2	Hexane	2.73	70650				835.330
3	GRO	2.73	2229792	982.49			835.330
4	Difluorobenzene	4.73	143381	44.16	110.4		835.330
5	aaa-TFT	5.47	117261	46.41			835.330
6	4-Bromofluorobenzene	8.69	73344	36.80		92.0	835.330
7	Decane	9.53	1271				835.330

SampleName: LS Analysis Lot: VDA06060813 Prep_Lot: 0814VH01
Date Acquired: 08/14/97 09:28:29 PM Channel Descr.: PID Dilution: 1.00000
SampleWeight: 1.00000 Initials: GSM



SampleName LS
Analysis_Lot VDA06060813
Prep_Lot 0814VH01
Channel Descr. PID

Acq Meth Set VDA_Mth_Set
Date Acquired 08/14/97 09:28:29 PM
Processing Method VDA_PID_0606

Dilution 1.000
SampleWeight 1.000
Initials GSM

Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln Conc	Amount (PPB)	Sur_Rec_1 (%)	Sur_Rec_2 (%)
1	Benzene	4.33	406332	36.88	36.878		
2	1,4-Difluorobenzene	4.73	185858	41.35	41.348	103.4	
3	aaa-TFT	5.47	178125	1.00	1.000		
4	Toluene	6.57	1431793	142.62	142.622		
5	Ethylbenzene	7.93	213993	24.96	24.963		
6	P & M -Xylene	8.10	855500	89.20	89.199		
7	O -Xylene	8.40	298203	34.16	34.163		
8	4-Bromofluorobenzene	8.69	340491	39.47	39.472		98.7

Semi-Volatiles Sample QC Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Workorder Number: 97.4607

Analysis: **Diesel Range Organics/Residual Range Organics**
 Method: **AK102/103**
 Matrix: **Liquid**

Analysis Lot Number: SCR01220814

Extraction Lot Number: XXX 3/20

Analysis:

Assurance Notes:

Acceptance Criteria:

		Yes	No	N/A	
A.	Holding Time:	All criteria met. <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14 days from sample collection for TCLP extraction.
		All criteria met. <input checked="" type="checkbox"/>	<input type="checkbox"/>		14 days from sample collection (or 7 days from TCLP extraction) for prep extraction.
		All criteria met. <input checked="" type="checkbox"/>	<input type="checkbox"/>		40 days from extraction for analysis.
B.	Surrogates:	All criteria met. <input checked="" type="checkbox"/>	<input type="checkbox"/>		50% - 150% Recovery
C.	Notes:	_____			

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

Analyst's Signature: Bill Apte

Reviewer's Signature: [Signature]

Printed Name & Date: Bill Apte 8-15-97

Printed Name & Date: 8-15-97

Semi-Volatiles Quality Control Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Analysis Date: 8-14-97

Analysis Lot Number: SCRO1220814
 Extraction Lot Number: XXX 3/20

Analysis: Diesel Range Organics/Residual Range Organics
 Method: AK102/103
 Matrix: Liquid

Analysis:	Assurance Notes:	Assurance		Acceptance Criteria:
		Yes	No*	
A. Calibration:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Correlation Coefficient ≥ 0.995 , Relative Standard Deviation $< 25\%$
B. Method Blank:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All concentrations are below the Practical Quantitation Limit
C. Continuing Calibration Verification Std:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	$< 25\%$ Relative Percent Difference from average calibration response factor.
D. Quality Control Sample/Laboratory Std:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	75% - 125% Recovery
E. Laboratory Control Sample:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	60% - 120% Recovery for AK102 60% - 140% Recovery for AK103
F. Laboratory Control Sample Duplicate:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	60% - 120% Recovery for AK102 60% - 140% Recovery for AK103
	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	$< 20\%$ Relative Percent Difference
G. QC Surrogates:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	50% - 150% Recovery
H. Notes:	_____			

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

*Out-of-control conditions require a supervisor's signature.

Analyst's Signature: [Signature]

Supervisor's Signature: _____

Printed Name & Date: Bill Ante 8-15-97

Date: _____

Project Name: Gambell Transformers		Analysis: State of Alaska Method 102 Extended				
Project No: NA		Method: AK102E				
		Prep Meth: SW3510				
Field ID: 97GAM010NVW	Lab Samp ID: 974607001					
Descr/Location:	Rec'd Date: 08/13/97					
Sample Date: 08/13/97	Prep Date: 08/13/97					
Sample Time: 0830	Analysis Date: 08/15/97					
Matrix: Surface Water	QC Batch: 3120XXX					
Basis: Not Filtered	Notes:					
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics	0.1	0.0995 PQL		0.103	MG/L	0.995
Residual Range Organics	1.5	1.49 PQL		ND	MG/L	0.995
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
5a-Androstane		50-150 SMEA		70.1%		0.995
n-Triacontane		50-150 SMEA		84.8%		0.995

Approved by: _____

Date: _____

QA/QC Report Method Blank Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 11

QC Batch: 3120XXX Matrix: Surface Water Lab Samp ID: 113510 Analysis Date: 08/15/97 Basis: Not Filtered	Analysis: State of Alaska Method 102 Extended Method: AK102E Prep Meth: SW3510 Prep Date: 08/13/97 Notes:					
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics	0.1	0.100 PQL		ND	MG/L	1
Residual Range Organics	1.5	1.50 PQL		ND	MG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
5a-Androstane		50-150 SMEA		84.2%		1
n-Triacontane		50-150 SMEA		92.4%		1

QA/QC Report
Blank Spike/Duplicate Blank Spike Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 12

QC Batch: 3120XXX												
Matrix: Surface Water												
Lab Samp ID: 113511												
Analyte	Analysis Method	Spike Level		Spike Result		Units	% Recoveries			Acceptance Criteria		
		LCS	LCD	LCS	LCD		LCS	LCD	RPD	%Rec	RPD	
Diesel Range Organics	AK102E	8.	8.	7.69	8.02	MG/L	96.1	100	4.0	120-60	MEA	20MEP
Residual Range Organics	AK102E	5.	5.	4.82	4.88	MG/L	96.4	97.6	1.2	120-60	MEA	20MEP
5a-Androstane	AK102E	100.	100.	97.9	107.	PERCENT	97.9	107	8.9	150-50	SMEA	20SMEP
n-Triacontane	AK102E	100.	100.	130.	119.	PERCENT	130	119	8.8	150-50	SMEA	20SMEP

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 24

QC Batch: 3120XXX Matrix: Surface Water Lab Samp ID: 113805						
Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
Diesel Range Organics	AK102E	12500.	13200.0000	MG/L	106	125-75 MECC

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 25

QC Batch: 3120XXX
Matrix: Surface Water
Lab Samp ID: 113806

Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
Diesel Range Organics	AK102E	12500	13200.0000	MG/L	106	125-75 MECC

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 26

QC Batch: 3120XXX Matrix: Surface Water Lab Samp ID: 113809						
Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
Residual Range Organics	AK102E	10000.	10700.	MG/L	107	125-75 MECC

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 22

QC Batch: 3120XXX Matrix: Surface Water Lab Samp ID: 113802						
Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
Diesel Range Organics	AK102E	8000.	8820.	MG/L	110	125-75 MECC

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 23

QC Batch: 3120XXX Matrix: Surface Water Lab Samp ID: 113804						
Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
Diesel Range Organics	AK102E	8000.	8650.	MG/L	108	125-75 MECC

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 27

QC Batch: 3120XXX Matrix: Surface Water Lab Samp ID: 113834						
Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
Diesel Range Organics	AK102E	8000.	8670.	MG/L	108	125-75 MECC

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 28

QC Batch: 3120XXX Matrix: Surface Water Lab Samp ID: 113835						
Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
Residual Range Organics	AK102E	5000.	5290.	MG/L	106	125-75 MECC

PROJECT	HSN	SAMPL	RUN DATE	RUN INSTRU	DILU	ANALYTICAL	PREP BAT	SEQUENCE
	113805	CCVB	8/14/97 4:18:00 PM	SCR		13069XFC		1
	113806	CCVF	8/14/97 4:18:00 PM	SCR		13069XFC		2
	113807	IBF	8/14/97 4:55:00 PM	SCR		13069XFC		3
	113808	IB	8/14/97 4:55:00 PM	SCR		13069XFC		4
	113809	CCVR	8/14/97 5:33:00 PM	SCR		13069XFC		5
974492	974492003	PS	8/14/97 6:10:00 PM	SCR		23069XFC	3103XXX	6
974436	974436001	PS	8/14/97 6:47:00 PM	SCR		23069XFC	3099XXX	7
974506	974506001	PS	8/14/97 7:25:00 PM	SCR		103069XFC	3115XXX	8
974506	974506002	PS	8/14/97 8:01:00 PM	SCR		1003069XFC	3115XXX	9
974506	974506003	PS	8/14/97 8:39:00 PM	SCR		23069XFC	3115XXX	10
974506	974506005	PS	8/14/97 9:16:00 PM	SCR		53069XFC	3115XXX	11
974506	974506006	PS	8/14/97 9:54:00 PM	SCR		53069XFC	3115XXX	12
974506	974506007	PS	8/14/97 10:31:00 PM	SCR		13069XFC	3115XXX	13
974506	974506009	PS	8/14/97 11:46:00 PM	SCR		13069XFC	3115XXX	14
974506	974506011	PS	8/15/97 1:01:00 AM	SCR		13069XFC	3115XXX	15
	113802	LSF	8/15/97 2:17:00 AM	SCR		13069XFC		16
	113803	LSB	8/15/97 2:17:00 AM	SCR		13069XFC		17
974529	974529004	PS	8/15/97 2:56:00 AM	SCR		23069XFC	3106XXX	18
974469	974469005	PS	8/15/97 3:34:00 AM	SCR		23069XFC	3105XXX	19
974441	974441009	PS	8/15/97 4:12:00 AM	SCR		1003069XFC	3104XXX	20
974441	974441010	PS	8/15/97 4:50:00 AM	SCR		23069XFC	3104XXX	21
974441	974441011	PS	8/15/97 5:28:00 AM	SCR		53069XFC	3104XXX	22
974441	974441013	PS	8/15/97 6:06:00 AM	SCR		23069XFC	3104XXX	23
974441	974441014	PS	8/15/97 6:45:00 AM	SCR		53069XFC	3104XXX	24
974441	974441015	PS	8/15/97 7:23:00 AM	SCR		1003069XFC	3104XXX	25
974441	974441016	PS	8/15/97 8:02:00 AM	SCR		1003069XFC	3104XXX	26
974441	974441017	PS	8/15/97 8:44:00 AM	SCR		53069XFC	3104XXX	27
	113804	LSB	8/15/97 9:29:00 AM	SCR		13069XFC		28
974441	974441008	PS	8/15/97 10:06:00 AM	SCR		53069XFC	3104XXX	29
974441	974441018	PS	8/15/97 10:43:00 AM	SCR		23069XFC	3104XXX	30
✓	113510	MB	8/15/97 11:24:00 AM	SCR		13069XFC	3120XXX	31
✓	113511	LCS	8/15/97 12:02:00 PM	SCR		13069XFC	3120XXX	32
✓	113512	LCSD	8/15/97 12:39:00 PM	SCR		13069XFC	3120XXX	33
974607	974607001	PS	8/15/97 1:17:12 PM	SCR		13069XFC	3120XXX	34
	113834	LSB	8/15/97 2:07:00 PM	SCR		13069XFC		35
	113835	LSR	8/15/97 2:44:00 PM	SCR		13069XFC		36
	114430	CCVB	8/16/97 2:35:00 PM	SCR		13075XFC		1
	114431	CCVF	8/16/97 2:35:00 PM	SCR		13075XFC		2
	114432	IBF	8/16/97 3:13:00 PM	SCR		13075XFC		3
	114433	IB	8/16/97 3:13:00 PM	SCR		13075XFC		4
	114434	CCVR	8/16/97 3:51:00 PM	SCR		13075XFC		5
974437	974437015	PS	8/16/97 6:21:00 PM	SCR		13075XFC	3120XXX	6
974437	974437016	PS	8/16/97 6:59:00 PM	SCR		13075XFC	3120XXX	7
974437	974437018	BMS	8/16/97 7:36:00 PM	SCR		13075XFC	3120XXX	8
974437	974437019	BMSD	8/16/97 8:13:00 PM	SCR		13075XFC	3120XXX	9
	114420	LSB	8/16/97 8:50:00 PM	SCR		13075XFC		10
	114421	LSF	8/16/97 8:50:00 PM	SCR		13075XFC		11
	114422	LSR	8/16/97 9:27:00 PM	SCR		13075XFC		12
974584	974584001	PS	8/16/97 10:42:00 PM	SCR		13075XFC	3121XXX	13
974584	974584002	PS	8/16/97 11:20:00 PM	SCR		13075XFC	3121XXX	14
974584	974584003	PS	8/16/97 11:57:00 PM	SCR		13075XFC	3121XXX	15
974584	974584004	PS	8/17/97 12:34:00 AM	SCR		13075XFC	3121XXX	16
974584	974584005	PS	8/17/97 1:11:00 AM	SCR		13075XFC	3121XXX	17
974584	974584006	PS	8/17/97 1:48:00 AM	SCR		13075XFC	3121XXX	18
974584	974584007	PS	8/17/97 2:26:00 AM	SCR		13075XFC	3121XXX	19
974584	974584008	PS	8/17/97 3:03:00 AM	SCR		13075XFC	3121XXX	20
974584	974584009	PS	8/17/97 3:41:00 AM	SCR		13075XFC	3121XXX	21
974584	974584010	PS	8/17/97 4:18:00 AM	SCR		13075XFC	3121XXX	22
	114423	LSF	8/17/97 4:55:00 AM	SCR		13075XFC		23
974596	974596001	PS	8/17/97 5:33:00 AM	SCR		13075XFC	3121XXX	24

PROJECT	HSN	SAMPL	RUN DATE	RUN INSTRU	DILU	ANALYTICAL	PREP BAT	SEQUENCE
974596	974596002	PS	8/17/97 6:10:00 AM	SCR		13075XFC	3121XXX	25
974596	974596003	PS	8/17/97 6:48:00 AM	SCR		13075XFC	3121XXX	26
974596	974596004	PS	8/17/97 7:25:00 AM	SCR		13075XFC	3121XXX	27
974596	974596005	PS	8/17/97 8:03:00 AM	SCR		13075XFC	3121XXX	28
974596	974596006	PS	8/17/97 8:41:00 AM	SCR		13075XFC	3121XXX	29
	114424	LSF	8/17/97 9:19:00 AM	SCR		13075XFC		30

#	Vial	SampleNameR	Analysis_Lt_R	Date Acquired	Prp_Lt_R	Dilut_R	Additional_Comments
1	1	MECL2 BLK	SCR01220814	08/14/97 03:03:06 PM	0814EB01	1.00000	
2	2	C10-C44	SCR01220814	08/14/97 03:40:40 PM	0814EB01	1.00000	
3	2	C10-C44	SCR01220814	08/14/97 03:40:40 PM	0814EB01	1.00000	
4	3	CCVB 12500	SCR01220814	08/14/97 04:18:06 PM	0814EB01	1.00000	
5	3	CCVB 12500	SCR01220814	08/14/97 04:18:06 PM	0814EB01	1.00000	
6	4	SFIB 100/100	SCR01220814	08/14/97 04:55:37 PM	0814EB01	1.00000	
7	4	SFIB 100/100	SCR01220814	08/14/97 04:55:37 PM	0814EB01	1.00000	
8	5	CCVR 10000	SCR01220814	08/14/97 05:33:11 PM	0814EB01	1.00000	
9	6	974492003*2	SCR01220814	08/14/97 06:10:04 PM	3099/3103	2.00000	
10	6	974492003*2	SCR01220814	08/14/97 06:10:04 PM	3099/3103	2.00000	
11	7	974436001*2	SCR01220814	08/14/97 06:47:33 PM	3099/3103	2.00000	
12	8	974506001*10	SCR01220814	08/14/97 07:25:03 PM	XXX3115	10.00000	
13	9	974506002*100	SCR01220814	08/14/97 08:01:49 PM	XXX3115	100.00000	
14	10	974506003*2	SCR01220814	08/14/97 08:39:20 PM	XXX3115	2.00000	
15	11	974506005*5	SCR01220814	08/14/97 09:16:50 PM	XXX3115	5.00000	
16	12	974506006*5	SCR01220814	08/14/97 09:54:20 PM	XXX3115	5.00000	
17	13	974506007	SCR01220814	08/14/97 10:31:46 PM	XXX3115	1.00000	
18	14	974506008	SCR01220814	08/14/97 11:09:04 PM	XXX3115	1.00000	
19	15	974506009	SCR01220814	08/14/97 11:46:27 PM	XXX3115	1.00000	
20	16	974506010	SCR01220814	08/15/97 12:24:05 AM	XXX3115	1.00000	
21	17	974506011	SCR01220814	08/15/97 01:01:45 AM	XXX3115	1.00000	
22	18	974506012	SCR01220814	08/15/97 01:39:46 AM	XXX3115	1.00000	
23	19	LSB 8000	SCR01220814	08/15/97 02:17:52 AM	0814EB01	1.00000	
24	19	LSB 8000	SCR01220814	08/15/97 02:17:52 AM	0814EB01	1.00000	
25	20	974529004*2	SCR01220814	08/15/97 02:56:08 AM	3106/3105	2.00000	
26	21	974469005*2	SCR01220814	08/15/97 03:34:19 AM	3106/3105	2.00000	
27	22	974441009*100	SCR01220814	08/15/97 04:12:36 AM	XXX3104	100.00000	
28	23	974441010*2	SCR01220814	08/15/97 04:50:37 AM	XXX3104	2.00000	
29	24	974441011*5	SCR01220814	08/15/97 05:28:58 AM	XXX3104	5.00000	
30	25	974441013*2	SCR01220814	08/15/97 06:06:57 AM	XXX3104	2.00000	
31	26	974441014*5	SCR01220814	08/15/97 06:45:40 AM	XXX3104	5.00000	
32	27	974441015*100	SCR01220814	08/15/97 07:23:59 AM	XXX3104	100.00000	
33	28	974441016*100	SCR01220814	08/15/97 08:02:08 AM	XXX3104	100.00000	
34	29	974441017*5	SCR01220814	08/15/97 08:44:32 AM	XXX3104	5.00000	
35	30	LSB 8000	SCR01220814	08/15/97 09:29:20 AM	0814EB01	1.00000	
36	31	974441008*5	SCR01220814	08/15/97 10:06:17 AM	XXX3104	5.00000	
37	32	974441018*2	SCR01220814	08/15/97 10:43:05 AM	XXX3104	2.00000	
38	33	BLK 3120	SCR01220814	08/15/97 11:24:41 AM	XXX3104	1.00000	
39	34	LCS 3120	SCR01220814	08/15/97 12:02:30 PM	XXX3104	1.00000	
40	35	LCSD 3120	SCR01220814	08/15/97 12:39:51 PM	XXX3115	1.00000	

#	Val	SampleNameR	Analysis_Lt_R	Date Acquired	Prp_Lt_	Dilut_R	Additional_Comments
41	36	974607001	SCR01220814	08/15/97 01:17:12 PM	XXX3115	1.00000	
42	37	LSB 8000	SCR01220814	08/15/97 02:07:19 PM	XXX3115	1.00000	
43	38	LSR 5000	SCR01220814	08/15/97 02:44:34 PM	0814EB01	1.00000	

End of Analysis Lot SCR01220814

Extraction Bench Sheet

Horizon Batch # XXX - 3120

Extraction Method: 350/AK102/103

Extraction Start Date/Time: 8/13/97 20:00

Amount: _____ Extraction Finish Date/Time: 8/14/97 11:00AM

Surrogates:

ID	Added (ml)	Conc.	Extr. Technician:
SVW 1-12-1	1 ml	100 µg/L	<u>[Signature]</u>
SVW 1-7-3	1 ml	100 µg/L	

Martix Spikes:

ID	Added (ml)	Conc.	Spike Witness:
SVW 1-4-2	1 ml	2000 µg/L	<u>[Signature]</u>
SVW 1-13-3	1 ml	5000 µg/L	

Posted By / Date: [Signature] 8/14

Solvent Lot No. Used: MeCl₂ 37156

[Signature]

TV Temperature: 38°C

Batch Released By: _____

#	Workorder No.	Initial Wt./ Vol. (gm/mL)	Final Volume (ml)	Comments (pH, sonication level, sample and/or extract description)
1	Method Blank	1000	1 ml	
2	LCS	1000	1 ml	
3	LCSD	1000	1 ml	
4				
5	4437-15	1000	1 ml	
6	-14	1000	1 ml	
7	-18	990	1 ml	MS-15
8	-19	1000	1 ml	MSD -15
9				
10	4607-1	1005	1 ml	Sample was added at 17:00 8/14/97
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

NOTES: _____

Processing Method: SCR_AK102_AK103S_0122_R7

Millennium v2.13

Date Printed: 14:43:39, August 9, 1997

Method Name: SCR_AK102_AK103S_0122_R7
 Date Created: 08/09/97 11:39:39
 Method Type: GC

Calculated Custom Field Formulas

True_Surr3 CConst1/Surr_3_R/CConst1
 True_Surr1 CConst1/Surr_1/CConst1
 True_Surr4 CConst2/Surr_4_R/CConst2
 True_Surr2 CConst2/Surr_2/CConst2
 Surr_Rec_4 Amount/Dilution*SampleWeightR*True_Surr4*100
 Surr_Rec_3 Amount/Dilution*SampleWeightR*True_Surr3*100
 Surr_Rec_1 Amount/Dilution*SampleWeight*True_Surr1*100
 Surr_Rec_2 Amount/Dilution/SampleWeight*True_Surr2*100
 Sln_Conc Amount/Dilution*SampleWeight
 True_Hydraulic Hydraulic(Amount)
 True_Diesel Diesel(Amount) - SURROGATE AK102(Amount)
 True_RRO RRO(Amount) - SURROGATE AK103(Amount)
 True_Diesel_Ext DRO_Ext(Amount)
 True_Diesel_R True_Diesel/Dilution*Dilution_R*SampleWeight/SampleWeightR
 TRUE_RRO_R True_RRO/Dilution*Dilution_R*SampleWeight/SampleWeightR
 Amount_R Amount/Dilution*Dilution_R*SampleWeight/SampleWeightR

Calibration Parameters

Averaging None
 RT Window % 1.00
 Update RT Never
 CCalRef1

Peak Integration Parameters

Minimum Area 0 uV*sec
 Minimum Height 0 uV
 Threshold 3.000 uV/sec
 Peak Width 15.00 sec

Event Table

#	Start (min)	Event	Value	Stop (min)
1	0.100	Set Minimum Height	9999999999.000	
2	0.513	Forward Horizontal by Time		22.660
3	7.150	Set Minimum Height	0.000	
4	7.150	Force Drop Line		15.770
5	15.870	Force Drop Line		18.129
6	18.131	Force Drop Line		20.150
7	20.250	Force Drop Line		22.660
8	22.660	Inhibit Integration		

Component Table

#	Name	Retention Time (min)	RT Window (min)	Peak Match	Quant By
1	SURROGATE AK102				Area

Component Table

#	Name	Retention Time (min)	RT Window (min)	Peak Match	Quant By
2	Diesel	7.150			Area
3	C10	7.585	0.200	Closest	None
4	C16	13.301	0.140	Closest	None
5	5 alpha Androstane	15.818	0.178	Closest	Area
6	C24	17.829	0.200	Closest	None
7	RRO	18.130			Area
8	C25	18.301	0.200	Closest	None
9	C28	19.610	0.200	Closest	None
10	DTC	20.196	0.200	Closest	Area
11	C36	22.546	0.400	Closest	None
12	SURROGATE AK103				Area

Component Table

#	Fit Type	Weighting	Must Peak	Default	Component Type	CConst1
1	Linear thru Zero	None	No	No	Named Group	
2	Linear thru Zero	None	No	No	Timed Group	
3	Linear thru Zero	None	No	No	Single Peak	
4	Linear thru Zero	None	No	No	Single Peak	
5	Linear thru Zero	None	No	No	Single Peak	1.000000000
6	Linear thru Zero	None	No	No	Single Peak	
7	Linear thru Zero	None	No	No	Timed Group	
8	Linear thru Zero	None	No	No	Single Peak	
9	Linear thru Zero	None	No	No	Single Peak	
10	Linear thru Zero	None	No	No	Single Peak	0.000000000
11	Linear thru Zero	None	No	No	Single Peak	
12	Linear thru Zero	None	No	No	Named Group	

Component Table

#	CConst2
1	
2	
3	
4	
5	0.000000000
6	
7	
8	
9	
10	1.000000000
11	
12	

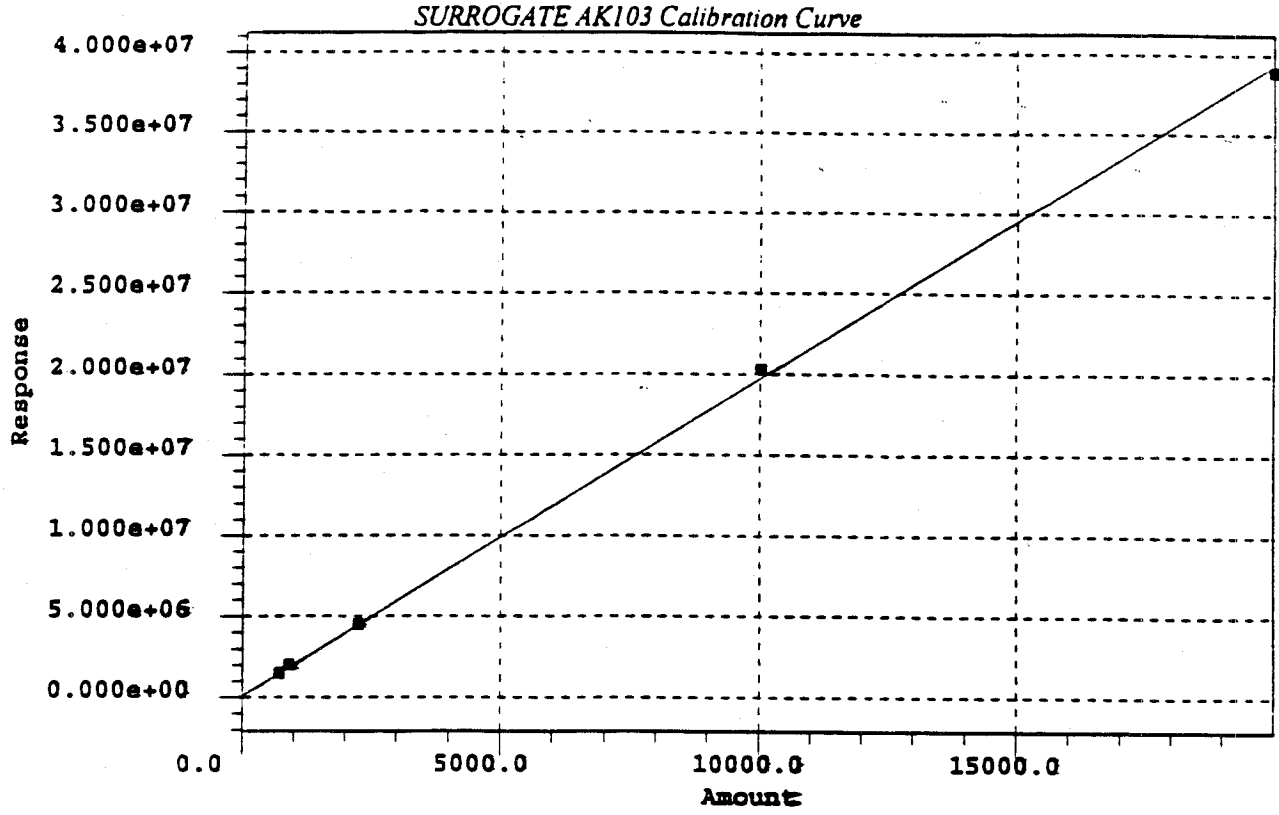
Timed Group Table

#	Group Name	Start (min)	Stop (min)
1	Diesel	7.150	18.130
2	RRO	18.130	22.660

Named Group Information

Group Name SURROGATE AK102
Set Retention Time None
Peak #1: 5 alpha Androstane

Group Name SURROGATE AK103
Set Retention Time None
Peak #1: DTC



SURROGATE AK103 Calibration Information

Processing Method	SCR_AK102_AK103S_0122_R7	System	SC_L2_S3
Channel	SATIN-2	Date	09-AUG-97
	LC	Name	SURROGATE AK103
Retention Time	min.	Order	1
	0.000000	B	1963.499031
	0.000000	D	0.000000
	0.000000	F	0.000000
	0.999667	R ²	0.999334
Standard Error	417608.255109		

SURROGATE AK103 Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	715.000000	1505844.098071	766.918686	7.261	Yes
2	894.000000	2002330.640963	1019.776740	14.069	Yes
3	2240.000000	4542178.699035	2313.308347	3.273	Yes
4	10000.000000	20318211.698070	10347.961151	3.480	Yes
5	20000.000000	38897564.899035	19810.330576	-0.948	Yes

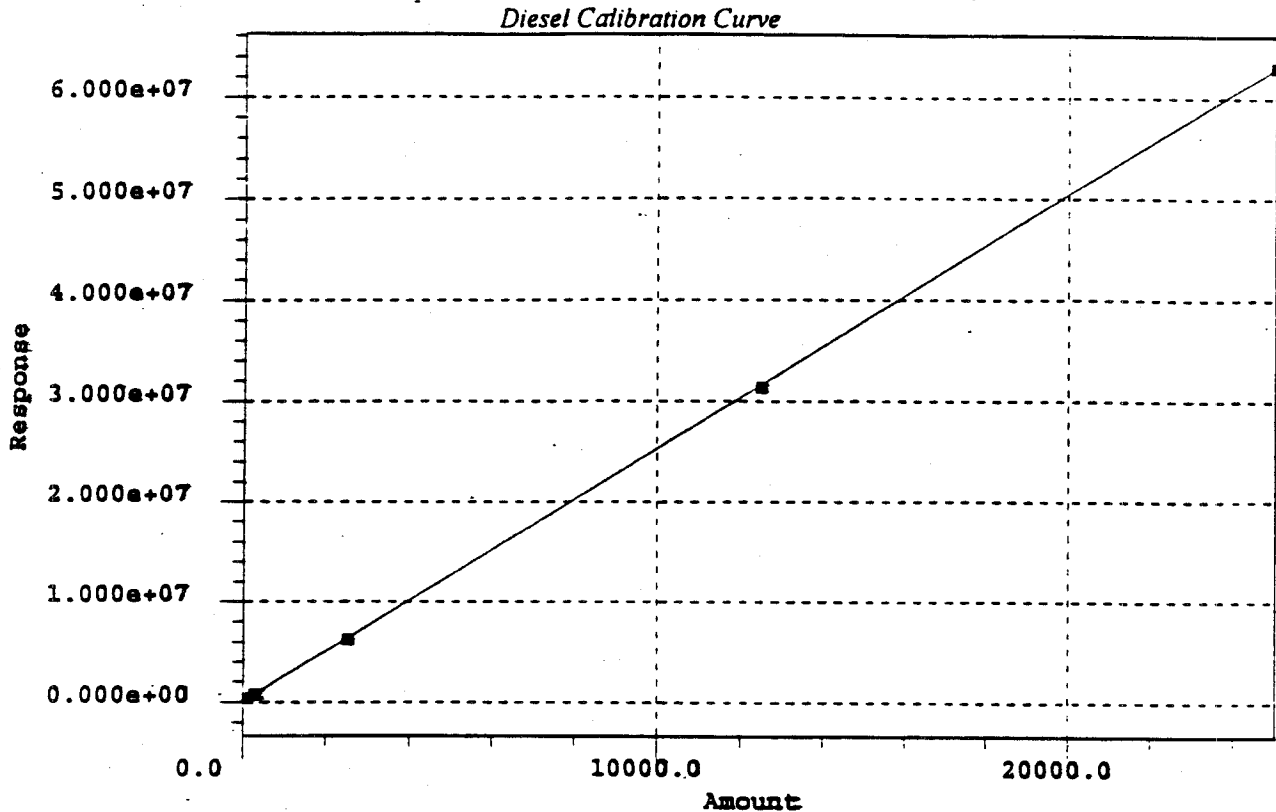
SURROGATE AK103 Point Table

#	Ignore?
1	No
2	No

SURROGATE AK103 Point Table

#	Ignore?
3	No
4	No
5	No

Table 'SURROGATE AK103 Average Table' contains no data.



Diesel Calibration Information

essing Method	SCR_AK102_AK103S_0122_R7	System	SC_L2_S3
nel	SATIN-2	Date	09-AUG-97
	LC	Name	Diesel
ntion Time	7.150 min	Order	1
	0.000000	B	2520.177768
	0.000000	D	0.000000
	0.000000	F	0.000000
	0.999989	R^2	0.999978
ard Error	127756.272767		

Diesel Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	100.000000	331817.508775	131.664327	31.664	Yes
2	250.000000	765500.993419	303.748808	21.500	Yes
3	2500.000000	6264404.748753	2485.699552	-0.572	Yes
4	12500.000000	31325752.315615	12429.977248	-0.560	Yes
5	25000.000000	63094609.291225	25035.777275	0.143	Yes

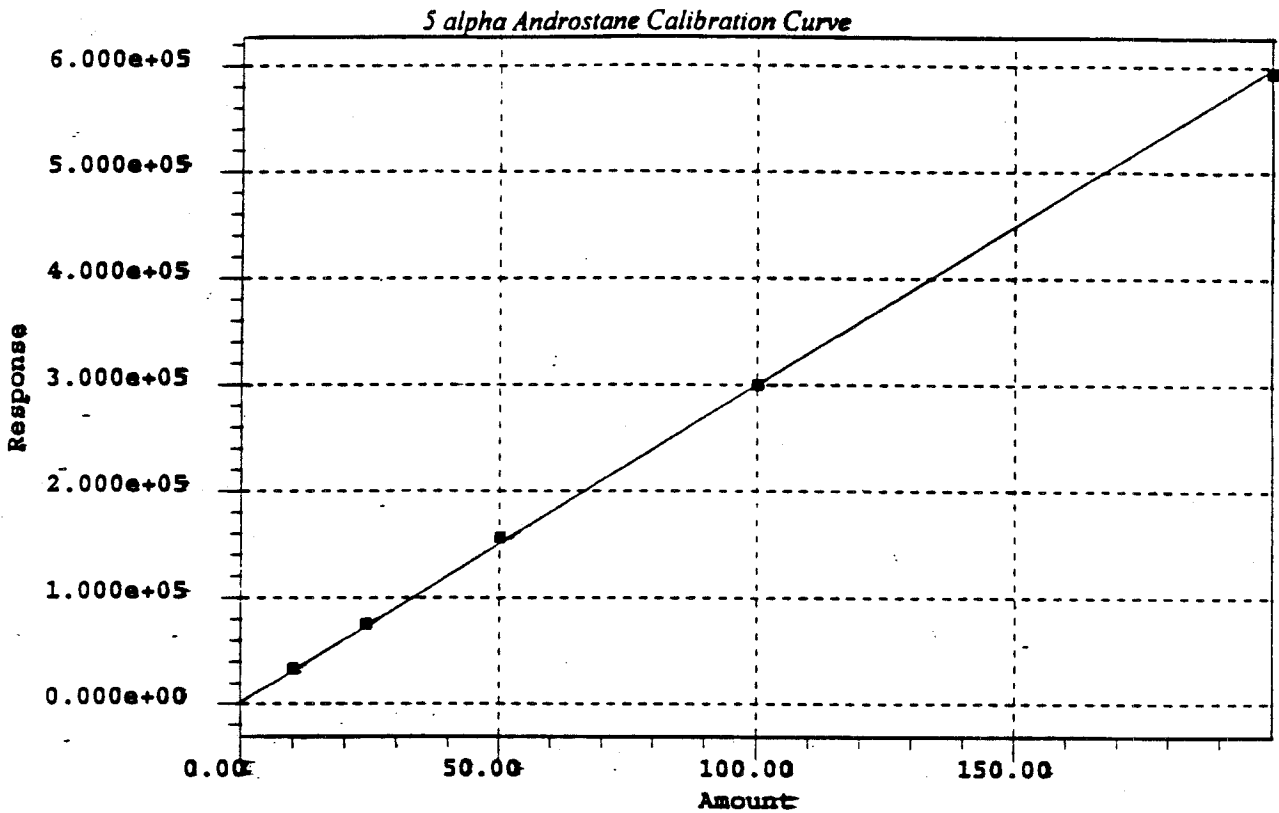
Diesel Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table 'Diesel Average Table' contains no data.

C10 has no calibration curve

C16 has no calibration curve



5 alpha Androstane Calibration Information

Processing Method	SCR_AK102_AK103S_0122_R7	System	SC_L2_S3
Channel	SATIN-2	Date	09-AUG-97
	LC	Name	5 alpha Androstane
Retention Time	15.818 min	Order	.1
	0.000000	B	2986.856230
	0.000000	D	0.000000
	0.000000	F	0.000000
	0.999792	R ²	0.999584
Standard Error	4624.297002		

5 alpha Androstane Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	10.000000	33395.359895	11.180772	11.808	Yes

5 alpha Androstane Point Table

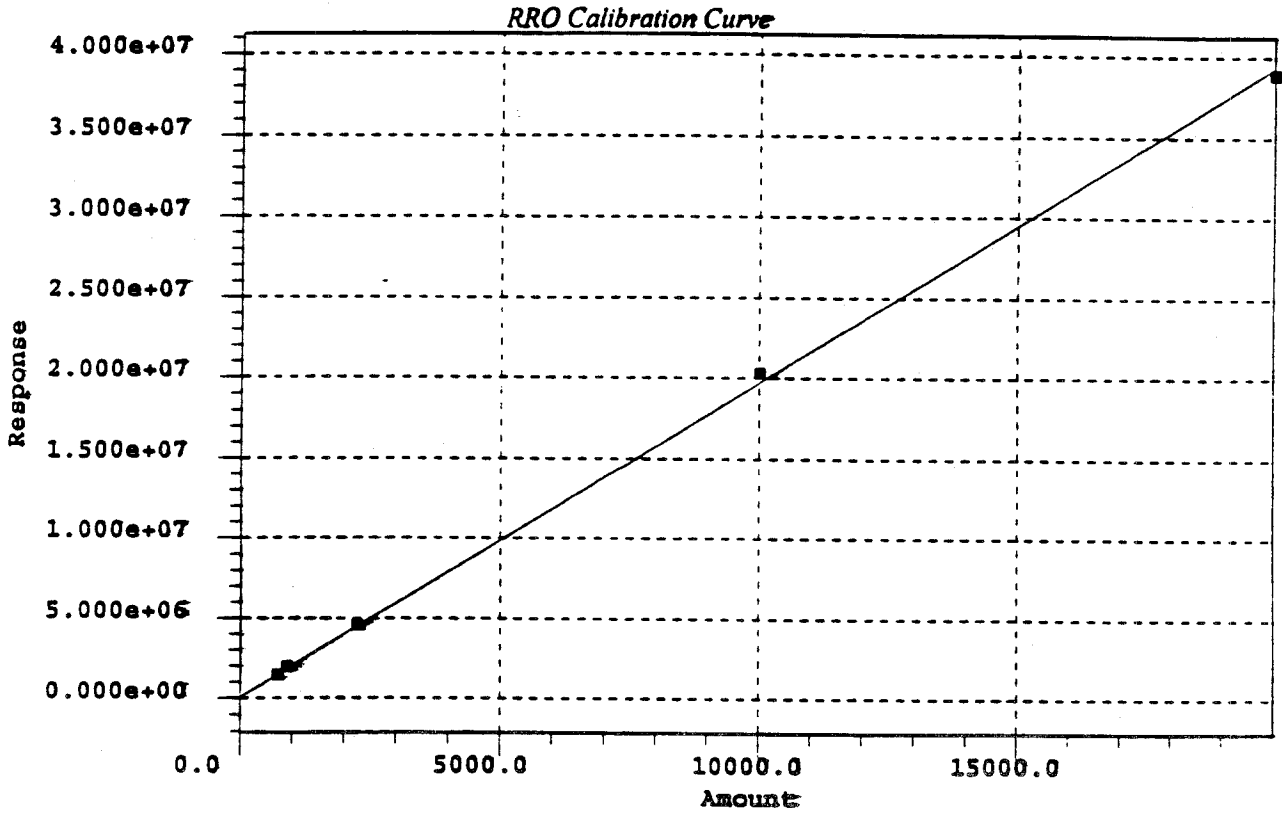
#	Amount	Response	Calc. Amount	% Deviation	Manual
2	24.000000	75240.219883	25.190439	4.960	Yes
3	50.000000	156393.160159	52.360458	4.721	Yes
4	100.000000	299979.219824	100.433096	0.433	Yes
5	200.000000	594358.840136	198.991446	-0.504	Yes

5 alpha Androstane Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '5 alpha Androstane Average Table' contains no data.

C24 has no calibration curve



RRO Calibration Information

Processing Method	SCR_AK102_AK103S_0122_R7	System	SC_L2_S3
Channel	SATIN-2	Date	09-AUG-97
	LC	Name	RRO
Retention Time	18.130 min	Order	1
	0.000000	B	1963.499031
	0.000000	D	0.000000

0.000000 F 0.000000
 0.999667 R^2 0.999334
 dard Error 417608.255109

RRO Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	715.000000	1505844.098071	766.918686	7.261	Yes
2	894.000000	2002330.640963	1019.776740	14.069	Yes
3	2240.000000	4542178.699035	2313.308347	3.273	Yes
4	10000.000000	20318211.698070	10347.961151	3.480	Yes
5	20000.000000	38897564.899035	19810.330576	-0.948	Yes

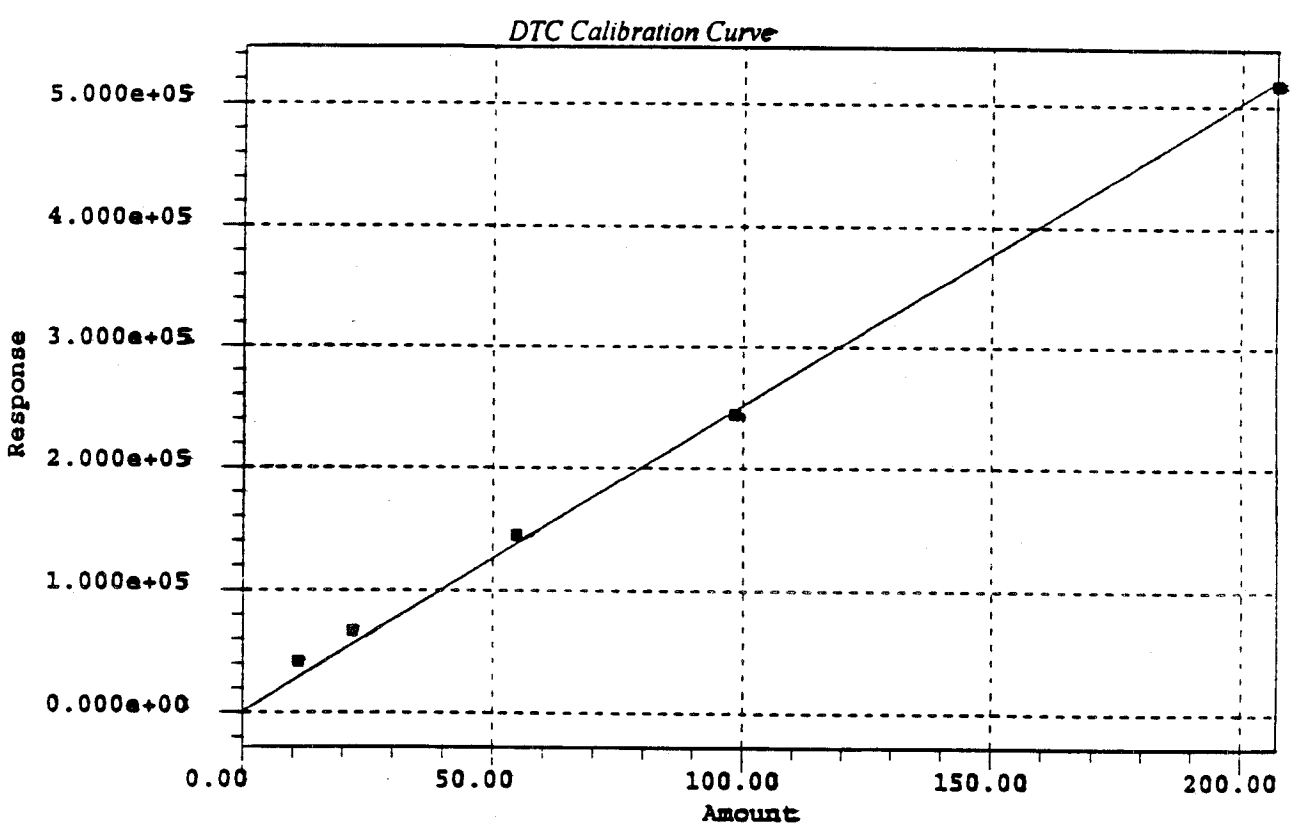
RRO Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table 'RRO Average Table' contains no data.

C25 has no calibration curve

C28 has no calibration curve



DTC Calibration Information

essing Method	SCR AK102_AK103S_0122_R7	System	SC_L2_S3
nel	SATIN-2	Date	09-AUG-97
	LC	Name	DTC
ntion Time	20.196 min	Order	1
	0.000000	B	2511.261313
	0.000000	D	0.000000
	0.000000	F	0.000000
	0.998613	R^2	0.997229
ard Error	10139.797921		

DTC Point Table

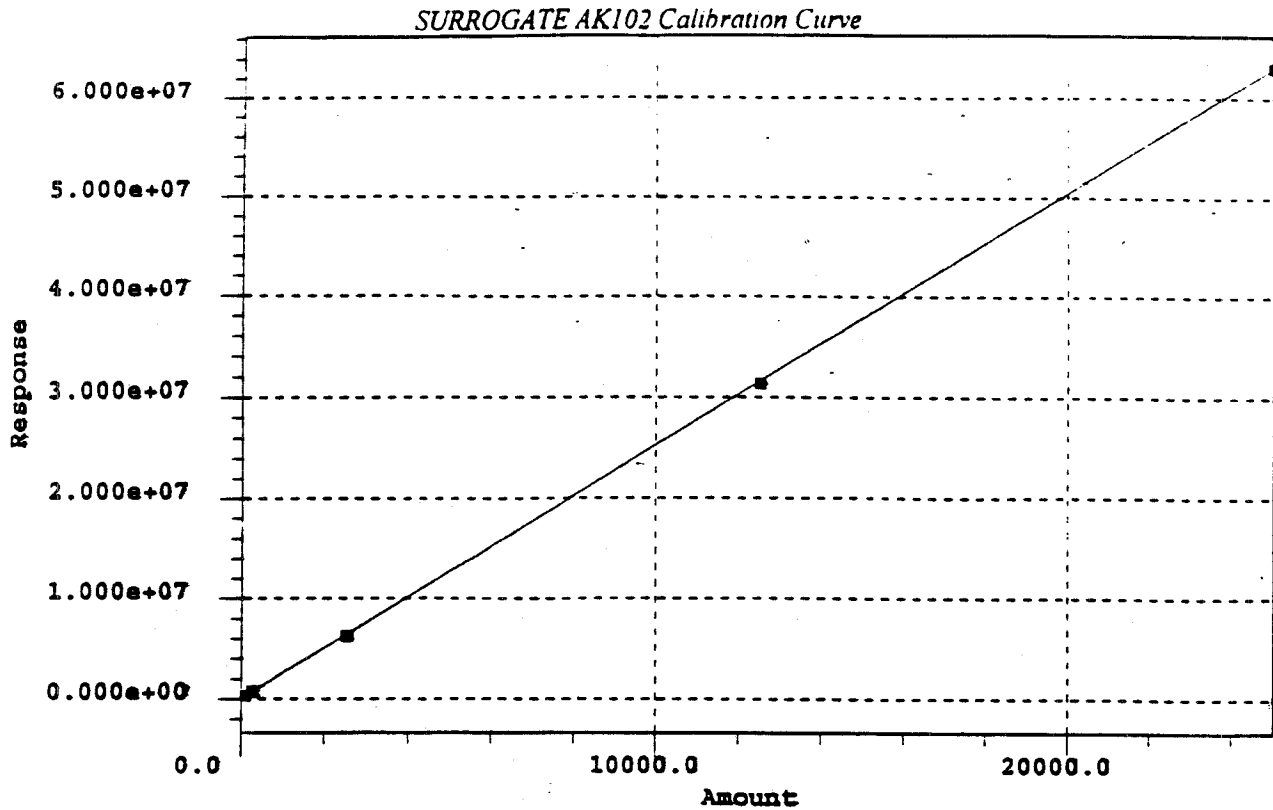
#	Amount	Response	Calc. Amount	% Deviation	Manual
1	10.900000	41467.000000	16.512419	51.490	Yes
2	21.800000	66667.100112	26.547257	21.776	Yes
3	54.600000	144633.920027	57.594134	5.484	Yes
4	98.300000	244401.399945	97.322170	-0.995	Yes
5	207.000000	517016.239944	205.879108	-0.541	Yes

DTC Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table 'DTC Average Table' contains no data.

C36 has no calibration curve



SURROGATE AK102 Calibration Information

Processing Method	SCR AK102_AK103S_0122_R7	System	SC_L2_S3
Injection Volume	SATIN-2	Date	09-AUG-97
Injection Concentration	LC	Name	SURROGATE AK102
Injection Time	min	Order	1
	0.000000	B	2520.177768
	0.000000	D	0.000000
	0.000000	F	0.000000
	0.999989	R ²	0.999978
Standard Error	127756.272767		

SURROGATE AK102 Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	100.000000	331817.508775	131.664327	31.664	Yes
2	250.000000	765500.993419	303.748808	21.500	Yes
3	2500.000000	6264404.748753	2485.699552	-0.572	Yes
4	12500.000000	31325752.315615	12429.977248	-0.560	Yes
5	25000.000000	63094609.291225	25035.777275	0.143	Yes

SURROGATE AK102 Point Table

#	Ignore?
1	No
2	No
3	No
4	No

SURROGATE AK102 Point Table

#	Ignore?
5	No

Table 'SURROGATE AK102 Average Table' contains no data.

**EXTRACTABLE PETROLEUM HYDROCARBONS
DIESEL and RESIDUAL RANGE ANALYTICS
CALIBRATION CHECK**

Lab Name: Commercial Testing and Engineering Company
Environmental Laboratory Services (Alaska)

Initial Calibration Date: 01/22/97

Instrument ID: SCR

Method Name: SCR_AK102_AK103S_0122

Method: AK102 & AK103 (through C36)

COMPOUND	STD1 RF	STD2 RF	STD3 RF	STD4 RF	STD5 RF	STD6 RF	STD7 RF	STD8 RF	STD9 RF	AV RF	STDEV	%RSD
Mid. Dist. Blend	3318	3062	2506	2506	2524					2783	382	13.7
5 alpha Androstane	3340	3135	3128	3000	2972					3115	146	4.7
RRO: (01/22/97)												
Oil Blend	2106	2240	2028	2032	1945					2070	111	5.3
DTC	3804	3058	2649	2486	2498					2899	556	19.2

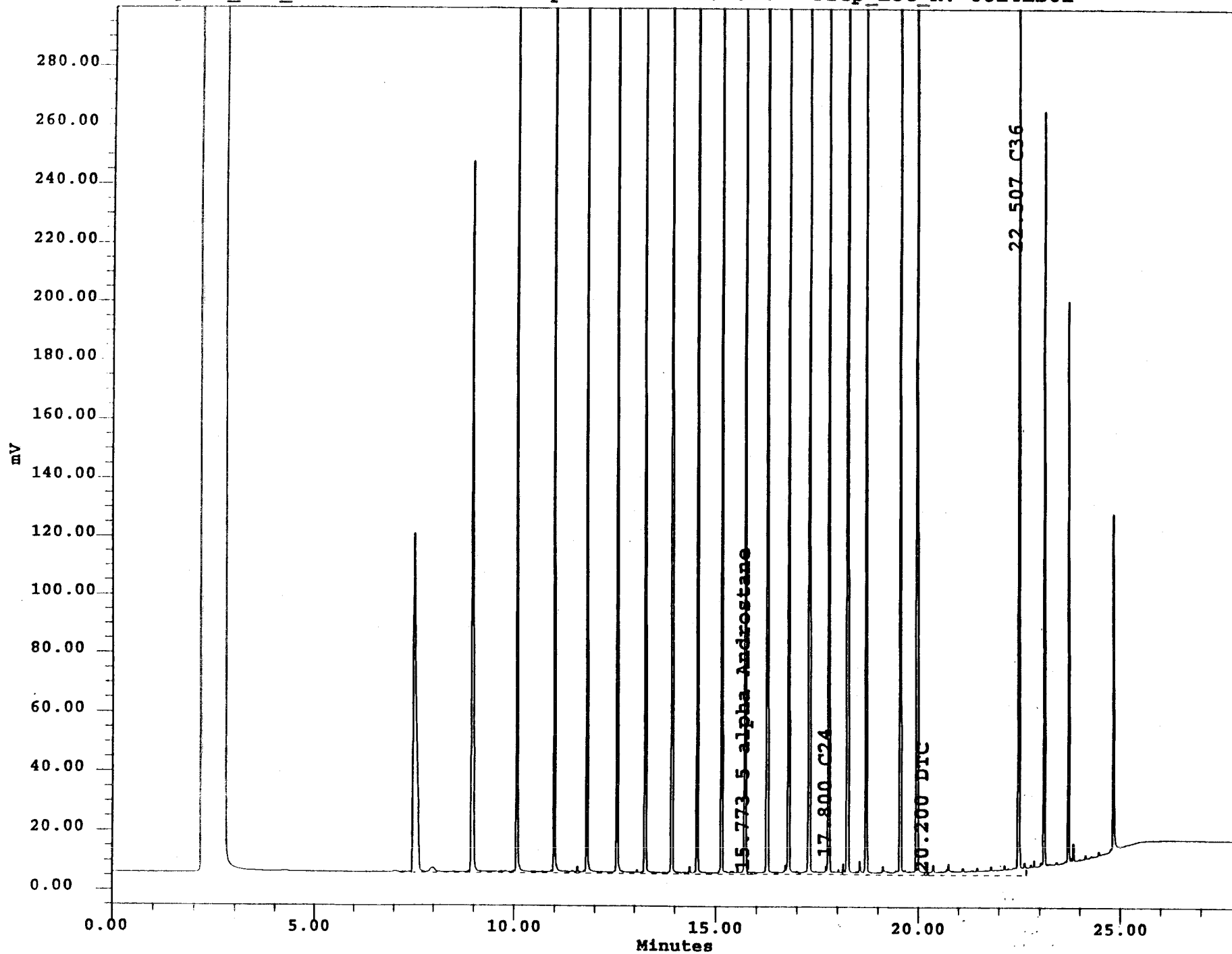
Channel View Table

SampleNameR	Vial	SampleType	Date Acquired	Channel	Analysis_Lot_R
CALA 3350617 10	9	Standard	01/22/97 17:24:10	SATIN-2	SCR01220122
CALA 3350617 24	10	Standard	01/22/97 18:03:11	SATIN-2	SCR01220122
CALA 3350617 50	11	Standard	01/22/97 18:42:06	SATIN-2	SCR01220122
CALA 3350617 100	12	Standard	01/22/97 19:20:59	SATIN-2	SCR01220122
CALA 3350617 200	13	Standard	01/22/97 19:59:42	SATIN-2	SCR01220122
CALD 3350617 10.9	15	Standard	01/22/97 21:17:24	SATIN-2	SCR01220122
CALD 3350617 21.8	16	Standard	01/22/97 21:56:12	SATIN-2	SCR01220122
CALD 3350617 54.6	17	Standard	01/22/97 22:34:55	SATIN-2	SCR01220122
CALD 3350617 98.3	18	Standard	01/22/97 23:13:36	SATIN-2	SCR01220122
CALD 3350617 207	19	Standard	01/22/97 23:52:16	SATIN-2	SCR01220122
CALB 0221137 100	21	Standard	01/23/97 01:09:43	SATIN-2	SCR01220122
CALB 0221137 250	22	Standard	01/23/97 01:48:13	SATIN-2	SCR01220122
CALB 0221137 2500	23	Standard	01/23/97 02:27:04	SATIN-2	SCR01220122
CALB 0221137 12500	24	Standard	01/23/97 03:05:38	SATIN-2	SCR01220122
CALB 0221137 25000	25	Standard	01/23/97 03:44:34	SATIN-2	SCR01220122
CALR 3350617 715	27	Standard	01/23/97 05:02:01	SATIN-2	SCR01220122
CALR 3350617 894	28	Standard	01/23/97 05:40:44	SATIN-2	SCR01220122
CALR 3350617 2240	29	Standard	01/23/97 06:19:24	SATIN-2	SCR01220122
CALR 0221137 10000	30	Standard	01/23/97 06:58:25	SATIN-2	SCR01220122
CALR 0221137 20000	31	Standard	01/23/97 07:37:30	SATIN-2	SCR01220122

Analysis_Lot_R: SCR01220814

SampleName: C10-C44

Prep_Lot_R: 0814EB01



Channel Descr. Rear_FID

SampleNameR C10-C44

Dilution_R 1.00000

Acq Meth Set SC_AK102_AK103

Analysis_Lot_R SCR01220814

SampleWeightR 1.00000

Date Acquired 08/14/97 03:40:40 PM

Prep_Lot_R 0814EB01

Initials WAA

Processing Method SCR_AK102_AK103S_0122

Surr_3_R 0.0000

Surr_4_R 0.0000

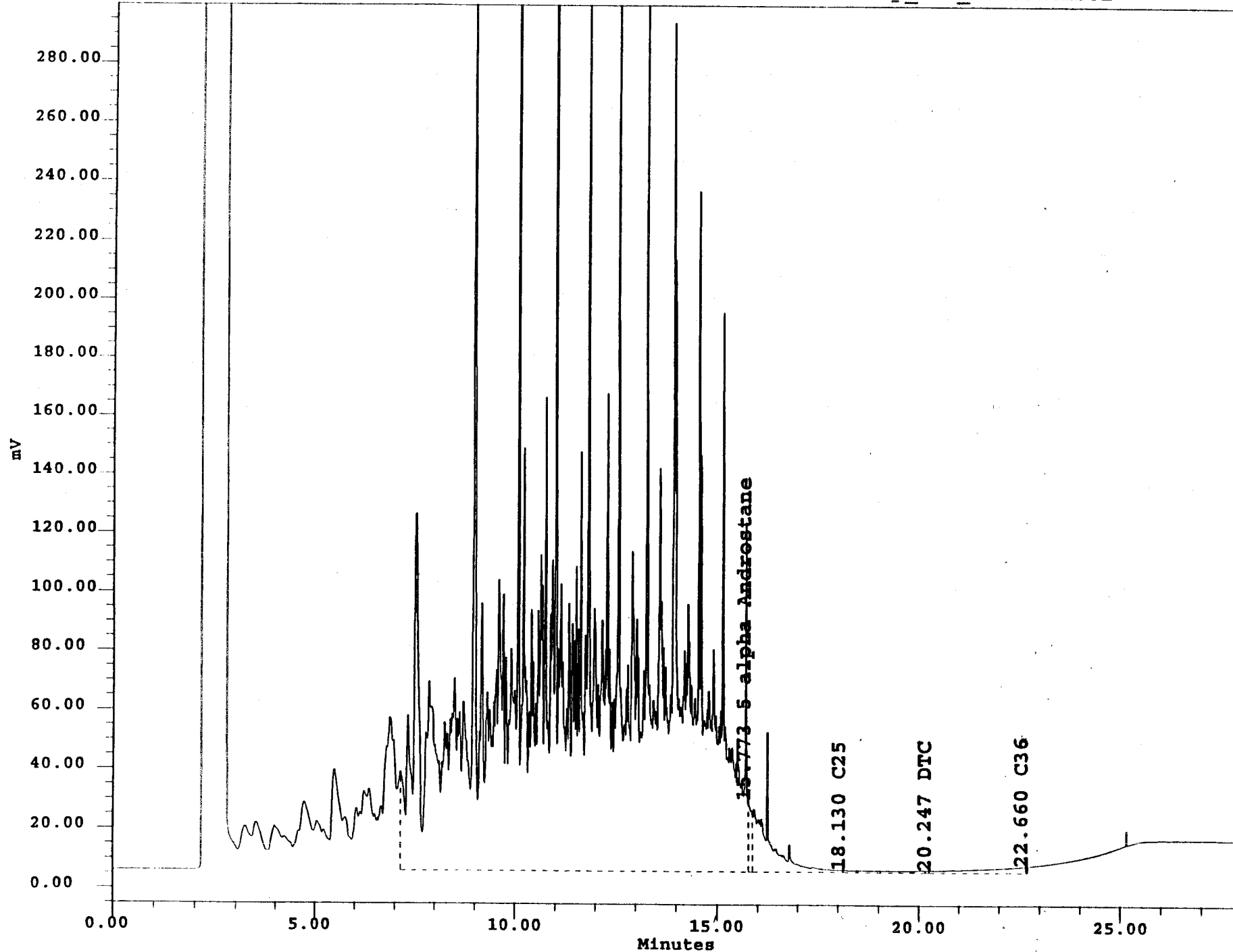
DRO and RRO Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	TRUE_RRO_R	True_Diesel_R
1	SURROGATE AK102		4142	1.644	1964.7428	4126.3714
2	SURROGATE AK103		4070	2.073	1964.7428	4126.3714
3	Diesel	12.573	10403331	4128.015	1964.7428	4126.3714
4	5 alpha Androst	15.773	4142	1.387	1964.7428	4126.3714
5	C24	17.800	2920682		1964.7428	4126.3714
6	RRO	18.720	3861840	1966.815	1964.7428	4126.3714
7	DTC	20.200	4070	1.621	1964.7428	4126.3714
8	C36	22.507	928812		1964.7428	4126.3714

Analysis_Lot_R: SCR01220814

SampleName: CCVB 12500

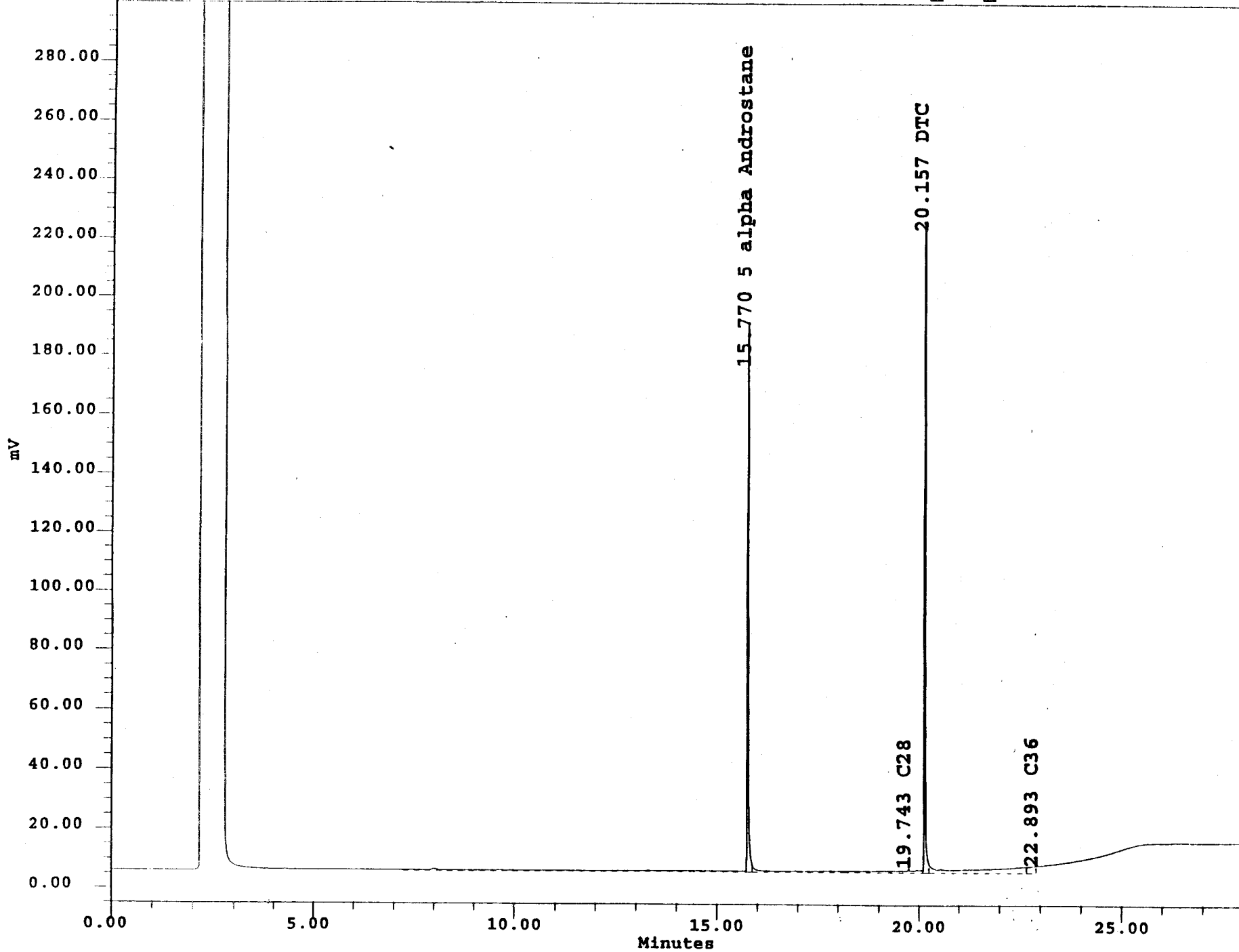
Prep_Lot_R: 0814EB01



Analysis Lot_R: SCR01220814

SampleName: SFIB 100/100

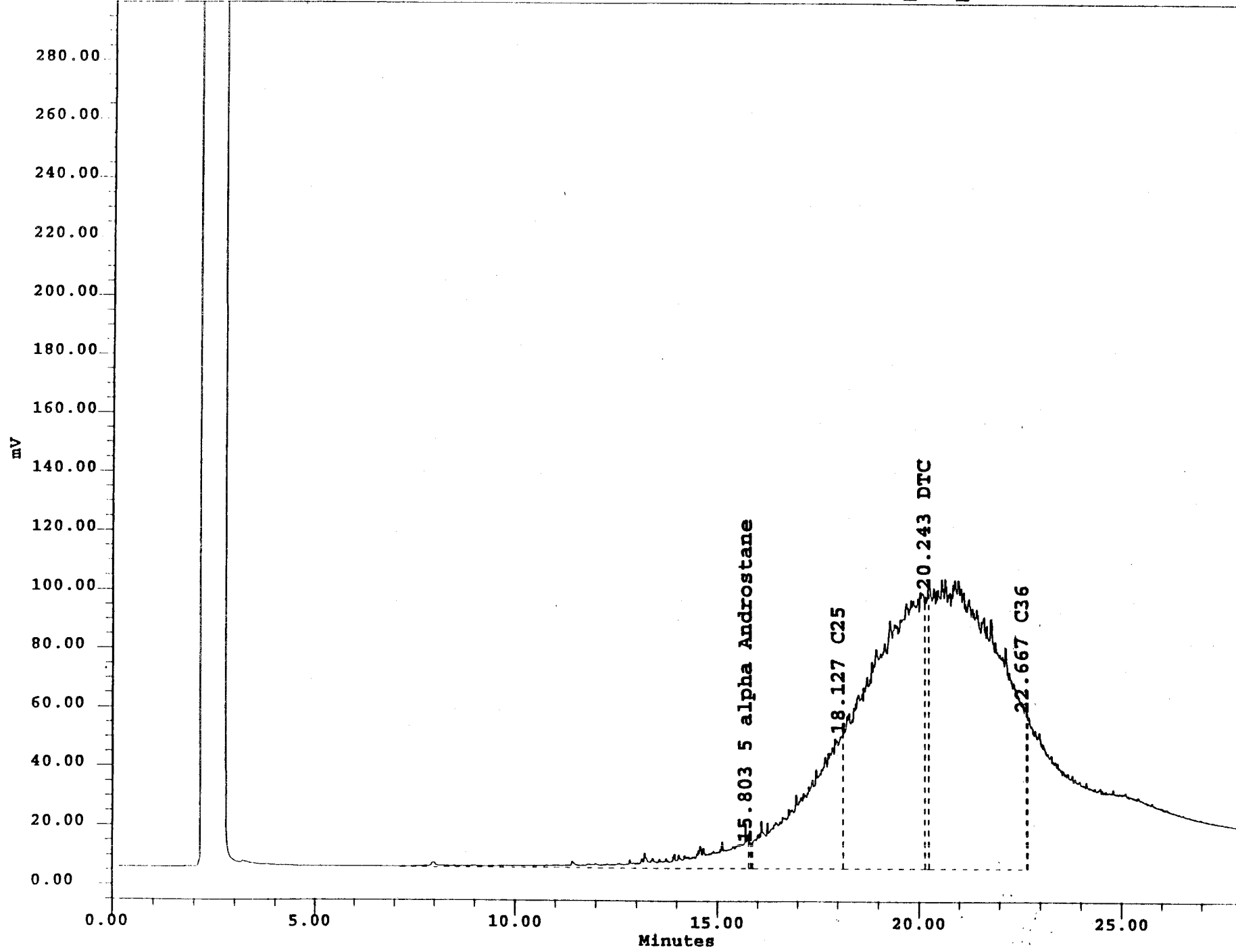
Prep_Lot_R: 0814EB01



Channel Descr. Rear_FID	SampleNameR SFIB 100/100	Dilution_R 1.00000
Acq Meth Set SC_AK102_AK103	Analysis_Lot_R SCR01220814	SampleWeightR 1.00000
Date Acquired 08/14/97 04:55:37 PM	Prep_Lot_R 0814EB01	Initials WAA
Processing Method SCR_AK102_AK103S_0122	Surr_3_R 100.0000	
	Surr_4_R 100.0000	

DRO and RRO Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Surr_Rec_3 (%)	Surr_Rec_4 (%)	TRUE_RRO_R	True_Diesel_R
1	SURROGATE AK102		330038	130.958			131.2156	68.2105
2	SURROGATE AK103		450174	229.271			131.2156	68.2105
3	Diesel	7.977	501940	199.169			131.2156	68.2105
4	5 alpha Androst	15.770	330038	110.497	110.497		131.2156	68.2105
5	C28	19.743	62968				131.2156	68.2105
6	RRO	19.743	707816	360.487			131.2156	68.2105
7	DTC	20.157	450174	179.262		179.262	131.2156	68.2105
8	C36	22.893	30102				131.2156	68.2105



Channel Descr. Rear_FID

SampleNameR CCVR 10000

Dilution_R 1.00000

Acq Meth Set SC_AK102_AK103

Analysis_Lot_R SCR01220814

SampleWeightR 1.00000

Date Acquired 08/14/97 05:33:11 PM

Prep_Lot_R 0814EB01

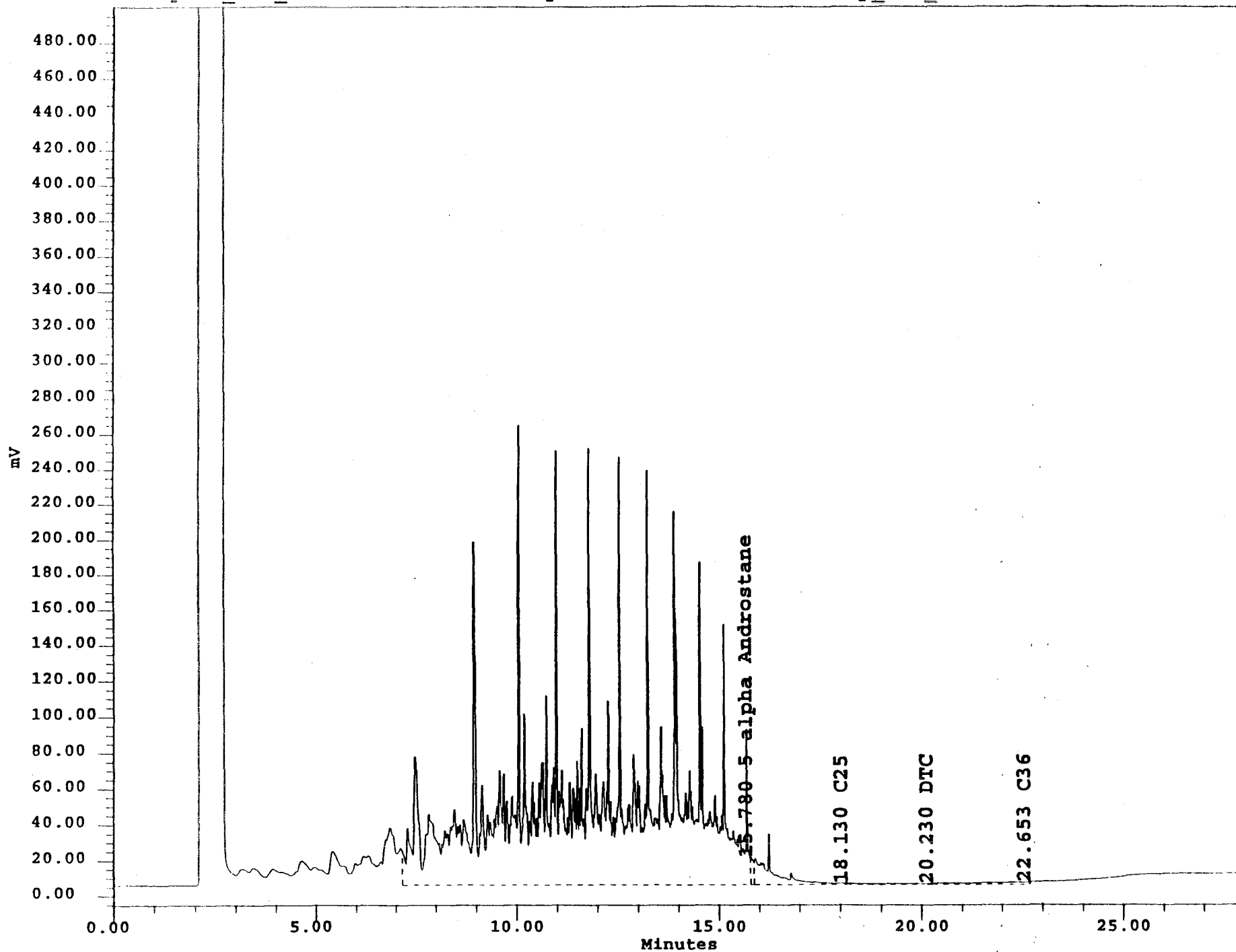
Initials WAA

Processing Method SCR_AK102_AK103S_0122_Surr_3_R 0.0000

Surr_4_R 0.0000

DRO and RRO Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	TRUE_RRO_R	True_Diesel_R
1	SURROGATE AK103		533552	271.735	10472.2177	1668.8775
2	SURROGATE AK102		25820	10.245	10472.2177	1668.8775
3	Diesel	15.697	4231688	1679.123	10472.2177	1668.8775
4	5 alpha Androst	15.803	25820	8.645	10472.2177	1668.8775
5	C25	18.127	3218218		10472.2177	1668.8775
6	RRO	20.040	21095741	10743.953	10472.2177	1668.8775
7	DTC	20.243	533552	212.464	10472.2177	1668.8775
8	C36	22.667	83552		10472.2177	1668.8775



Channel Descr. Rear_FID

SampleNameR LSB 8000

Dilution_R 1.000000

Acq Meth Set SC_AK102_AK103

Analysis_Lot_R SCR01220814

SampleWeightR 1.00000

Date Acquired 08/15/97 02:17:52 AM

Prep_Lot_R 0814EB01

Initials WAA

Processing Method SCR_AK102_AK103S_0122_R7 Surr_3_R 0.0

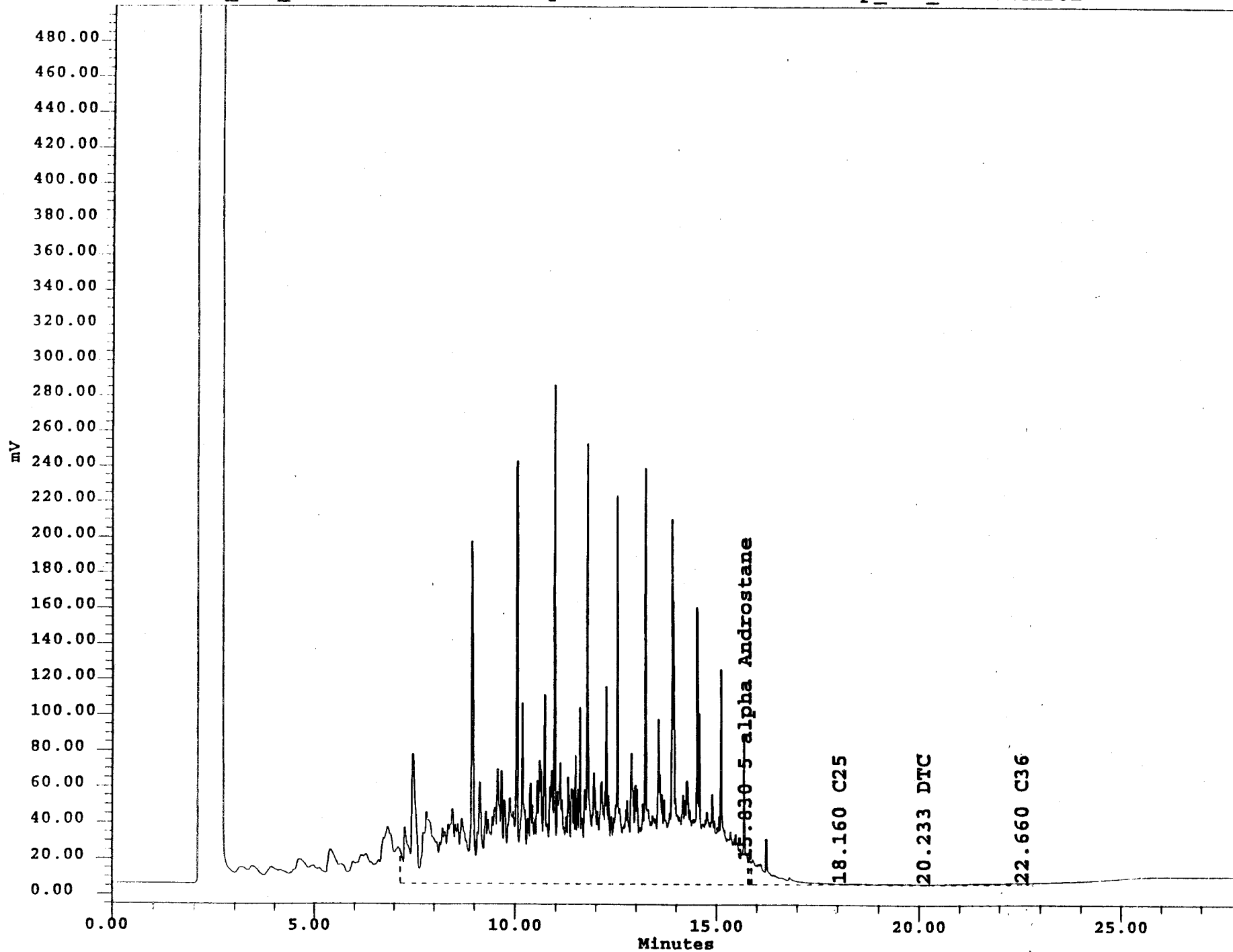
DRO Rear

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	True_Diesel_R
1	SURROGATE AK102		70556	27.996	8799.5588
2	SURROGATE AK103		3320	1.691	8799.5588
3	Diesel	10.990	22247008	8827.555	8799.5588
4	5 alpha Androst	15.780	70556	23.622	8799.5588
5	C25	18.130	57097		8799.5588
6	RRO	18.130	185618	94.534	8799.5588
7	DTC	20.230	3320	1.322	8799.5588
8	C36	22.653	125202		8799.5588

Analysis_Lot_R: SCR01220814

SampleNamek: LSB 8000

Prep_Lot_R: 0814EB01



Channel Descr. Rear_FID

SampleNameR LSB 8000

Dilution_R 1.000000

Acq Meth Set SC_AK102_AK103

Analysis_Lot_R SCR01220814

SampleWeightR 1.00000

Date Acquired 08/15/97 09:29:20 AM

Prep_Lot_R 0814EB01

Initials WAA

Processing Method SCR_AK102_AK103S_0122_R7 Surr_3_R 1.0

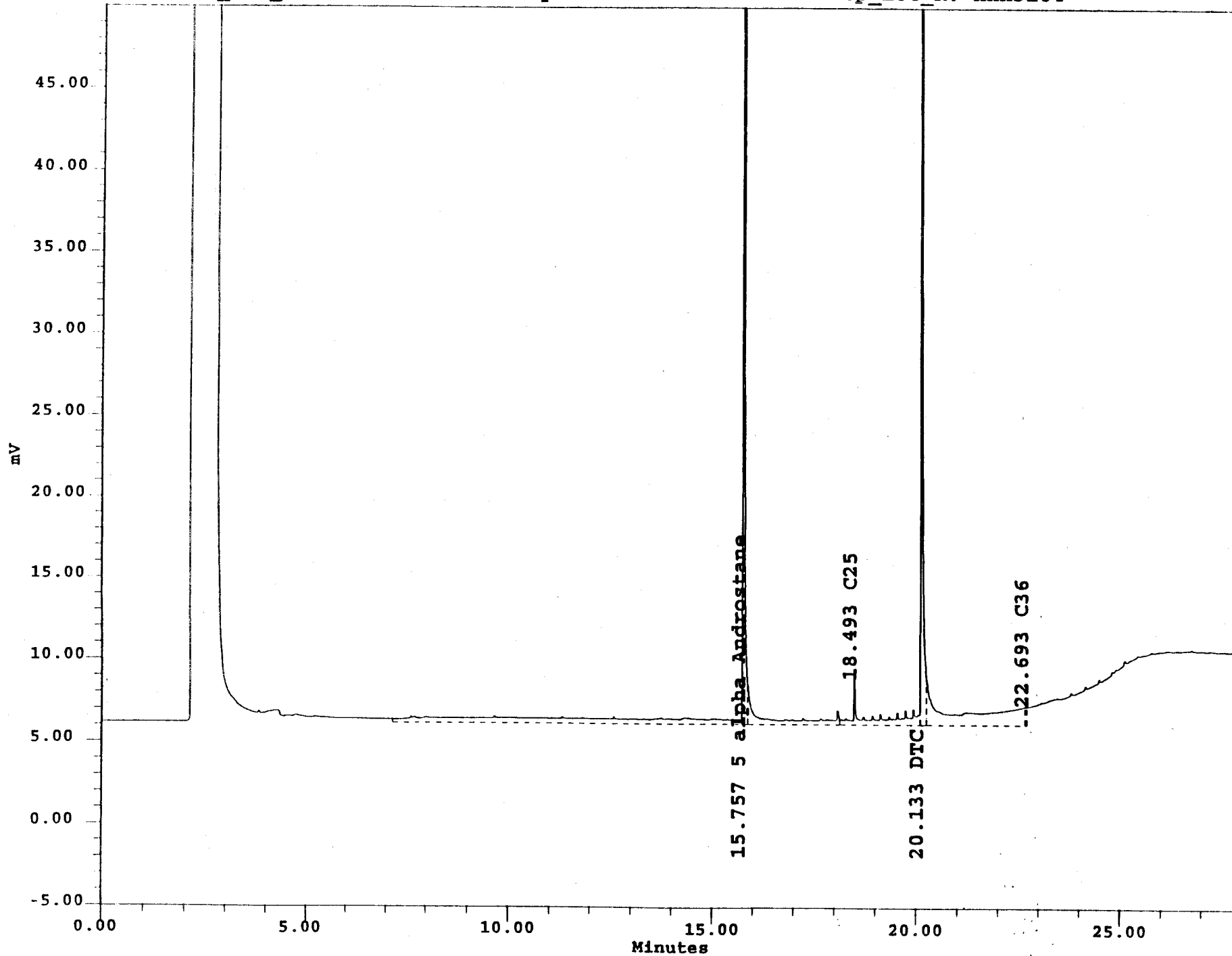
DRO Rear

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Surr_Rec_3 (%)	True_Diesel_R
1	SURROGATE AK102		39128	15.526		8639.0235
2	SURROGATE AK103		2560	1.304		8639.0235
3	Diesel	10.987	21811003	8654.549		8639.0235
4	5 alpha Androst	15.830	39128	13.100	1310.0	8639.0235
5	C25	18.160	49544			8639.0235
6	RRO	18.160	145673	74.191		8639.0235
7	DTC	20.233	2560	1.019		8639.0235
8	C36	22.660	93570			8639.0235

Analysis_Lot_R: SCR01220814

SampleNamek. BLK 3120

Prep_Lot_R: XXX3104



Channel Descr. Rear_FID

Acq Meth Set SC_AK102_AK103

Date Acquired 08/15/97 11:24:41 AM

Processing Method SCR_AK102_AK103S_0122

SampleNameR BLK 3120

Analysis_Lot_R SCR01220814

Prep_Lot_R XXX3104

Surr_3_R 100.0000

Surr_4_R 100.0000

Dilution_R 1.00000

SampleWeightR 1.00000

Initials WAA

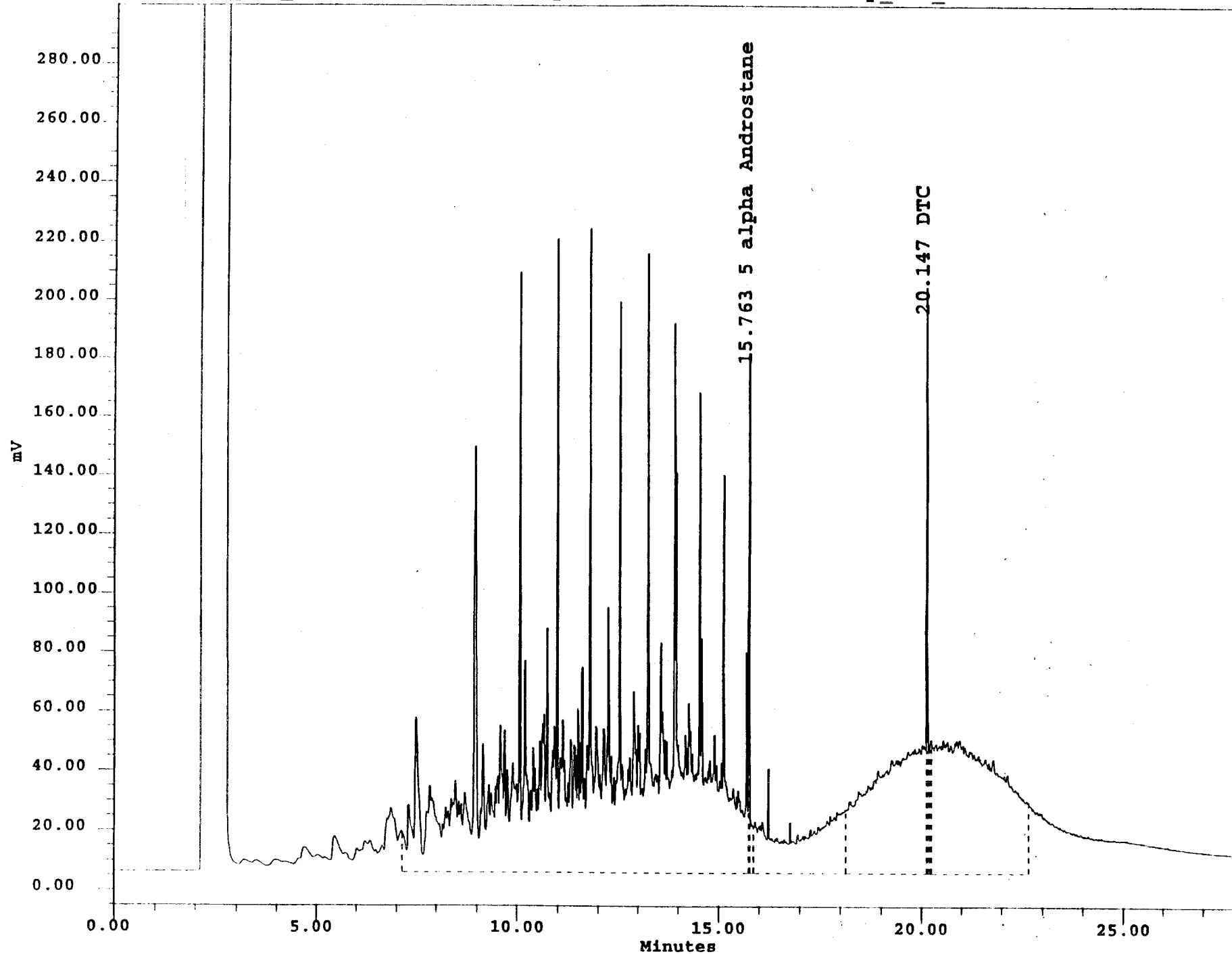
DRO and RRO Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Surr_Rec_3 (%)	Surr_Rec_4 (%)	TRUE_RRO_R	True_Diesel_R
1	SURROGATE AK102		251625	99.844			86.8609	74.9799
2	SURROGATE AK103		232023	118.168			86.8609	74.9799
3	Diesel	15.720	440588	174.824			86.8609	74.9799
4	5 alpha Androst	15.757	251625	84.244	84.244		86.8609	74.9799
5	C25	18.493	47939				86.8609	74.9799
6	RRO	18.493	402574	205.029			86.8609	74.9799
7	DTC	20.133	232023	92.393		92.393	86.8609	74.9799
8	C36	22.693	3328				86.8609	74.9799

Analysis_Lot_R: SCR01220814

SampleName: LCS 3120

Prep_Lot_R: XXX3104



Channel Descr. Rear_FID
 Acq Meth Set SC_AK102_AK103
 Date Acquired 08/15/97 12:02:30 PM
 Processing Method SCR_AK102_AK103S_0122

SampleNameR LCS 3120
 Analysis_Lot_R SCR01220814
 Prep_Lot_R XXX3104
 Surr_3_R 100.0000
 Surr_4_R 100.0000

Dilution_R 1.00000
 SampleWeightR 1.00000
 Initials WAA

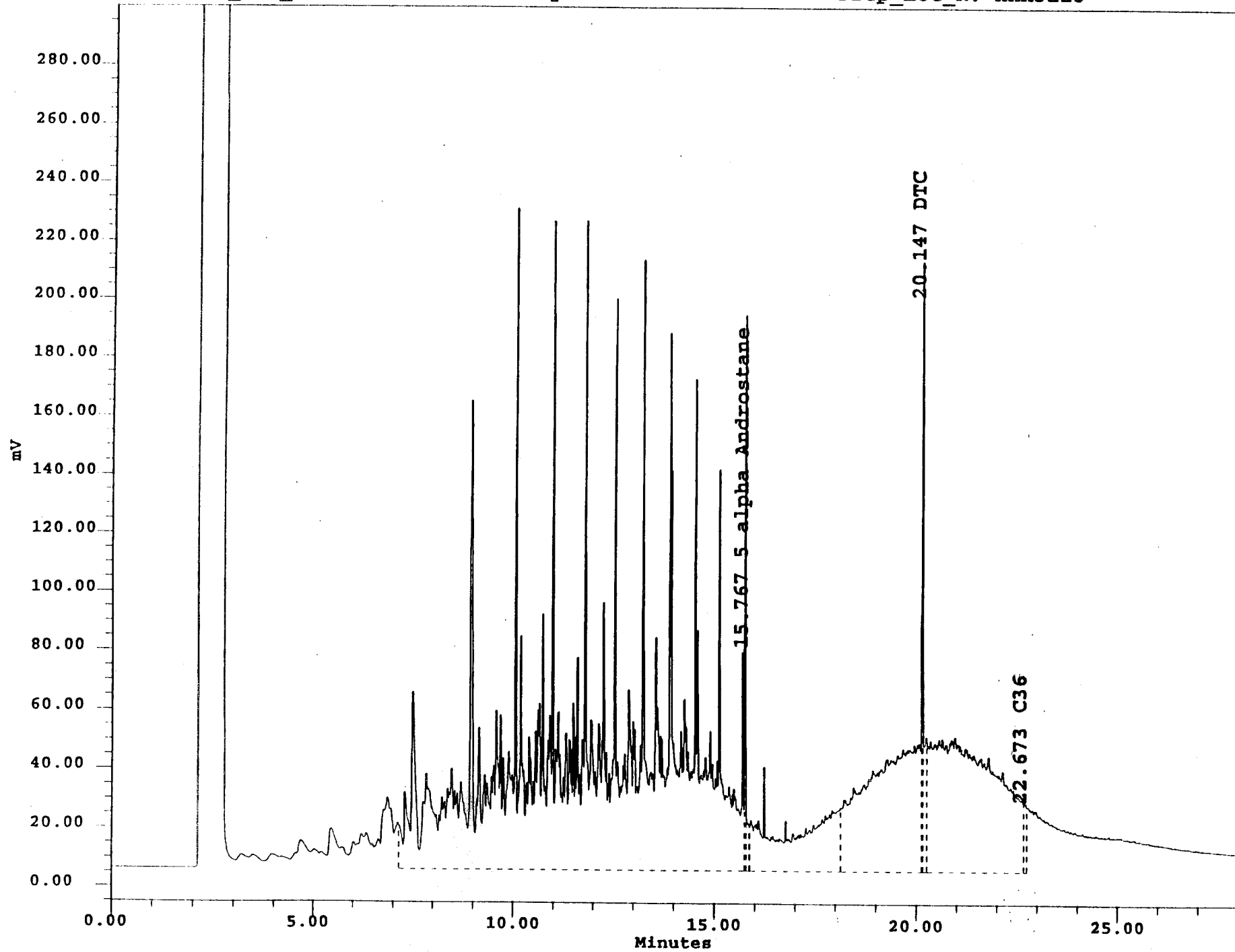
DRO and RRO Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Surr_Rec_3 (%)	Surr_Rec_4 (%)	TRUE_RRO_R	True_Diesel_R
1	SURROGATE AK102		292367	116.010			4822.0009	7693.6312
2	SURROGATE AK103		327490	166.789			4822.0009	7693.6312
3	Diesel	10.990	19681685	7809.642			4822.0009	7693.6312
4	5 alpha Androst	15.763	292367	97.884	97.884		4822.0009	7693.6312
5	RRO	20.123	9795484	4988.790			4822.0009	7693.6312
6	DTC	20.147	327490	130.409		130.409	4822.0009	7693.6312

Analysis_Lot_R: SCR01220814

SampleName... LCSD 3120

Prep_Lot_R: XXX3115



Channel Descr. Rear_FID
Acq Meth Set SC_AK102_AK103

Date Acquired 08/15/97 12:39:51 PM
Processing Method SCR_AK102_AK103S_0122

SampleNameR LCSD 3120
Analysis_Lot_R SCR01220814
Prep_Lot_R XXX3115
Surr_3_R 100.0000
Surr_4_R 100.0000

Dilution_R 1.00000
SampleWeightR 1.00000
Initials WAA

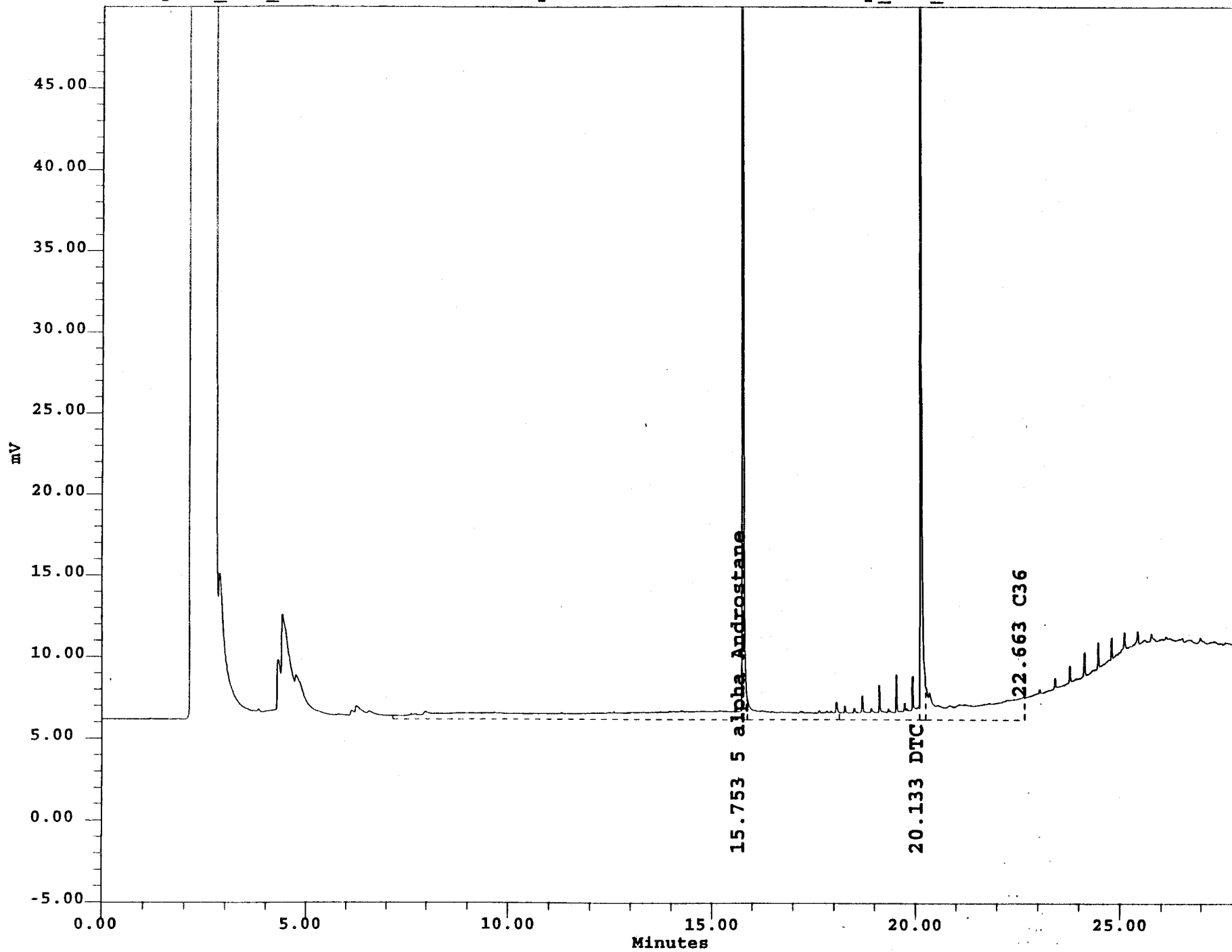
DRO and RRO Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Surr_Rec_3 (%)	Surr_Rec_4 (%)	TRUE_RRO_R	True_Diesel_R
1	SURROGATE AK102		320619	127.221			4882.9679	8020.9595
2	SURROGATE AK103		297627	151.580			4882.9679	8020.9595
3	Diesel	10.990	20534863	8148.180			4882.9679	8020.9595
4	5 alpha Androst	15.767	320619	107.343	107.343		4882.9679	8020.9595
5	RRO	20.127	9885330	5034.548			4882.9679	8020.9595
6	DTC	20.147	297627	118.517		118.517	4882.9679	8020.9595
7	C36	22.673	91741				4882.9679	8020.9595

analysis_Lot_R: SCR01220814

SampleNameR: J74607001

Prep_Lot_R: XXX3115



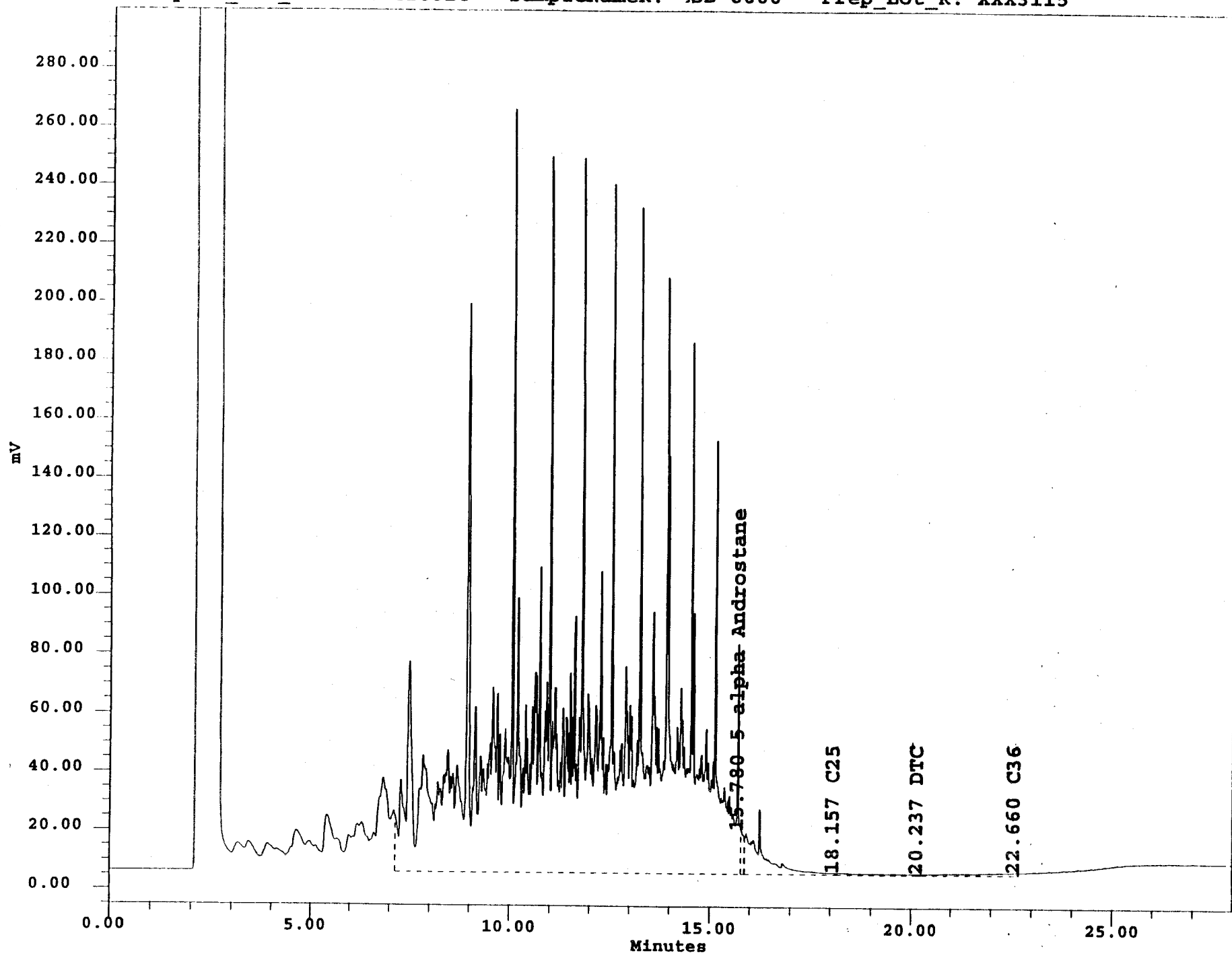
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Acq Meth Set SC_AK102_AK103
Date Acquired 08/15/97 01:17:12 PM
Processing Method SCR_AK102_AK103S_0122

SampleNameR 974607001
Analysis_Lot_R SCR01220814
Prep_Lot_R XXX3115
Surr_3_R 100.0000
Surr_4_R 100.0000

Dilution_R 1.00000
SampleWeightR 1.00000
Initials WAA

DRO and RRO Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Surr_Rec_3 (%)	Surr_Rec_4 (%)	TRUE_RRO_R	True_Diesel_R
1	SURROGATE AK102		209498	83.128			109.7203	103.1786
2	SURROGATE AK103		213045	108.503			109.7203	103.1786
3	Diesel	15.723	469527	186.307			109.7203	103.1786
4	5 alpha Androst	15.753	209498	70.140	70.140		109.7203	103.1786
5	RRO	19.933	428481	218.223			109.7203	103.1786
6	DTC	20.133	213045	84.836		84.836	109.7203	103.1786
7	C36	22.663	1372				109.7203	103.1786



Channel Descr. Rear_FID

SampleNameR LSB 8000

Dilution_R 1.00000

Acq Meth Set SC_AK102_AK103

Analysis_Lot_R SCR01220814

SampleWeightR 1.00000

Date Acquired 08/15/97 02:07:19 PM

Prep_Lot_R XXX3115

Initials WAA

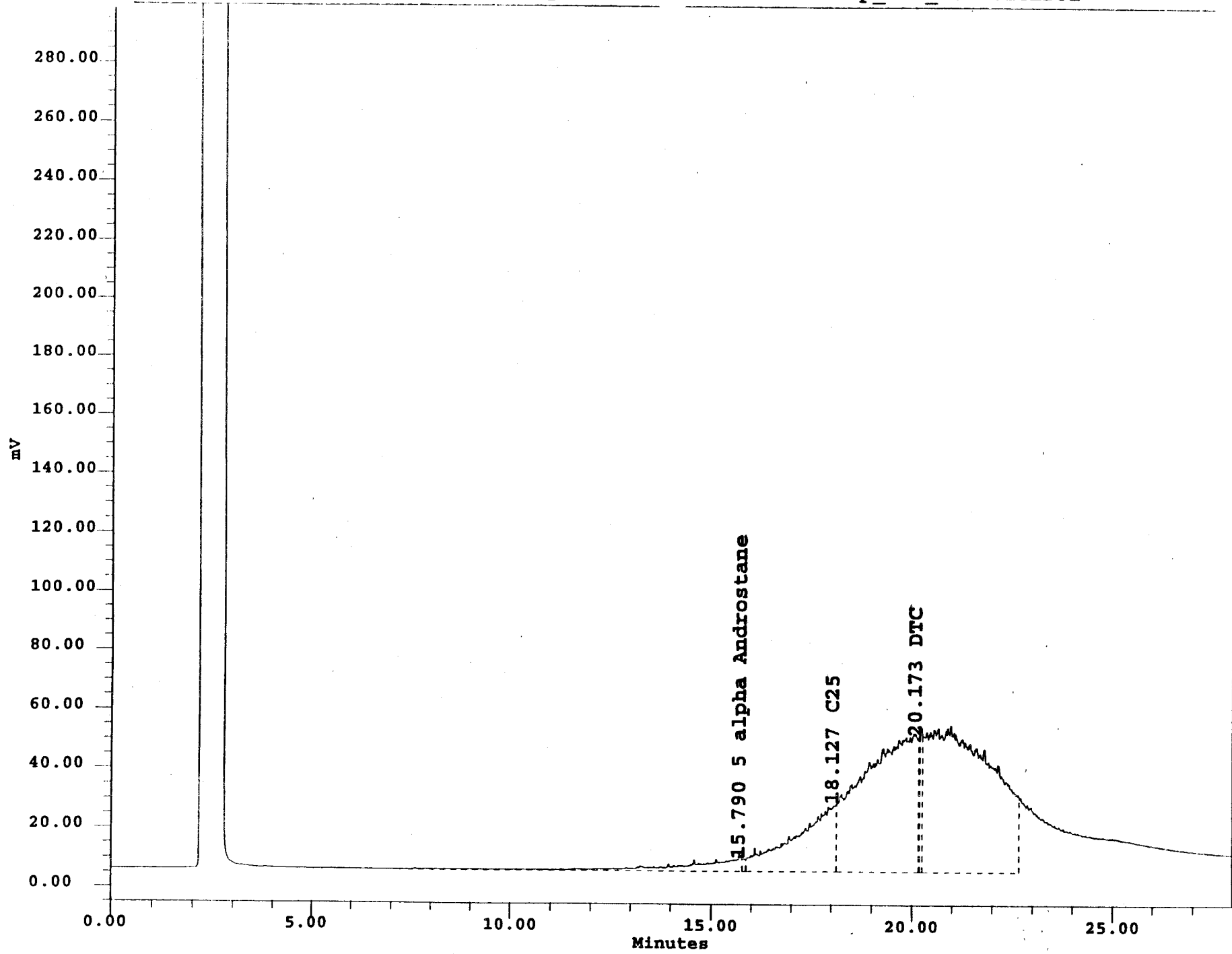
Processing Method SCR_AK102_AK103S_0122

Surr_3_R 0.0000

Surr_4_R 0.0000

DRO and RRO Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	TRUE_RRO_R	True_Diesel_R
1	SURROGATE AK103		1970	1.003	64.3820	8642.2420
2	SURROGATE AK102		68886	27.334	64.3820	8642.2420
3	Diesel	10.990	21848872	8669.576	64.3820	8642.2420
4	5 alpha Androst	15.780	68886	23.063	64.3820	8642.2420
5	RRO	18.157	128383	65.385	64.3820	8642.2420
6	C25	18.157	43413		64.3820	8642.2420
7	DTC	20.237	1970	0.784	64.3820	8642.2420
8	C36	22.660	83001		64.3820	8642.2420



Semi-Volatiles Sample QC Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Workorder Number: 97.4607(-1)

Analysis Lot Number: SIR07230814
XGC 2868

Analysis: **Polychlorinated Biphenyls**
 Method: **EPA 8081**
 Matrix: **Liquid**

Extraction Lot Number: XXX 3110

Analysis:

Assurance Notes:

Acceptance Criteria:

Yes No N/A

A. Holding Time:

All criteria met.

14 days from sample collection for
TCLP extraction.

All criteria met.

7 days from sample collection (or
TCLP extraction) for prep extraction.
40 days from extraction for analysis.

All criteria met.

B. Surrogates:

All criteria met.

10% - 87% Recovery for Tetra or
59% - 122% Recovery for Deca.

C. Notes:

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

Analyst's Signature: Lizhen Zhang

Reviewer's Signature: [Signature]

Printed Name & Date Lizhen Zhang 8/15/97

Printed Name & Date: Kevin Maher 8/15

Semi-Volatiles Quality Control Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Analysis Date: 8/14/97

Analysis Lot Number: SIR07230814
 Extraction Lot Number: XXX3110

Analysis: **Polychlorinated Biphenyls**
 Method: **EPA 8081**
 Matrix: **Liquid**

Analysis: Assurance Notes: Acceptance Criteria:

		Yes No*		
A. Calibration:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	R ² > 0.99
B. Method Blank:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	< 0.10ppm in solution.
C. Continuing Calibration Verification Std:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	< 15% Difference
D. Laboratory Control Sample:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	50% - 139% Recovery for Aroclor 1242 44% - 116% Recovery for Aroclor 1254 39% - 110% Recovery for Aroclor 1260
E. Laboratory Control Sample Duplicate:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	50% - 139% Recovery for Aroclor 1242
	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	±25% Relative Percent Difference
F. QC Surrogates:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	70% - 130% Recovery for one of two surrogates.
G. Notes:	_____			

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

***Out-of-control conditions
 require a supervisor's signature.**

Analyst's Signature: Lizhen Zhang

Supervisor's Signature: _____

Printed Name & Date: Lizhen zhang 8/15/97

Date: _____

Project Name: Gambell Transformers		Analysis: Organochlorine Pesticides & PCBs as Aroclors by				
Project No: NA		Method: SW8081				
		Prep Meth: SW3510				
Field ID: 97GAM010NVW		Lab Samp ID: 974607001				
Descr/Location:		Rec'd Date: 08/13/97				
Sample Date: 08/13/97		Prep Date: 08/13/97				
Sample Time: 0830		Analysis Date: 08/14/97				
Matrix: Surface Water		QC Batch: 3110XXX				
Basis: Not Filtered		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
PCB-1016 (Aroclor 1016)	0.001	0.0010 PQL		ND	MG/L	1.01
PCB-1221 (Aroclor 1221)	0.001	0.0010 PQL		ND	MG/L	1.01
PCB-1232 (Aroclor 1232)	0.001	0.0010 PQL		ND	MG/L	1.01
PCB-1242 (Aroclor 1242)	0.001	0.0010 PQL		ND	MG/L	1.01
PCB-1248 (Aroclor 1248)	0.001	0.0010 PQL		ND	MG/L	1.01
PCB-1254 (Aroclor 1254)	0.001	0.0010 PQL		ND	MG/L	1.01
PCB-1260 (Aroclor 1260)	0.001	0.0010 PQL		ND	MG/L	1.01
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
Decachlorobiphenyl		59-122	SLSA	68.3%		1.01
2,4,5,6-Tetrachloro-meta-xylene		10-87	SLSA	87.6% !		1.01

Approved by: _____

Date: _____

QA/QC Report Method Blank Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 2

QC Batch: 3110XXX Matrix: Surface Water Lab Samp ID: 113014 Analysis Date: 08/14/97 Basis: Not Filtered	Analysis: Organochlorine Pesticides & PCBs as Method: SW8081 Prep Meth: SW3510 Prep Date: 08/13/97 Notes:					
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
PCB-1016 (Aroclor 1016)	0.001	0.0010 PQL		ND	MG/L	1
PCB-1221 (Aroclor 1221)	0.001	0.0010 PQL		ND	MG/L	1
PCB-1232 (Aroclor 1232)	0.001	0.0010 PQL		ND	MG/L	1
PCB-1242 (Aroclor 1242)	0.001	0.0010 PQL		ND	MG/L	1
PCB-1248 (Aroclor 1248)	0.001	0.0010 PQL		ND	MG/L	1
PCB-1254 (Aroclor 1254)	0.001	0.0010 PQL		ND	MG/L	1
PCB-1260 (Aroclor 1260)	0.001	0.0010 PQL		ND	MG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
Decachlorobiphenyl		59-122 SLSA		65.7%		1
2,4,5,6-Tetrachloro-meta-xylene		10-87 SLSA		79.7%		1

QA/QC Report
Blank Spike/Duplicate Blank Spike Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 2

QC Batch: 3110XXX Matrix: Surface Water Lab Samp ID: 113015												
Analyte	Analysis Method	Spike Level		Spike Result		Units	% Recoveries			Acceptance Criteria		
		LCS	LCD	LCS	LCD		LCS	LCD	RPD	%Rec	RPD	
PCB-1242 (Aroclor 1242)	SW8081	0.01	0.01	0.0101	0.0103	MG/L	101	103	2.0	139-50	MEA	25MEP
2,4,5,6-Tetrachloro-meta-xylene	SW8081	100.	100.	87.7	88.4	PERCENT	87.7!	88.4!	0.80	87-10	SLSA	30SLSP
Decachlorobiphenyl	SW8081	100.	100.	81.	83.8	PERCENT	81.0	83.8	3.4	122-59	SLSA	20SLSP

QA/QC Report
Blank Spike/Duplicate Blank Spike Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 3

QC Batch: 3110XXX Matrix: Surface Water Lab Samp ID: 113017												
Analyte	Analysis Method	Spike Level		Spike Result		Units	% Recoveries			Acceptance Criteria		
		LCS	LCD	LCS	LCD		LCS	LCD	RPD	%Rec	RPD	
PCB-1254 (Aroclor 1254)	SW8081	0.01	NA	0.0094	NA	MG/L	94.0	NA	NA	116-44	MEA	NA
2,4,5,6-Tetrachloro-meta-xylene	SW8081	100.	NA	86.4	NA	PERCENT	86.4	NA	NA	87-10	SLSA	NA
Decachlorobiphenyl	SW8081	100.	NA	77.3	NA	PERCENT	77.3	NA	NA	122-59	SLSA	NA

QA/QC Report

Blank Spike/Duplicate Blank Spike Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 4

QC Batch: 3110XXX Matrix: Surface Water Lab Samp ID: 113018												
Analyte	Analysis Method	Spike Level		Spike Result		Units	% Recoveries			Acceptance Criteria		
		LCS	LCD	LCS	LCD		LCS	LCD	RPD	%Rec	RPD	
PCB-1260 (Aroclor 1260)	SW8081	0.01	NA	0.0072	NA	MG/L	72.0	NA	NA	110-39	MEA	NA
2,4,5,6-Tetrachloro-meta-xylene	SW8081	100.	NA	84.7	NA	PERCENT	84.7	NA	NA	87-10	SLSA	NA
Decachlorobiphenyl	SW8081	100.	NA	80.8	NA	PERCENT	80.8	NA	NA	122-59	SLSA	NA

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 17

QC Batch: 3110XXX Matrix: Surface Water Lab Samp ID: 113620						
Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
PCB-1260 (Aroclor 1260)	SW8081	1.	0.93	MG/L	93.0	115-85 MECC
2,4,5,6-Tetrachloro-meta-xylene	SW8081	100.	98.4	PERCE	98.4	130-70 SMEA
Decachlorobiphenyl	SW8081	100.	85.	PERCE	85.0	130-70 SMEA

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 18

QC Batch: 3110XXX
Matrix: Surface Water
Lab Samp ID: 113621

Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
PCB-1242 (Aroclor 1242)	SW8081	1.	1.09	MG/L	109	115-85 MECC

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 19

QC Batch: 3110XXX Matrix: Surface Water Lab Samp ID: 113622						
Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
PCB-1254 (Aroclor 1254)	SW8081	1.	1.07	MG/L	107	115-85 MECC

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 20

QC Batch: 3110XXX Matrix: Surface Water Lab Samp ID: 113623						
Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
PCB-1260 (Aroclor 1260)	SW8081	1.	0.943	MG/L	94.3	115-85 MECC
2,4,5,6-Tetrachloro-meta-xylene	SW8081	100.	99.8	PERCE	99.8	130-70 SMEA
Decachlorobiphenyl	SW8081	100.	85.2	PERCE	85.2	130-70 SMEA

QA/QC Report
Continuing Calibration Verification Standard Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974607 Date: 10/13/97

Page: 21

QC Batch: 3110XXX Matrix: Surface Water Lab Samp ID: 113624						
Analyte	Analysis Method	True Level	Result	Units	% Rec	Acceptance Criteria
PCB-1260 (Aroclor 1260)	SW8081	1.	1.12	MG/L	112	115-85 MECC
2,4,5,6-Tetrachloro-meta-xylene	SW8081	100.	102.	PERCE	102	130-70 SMEA
Decachlorobiphenyl	SW8081	100.	87.5	PERCE	87.5	130-70 SMEA

PROJECT	HSN	SAMPL	RUN DATE	RUN INSTR	DILU	ANALYTICAL	PREP BAT	SEQUENCE
	114210	IB	8/15/97 1:01:00 PM	SHF		12869XGC		1
	114211	CCV	8/15/97 1:40:00 PM	SHF		12869XGC		2
	114212	CCV1	8/15/97 2:19:00 PM	SHF		12869XGC		3
	114213	CCV2	8/15/97 2:58:00 PM	SHF		12869XGC		4
974626	974626002	PS	8/15/97 3:38:00 PM	SHF		12869XGC	3110XXX	5
974626	974626003	PS	8/15/97 4:17:00 PM	SHF		12869XGC	3110XXX	6
	114209	CCV	8/15/97 6:14:00 PM	SHF		12869XGC		7
	120041	CCV	8/18/97 10:24:00 AM	SHF		12893XGC		1
	120042	CCV1	8/18/97 11:04:00 AM	SHF		12893XGC		2
	120043	CCV2	8/18/97 11:43:00 AM	SHF		12893XGC		3
974013	974013007	PS	8/18/97 1:01:00 PM	SHF		12893XGC	3110XXX	4
974013	974013008	PS	8/18/97 1:40:00 PM	SHF		12893XGC	3110XXX	5
	120039	CCV	8/18/97 8:12:00 PM	SHF		12893XGC		6
	120040	CCV	8/19/97 10:56:00 AM	SHF		12893XGC		7
	113620	CCV	8/14/97 10:22:00 AM	SIR		12868XGC		1
	113621	CCV1	8/14/97 11:01:00 AM	SIR		12868XGC		2
	113622	CCV2	8/14/97 11:41:00 AM	SIR		12868XGC		3
974471	974471001	PS	8/14/97 1:39:00 PM	SIR		12868XGC	3110XXX	13
	113015	LCS	8/14/97 2:18:00 PM	SIR		12868XGC	3110XXX	4
	113016	LCS	8/14/97 2:57:00 PM	SIR		12868XGC	3110XXX	5
	113017	LCS1	8/14/97 3:37:00 PM	SIR		12868XGC	3110XXX	6
	113018	LCS2	8/14/97 4:16:00 PM	SIR		12868XGC	3110XXX	7
	113014	MB	8/14/97 4:56:00 PM	SIR		12868XGC	3110XXX	8
	113623	CCV	8/14/97 5:37:00 PM	SIR		12868XGC		9
974574	974574001	PS	8/14/97 7:36:00 PM	SIR		12868XGC	3124XXX	10
974607	974607001	PS	8/14/97 8:15:00 PM	SIR		12868XGC	3110XXX	11
974486	974486001	PS	8/14/97 8:55:16 PM	SIR		12868XGC	3123XXX	15
974437	974437015	PS	8/14/97 9:34:00 PM	SIR		12868XGC	3123XXX	16
974437	974437016	PS	8/14/97 10:13:00 PM	SIR		12868XGC	3123XXX	17
	113519	MB	8/15/97 12:12:00 AM	SIR		12868XGC	3123XXX	14
	113624	CCV	8/15/97 12:51:00 AM	SIR		12868XGC		12

RUNLOG

Start of Analysis Lot SIR07230814

#	Vial	SampleNameR	Analysis_Lt_R	Date Acquired	Prp_Lt_R	Dilut_R	Additional_Comments
1	2	IB	SIR07230814	08/14/97 09:41:11 AM	0814PH01	1.00000	
2	3	CCV SVW1-14-1 1	SIR07230814	08/14/97 10:22:16 AM	0814PH01	1.00000	
3	4	CCV1SVW1-25-1 1	SIR07230814	08/14/97 11:01:39 AM	0814PH01	1.00000	
4	5	CCV2 A23-2 1254	SIR07230814	08/14/97 11:41:06 AM	0814PH01	1.00000	
5	6	974013007	SIR07230814	08/14/97 12:20:29 PM	XXX3110	1.00000	
6	7	974013008	SIR07230814	08/14/97 12:59:50 PM	XXX3110	1.00000	
7	8	974471001	SIR07230814	08/14/97 01:39:09 PM	XXX3110	1.00000	
8	9	LCS XXX3110	SIR07230814	08/14/97 02:18:34 PM	XXX3110	1.00000	
9	10	LCSD XXX3110	SIR07230814	08/14/97 02:57:58 PM	XXX3110	1.00000	
10	11	LCS1 XXX3110	SIR07230814	08/14/97 03:37:22 PM	XXX3110	1.00000	
11	12	LCS2 XXX3110	SIR07230814	08/14/97 04:16:43 PM	XXX3110	1.00000	
12	13	MB XXX3110	SIR07230814	08/14/97 04:56:04 PM	XXX3110	1.00000	
13	14	CCV SVW1-14-1 1	SIR07230814	08/14/97 05:37:55 PM	0814PH01	1.00000	
14	15	974574001	SIR07230814	08/14/97 07:36:28 PM	0813PO01	1.00000	
15	16	974607001	SIR07230814	08/14/97 08:15:51 PM	XXX3123	1.00000	
16	17	974486001	SIR07230814	08/14/97 08:55:16 PM	XXX3123	1.00000	
17	18	974437015	SIR07230814	08/14/97 09:34:34 PM	XXX3123	1.00000	
18	19	974437016	SIR07230814	08/14/97 10:13:57 PM	XXX3123	1.00000	
19	20	974437018	SIR07230814	08/14/97 10:53:18 PM	XXX3123	1.00000	Not used, MS (pest)
20	21	974437019	SIR07230814	08/14/97 11:32:45 PM	XXX3123	1.00000	Not Used, MSD (pest)
21	22	MB XXX3123	SIR07230814	08/15/97 12:12:06 AM	0814XH01	1.00000	
22	23	CCV SVW1-14-1 1	SIR07230814	08/15/97 12:51:09 AM	0814XH01	1.00000	

End of Analysis Lot SIR07230814

447126

Extraction Bench Sheet

Horizon Batch # XXX - 3110/355

Extraction Method: 3510/PCB

Extraction Start Date/Time: 8/15/97 1030

Amount Extraction Finish Date/Time: 8/13/97

Surrogates: ID Added (ml) Conc. Extr. Technician:
 T/A SUW 1-5-2 1ml 10ug/ml

Martix Spikes: 1242 LCS SUW 1-8 1ml 10ug/ml Spike Witness: _____

1254 LCS A22-1 1ml 10ug/ml

1260 LCS A23-1 1ml 10ug/ml

Posted By / Date: [Signature]

Solvent Lot No. Used: CH₂CL₂ Lot: 37156 / Hexane Lot: AP101

TV Temperature: 48°C

Batch Released By: [Signature] 8/13

#	Workorder No.	Initial Wt/Vol. (gm/ml)	Final Volume (ml)	Shaker Speed 70 RPM	(pH, sonication level, sample and/or extract description) Comments
1	Method Blank	1000	10ml	3x50	
2	LCSA 1242	↓	↓	2min	
3	LCSB 1242	↓	↓	↓	
4	LCS 1254	↓	↓	↓	
5	LCS 1260	↓	↓	↓	
6	974471-1	910	↓	↓	pH 7
7	4013-7	1000	1ml	↓	pH 7
8	↓ -8	1000	↓	↓	pH 7
9	467-8	990	10ml	↓	pH 7 acid wash
10					
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23					
24					
25					

NOTES:

8304

Processing Method: SIR_1260_0723

Millennium v2.13

Date Printed: 10:27:33 PM, July 24, 1997

Method Name: SIR_1260_0723
 Date Created: 07/24/97 07:34:06 PM
 Method Type: GC

Calculated Custom Field Formulas

Response_Factor	Amount/Response
True_Surr3R	CConst1/Surr_3_R/CConst1
True_Surr1	CConst1/Surr_1/CConst1
True_Surr4R	CConst2/Surr_4_R/CConst2
True_Surr2	CConst2/Surr_2/CConst2
Surr_Rec_4R	Amount_R/Dilution_R*SampleWeightR*True_Surr4R*100
Surr_Rec_3R	Amount_R/SampleWeightR*Dilution/Dilution_R*SampleWeightR*True_Surr3R*100
Surr_Rec_1	Amount/Dilution*SampleWeight*True_Surr1*100
Surr_Rec_2	Amount/Dilution*SampleWeight*True_Surr2*100
Amount_R	Amount/Dilution*SampleWeight*Dilution_R/SampleWeightR
Sln_Conc	Amount/Dilution*SampleWeight

Calibration Parameters

Averaging None
 RT Window % 1.00
 Update RT Never
 CCalRef1

Peak Integration Parameters

Minimum Area 9699 uV*sec
 Minimum Height 2313 uV
 Threshold 50.000 uV/sec
 Peak Width 15.00 sec

Event Table

#	Start (min)	Event	Stop (min)
1	0.312	Inhibit Integration	4.562
2	9.438	Inhibit Integration	15.000
3	28.000	Inhibit Integration	

Component Table

#	Name	Retention Time (min)	RT Window (min)	Peak Match	Quant By	Fit Type
1	TETRA	7.130	0.916	Closest	Area	Linear thru Zero
2	1260 A	17.736	0.209	Closest	Area	Linear
3	1260 B	18.512	0.215	Closest	Area	Linear
4	1260 C	19.309	0.217	Closest	Area	Linear
5	1260 D	21.269	0.223	Closest	Area	Linear
6	1260 E	22.109	0.227	Closest	Area	Linear
7	DECA	25.762	0.810	Closest	Area	Linear thru Zero
8	1260 Group				Area	Linear

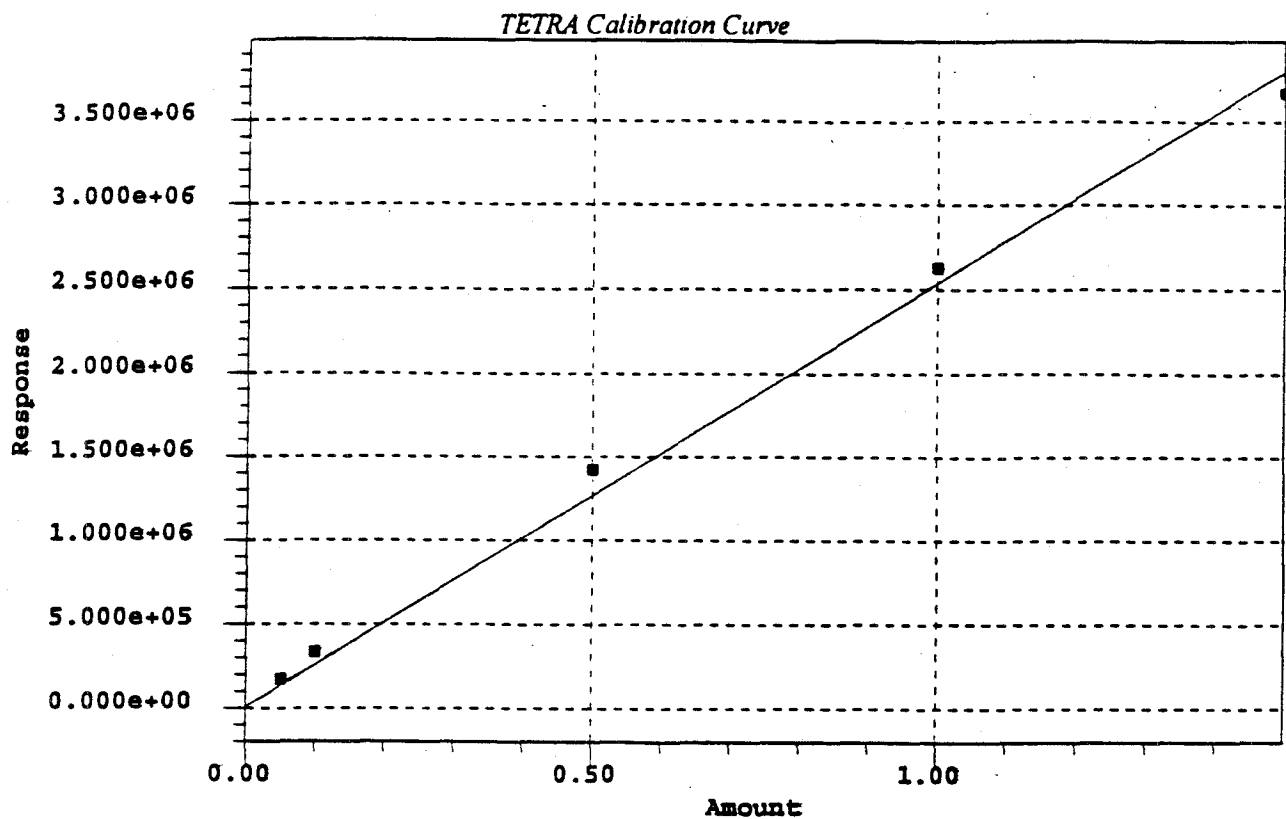
Component Table

#	Weighting	Must Peak	Default	Component Type	CConst1	CConst2
1	None	No	No	Single Peak	1.000000000	0.000000000
2	None	No	No	Single Peak	0.000000000	0.000000000
3	None	No	No	Single Peak	0.000000000	0.000000000
4	None	No	No	Single Peak	0.000000000	0.000000000
5	None	No	No	Single Peak	0.000000000	0.000000000
6	None	No	No	Single Peak	0.000000000	0.000000000
7	None	No	No	Single Peak	0.000000000	1.000000000
8	None	No	No	Named Group	0.000000000	0.000000000

Table 'Timed Group Table' contains no data.

Named Group Information

Group Name	1260 Group
Set Retention Time	None
Peak #1:	1260 A
Peak #2:	1260 B
Peak #3:	1260 C
Peak #4:	1260 D
Peak #5:	1260 E



TETRA Calibration Information

Processing Method	SIR_1260_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	TETRA
Retention Time	7.130 min	Order	1
A	0.000000	B	2531041.724189
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.996786	R ²	0.993583
Standard Error	120289.609872		

TETRA Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.050000	171736.127907	0.067852	35.704	No
2	0.100000	332260.425000	0.131274	31.274	No
3	0.500000	1424686.714286	0.562886	12.577	No
4	1.000000	2626157.361538	1.037580	3.758	No
5	1.500000	3673313.659091	1.451305	-3.246	No

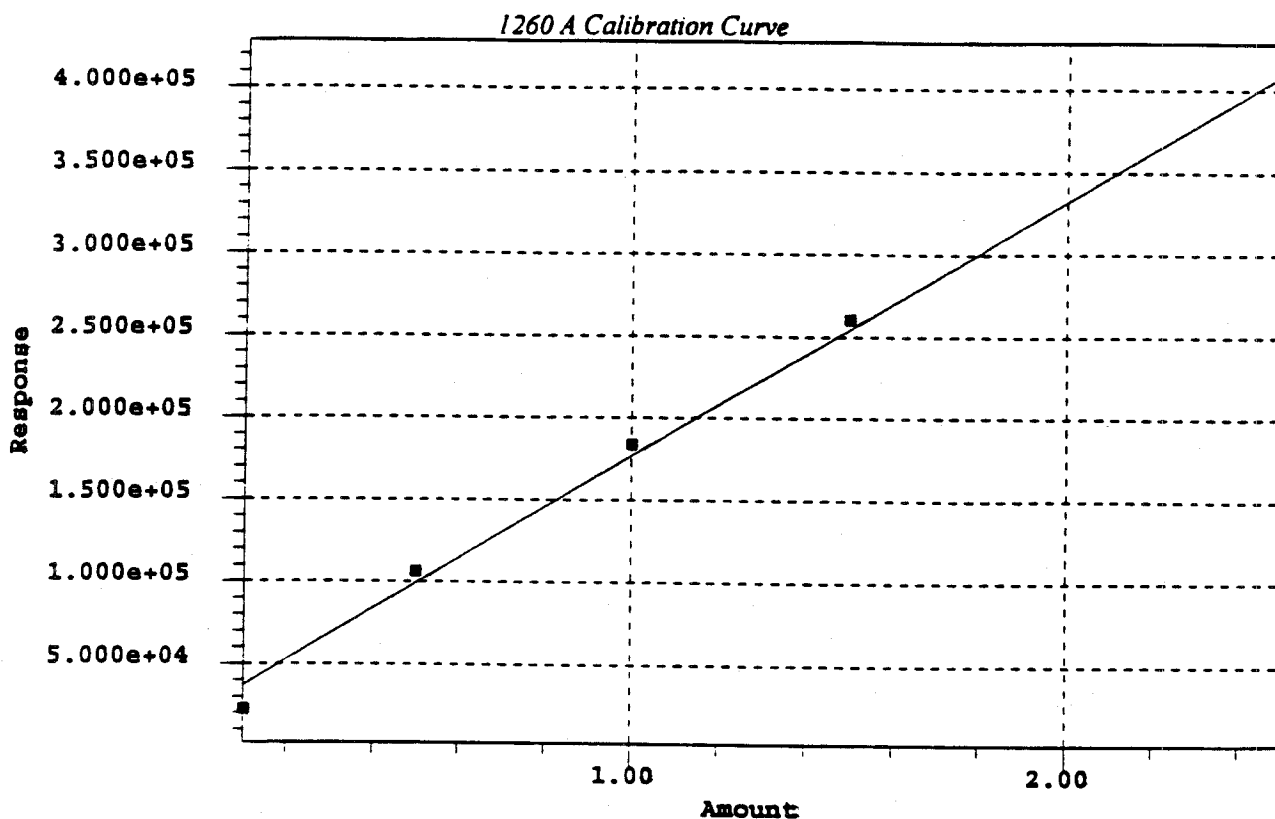
TETRA Point Table

#	Ignore?
1	No
2	No

TETRA Point Table

#	Ignore?
3	No
4	No
5	No

Table 'TETRA Average Table' contains no data.



1260 A Calibration Information

Processing Method	SIR_1260_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1260 A
Retention Time	17.736 min	Order	1
A	20894.867529	B	155368.416680
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.997567	R ²	0.995139
Standard Error	11708.245414		

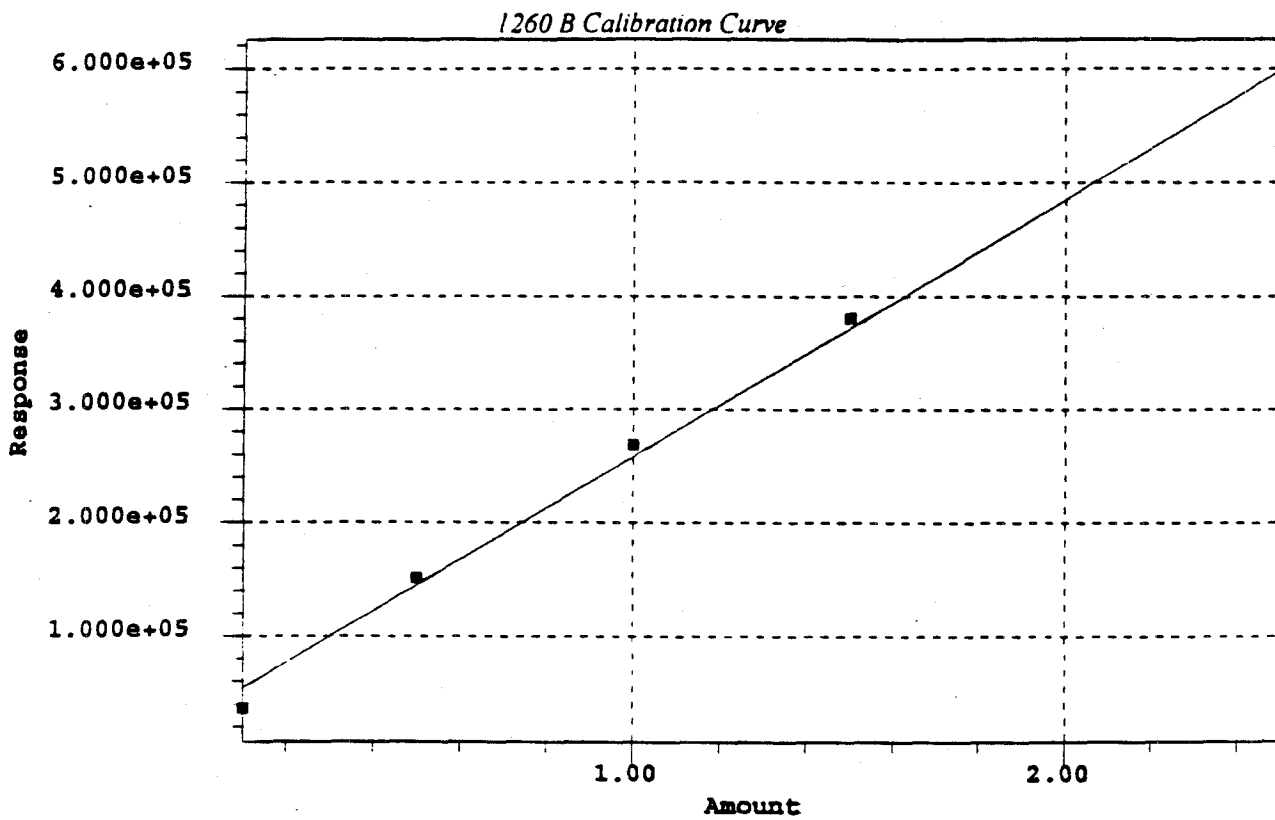
1260 A Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	22598.800000	0.010967	-89.033	No
2	0.500000	106355.250000	0.550050	10.010	No
3	1.000000	183698.035117	1.047852	4.785	No
4	1.500000	260442.000000	1.541801	2.787	No
5	2.500000	401443.385937	2.449330	-2.027	No

1260 A Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1260 A Average Table' contains no data.



1260 B Calibration Information

Processing Method	SIR_1260_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1260 B
Retention Time	18.512 min	Order	1
A	30815.577788	B	226729.248085
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.998133	R ²	0.996270
Standard Error	14958.374977		

1260 B Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	36574.833333	0.025401	-74.599	No
2	0.500000	151495.460000	0.532264	6.453	No
3	1.000000	268370.428094	1.047747	4.775	No
4	1.500000	380633.336478	1.542888	2.859	No

1260 B Point Table

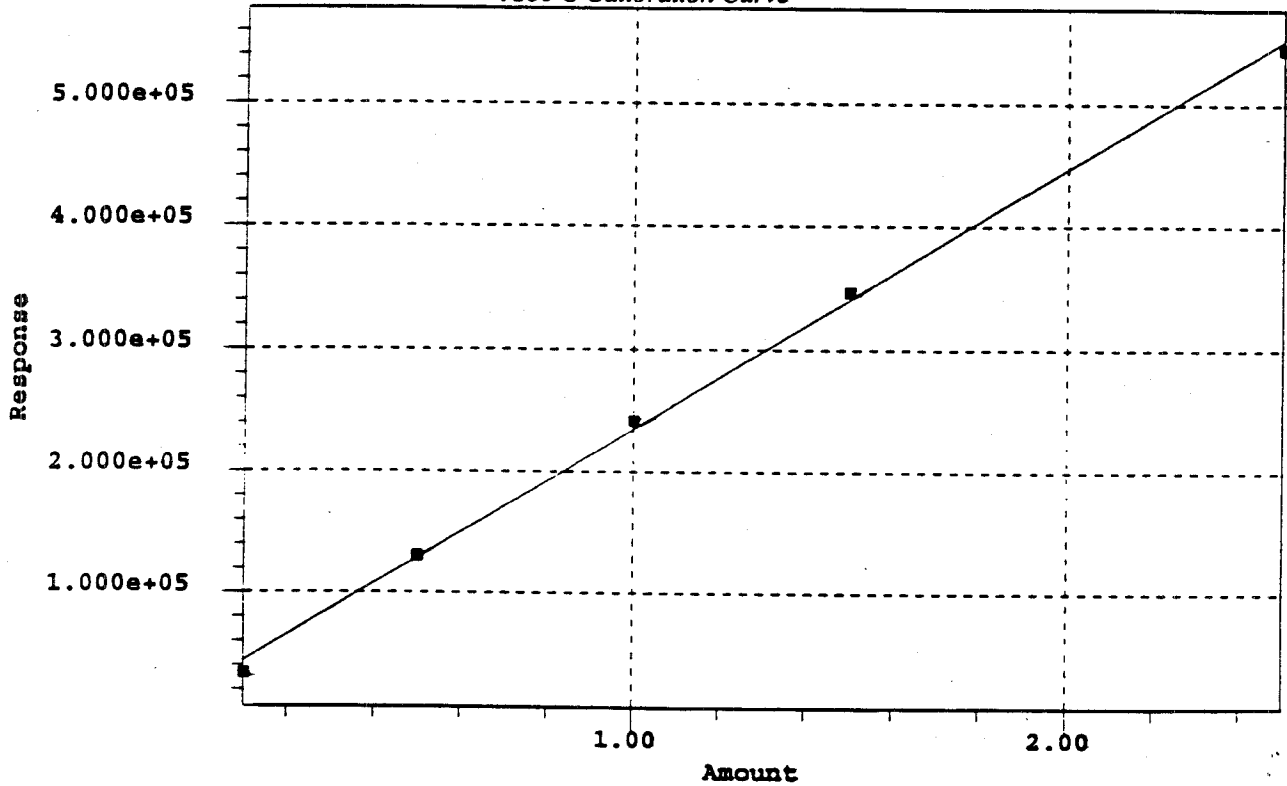
#	Amount	Response	Calc. Amount	% Deviation	Manual
5	2.500000	586687.620313	2.451700	-1.932	No

1260 B Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1260 B Average Table' contains no data.

1260 C Calibration Curve



1260 C Calibration Information

Processing Method	SIR_1260_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1260 C
Retention Time	19.309 min	Order	1
A	21986.801197	B	212117.458751
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999218	R ²	0.998436
Standard Error	9052.502937		

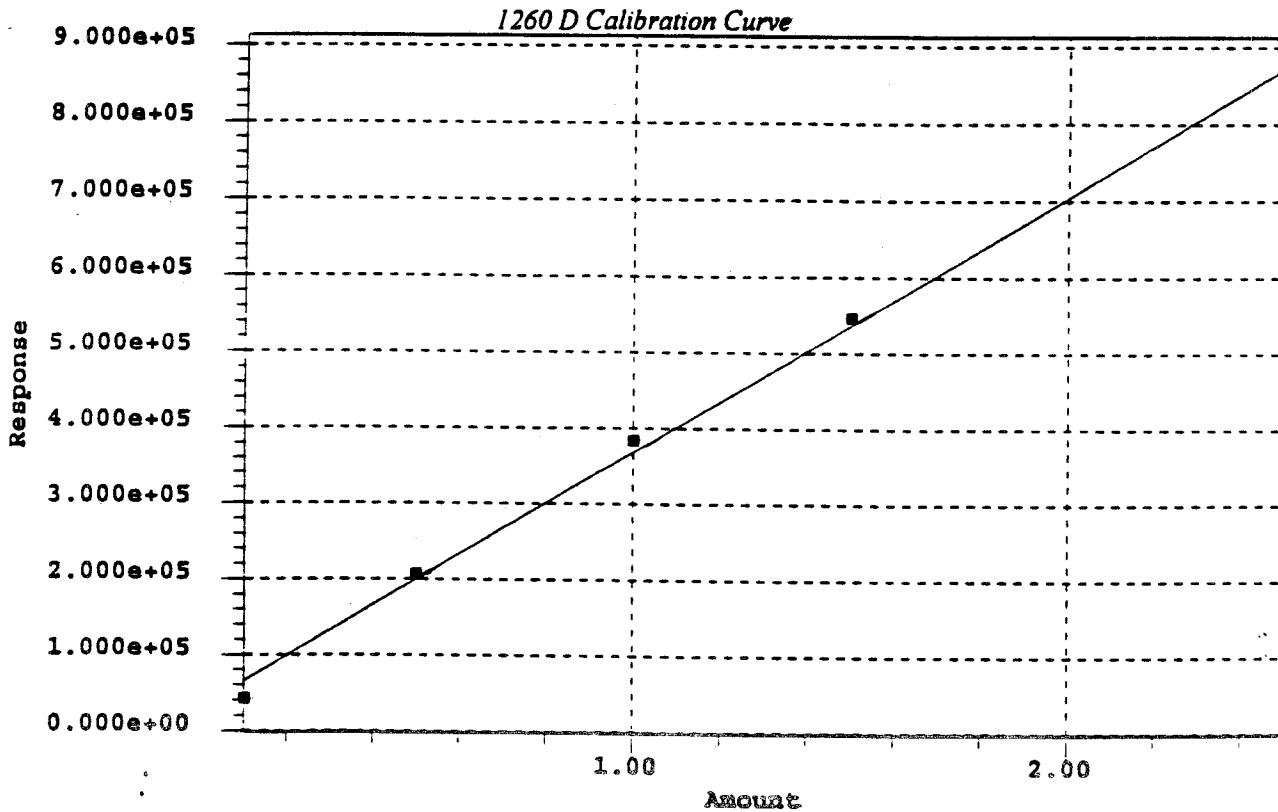
1260 C Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	33610.000000	0.054796	-45.204	No
2	0.500000	130778.690000	0.512885	2.577	No
3	1.000000	241399.336120	1.034392	3.439	No
4	1.500000	346766.569182	1.531132	2.075	No
5	2.500000	545237.179688	2.466795	-1.328	No

1260 C Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1260 C Average Table' contains no data.



1260 D Calibration Information

Processing Method	SIR_1260_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1260 D
Retention Time	21.269 min	Order	1
A	30559.703194	B	336315.826043
C	0.000000	D	0.000000
E	0.000000	F	0.000000

R 0.998525 R² 0.997052
 Standard Error 19720.013056

1260 D Point Table

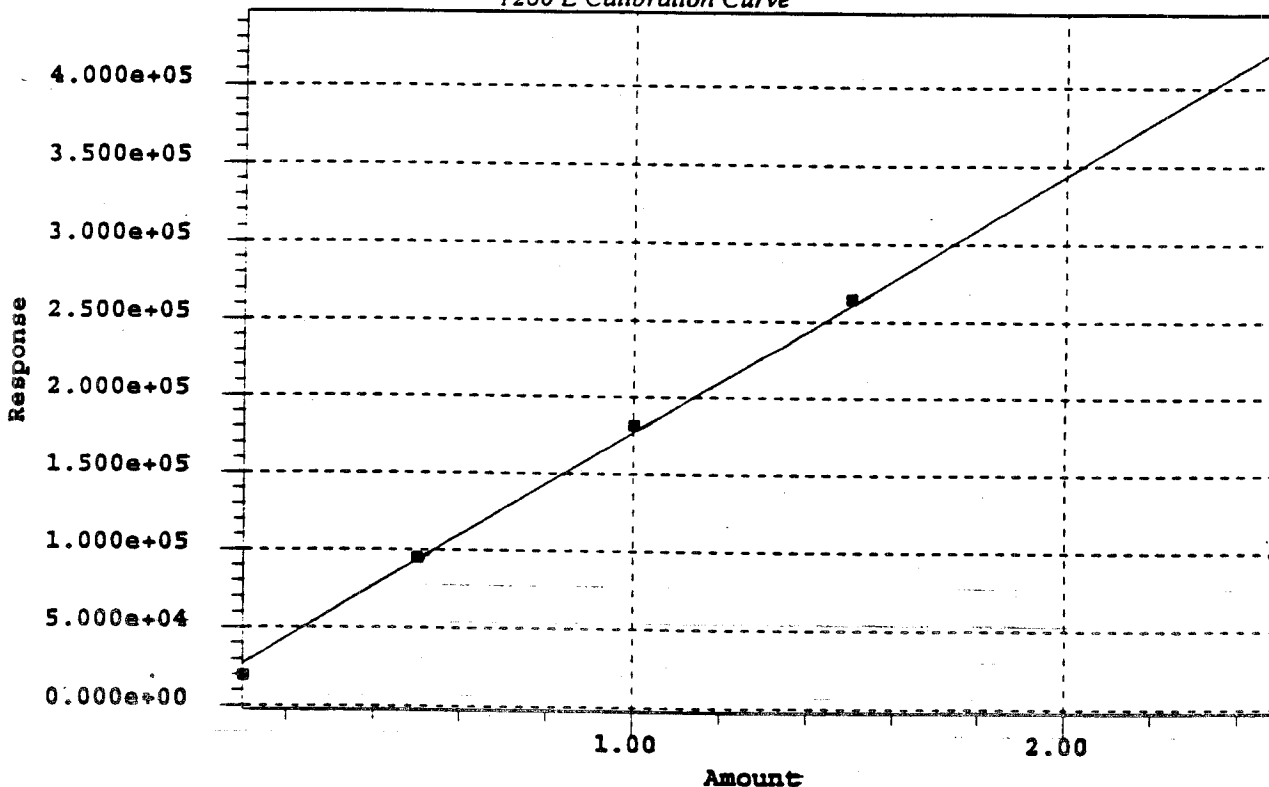
#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	42267.107143	0.034811	-65.189	No
2	0.500000	206575.710000	0.523365	4.673	No
3	1.000000	383896.152174	1.050609	5.061	No
4	1.500000	546404.349057	1.533810	2.254	No
5	2.500000	857023.823438	2.457405	-1.704	No

1260 D Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1260 D Average Table' contains no data.

1260 E Calibration Curve



1260 E Calibration Information

Processing Method	SIR_1260_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1260 E
Retention Time	22.109 min	Order	1

A	9624.017320	B	166713.572960
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999358	R ²	0.998716
Standard Error	6444.421288		

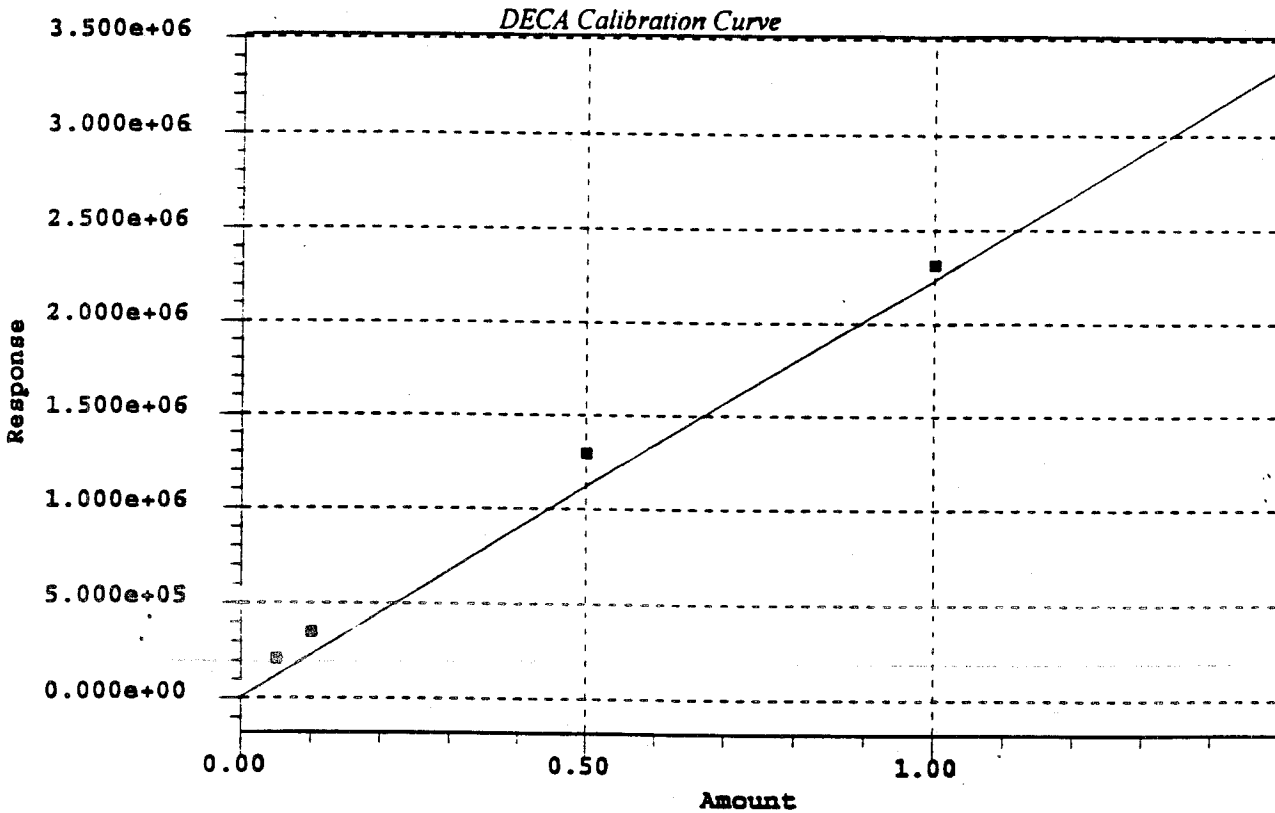
1260 E Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	19355.548780	0.058373	-41.627	No
2	0.500000	95250.600000	0.513615	2.723	No
3	1.000000	181281.021739	1.029652	2.965	No
4	1.500000	264395.219178	1.528197	1.880	No
5	2.500000	421433.705479	2.470163	-1.193	No

1260 E Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1260 E Average Table' contains no data.



DECA Calibration Information

Processing Method SIR_1260_0723 System SI_L4_S2

Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	DECA
Retention Time	25.762 min	Order	1
A	0.000000	B	2232083.937341
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.993883	R ²	0.987803
Standard Error	142455.454077		

DECA Point Table

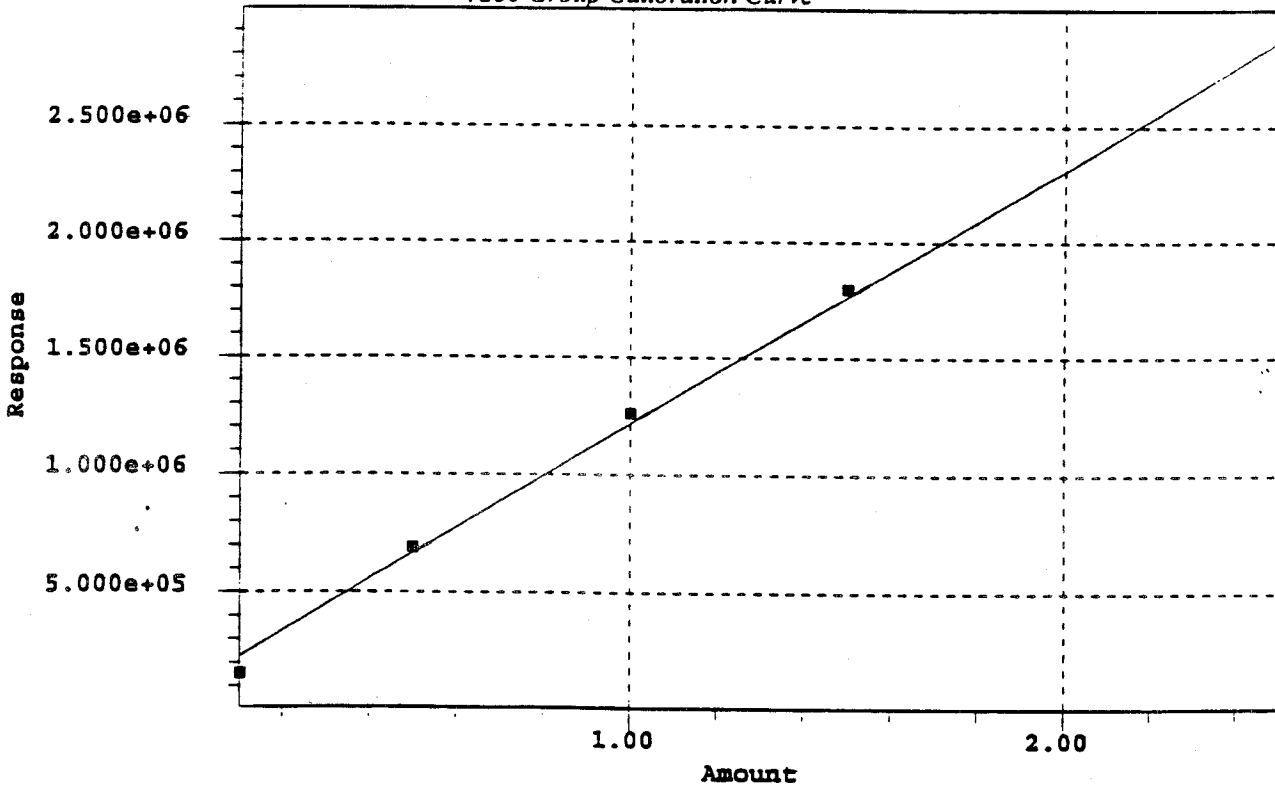
#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.050000	210328.888111	0.094230	88.460	No
2	0.100000	347936.209174	0.155880	55.880	No
3	0.500000	1296543.905405	0.580867	16.173	No
4	1.000000	2315810.722826	1.037511	3.751	No
5	1.500000	3220534.726039	1.442838	-3.811	No

DECA Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table 'DECA Average Table' contains no data.

1260 Group Calibration Curve



1260 Group Calibration Information

Processing Method	SIR_1260_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1260 Group
Retention Time	min	Order	1
A	113880.967028	B	1097244.522520
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.998648	R^2	0.997297
Standard Error	61591.941736		

1260 Group Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	154406.289257	0.036934	-63.066	No
2	0.500000	690455.710000	0.525475	5.095	No
3	1.000000	1258644.973244	1.043308	4.331	No
4	1.500000	1798641.473895	1.535447	2.363	No
5	2.500000	2811825.714854	2.458836	-1.647	No

1260 Group Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1260 Group Average Table' contains no data.

Processing Method: SIR_1242_0723

Millennium v2.13

Date Printed: 10:38:36 PM, July 24, 1997

Method Name: SIR_1242_0723
 Date Created: 07/24/97 07:37:20 PM
 Method Type: GC

Calculated Custom Field Formulas

Response_Factor Amount/Response
 True_Surr3R CConst1/Surr_3_R/CConst1
 True_Surr1 CConst1/Surr_1/CConst1
 True_Surr4R CConst2/Surr_4_R/CConst2
 True_Surr2 CConst2/Surr_2/CConst2
 Surr_Rec_4R Amount_R/Dilution_R*SampleWeightR*True_Surr4R*100
 Surr_Rec_3R Amount_R/SampleWeight*Dilution/Dilution_R*SampleWeightR*True_Surr3R*100
 Surr_Rec_1 Amount/Dilution*SampleWeight*True_Surr1*100
 Surr_Rec_2 Amount/Dilution*SampleWeight*True_Surr2*100
 Amount_R Amount/Dilution*SampleWeight*Dilution_R/SampleWeightR
 Sln_Conc Amount/Dilution*SampleWeight

Calibration Parameters

Averaging None
 RT Window % 1.00
 Update RT Never
 CCalRef1

Peak Integration Parameters

Minimum Area 2430 uV*sec
 Minimum Height 591 uV
 Threshold 50.000 uV/sec
 Peak Width 15.00 sec

Event Table

#	Start (min)	Event	Stop (min)
1	0.300	Inhibit Integration	4.832
2	30.125	Inhibit Integration	

Component Table

#	Name	Retention Time (min)	RT Window (min)	Peak Match	Quant By	Fit Type
1	TETRA	7.131	0.434	Closest	Area	Linear thru Zero
2	1242 A	8.689	0.339	Closest	Area	Linear
3	1242 B	10.919	0.292	Closest	Area	Linear
4	1242 C	11.908	0.146	Closest	Area	Linear
5	1242 D	12.250	0.202	Closest	Area	Linear
6	1242 E	14.156	0.258	Closest	Area	Linear
7	DECA	25.760	0.435	Closest	Area	Linear thru Zero
8	1242 Group				Area	Linear

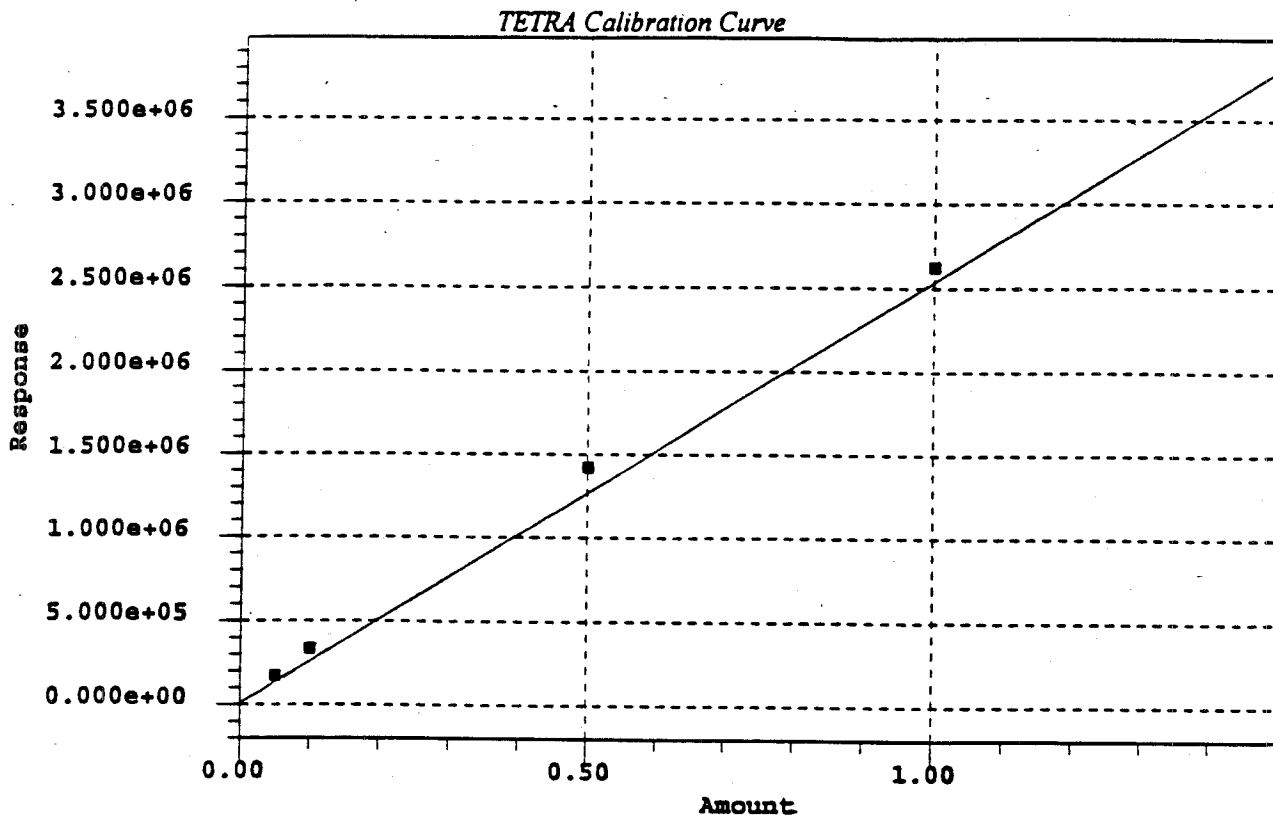
Component Table

#	Weighting	Must Peak	Default	Component Type	CConst1	CConst2
1	None	No	No	Single Peak	1.000000000	0.000000000
2	None	No	No	Single Peak	0.000000000	0.000000000
3	None	No	No	Single Peak	0.000000000	0.000000000
4	None	No	No	Single Peak	0.000000000	0.000000000
5	None	No	No	Single Peak	0.000000000	0.000000000
6	None	No	No	Single Peak	0.000000000	0.000000000
7	None	No	No	Single Peak	0.000000000	1.000000000
8	None	No	No	Named Group	0.000000000	0.000000000

Table 'Timed Group Table' contains no data.

Named Group Information

Group Name	1242 Group
Set Retention Time	None
Peak #1:	1242 A
Peak #2:	1242 B
Peak #3:	1242 C
Peak #4:	1242 D
Peak #5:	1242 E



TETRA Calibration Information

Processing Method	SIR_1242_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	TETRA
Retention Time	7.131 min	Order	1
A	0.000000	B	2531041.224199
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.996786	R ²	0.993583
Standard Error	120289.389017		

TETRA Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.050000	171736.000000	0.067852	35.704	Yes
2	0.100000	332260.000000	0.131274	31.274	Yes
3	0.500000	1424686.000000	0.562885	12.577	Yes
4	1.000000	2626157.000000	1.037580	3.758	Yes
5	1.500000	3673313.000000	1.451305	-3.246	Yes

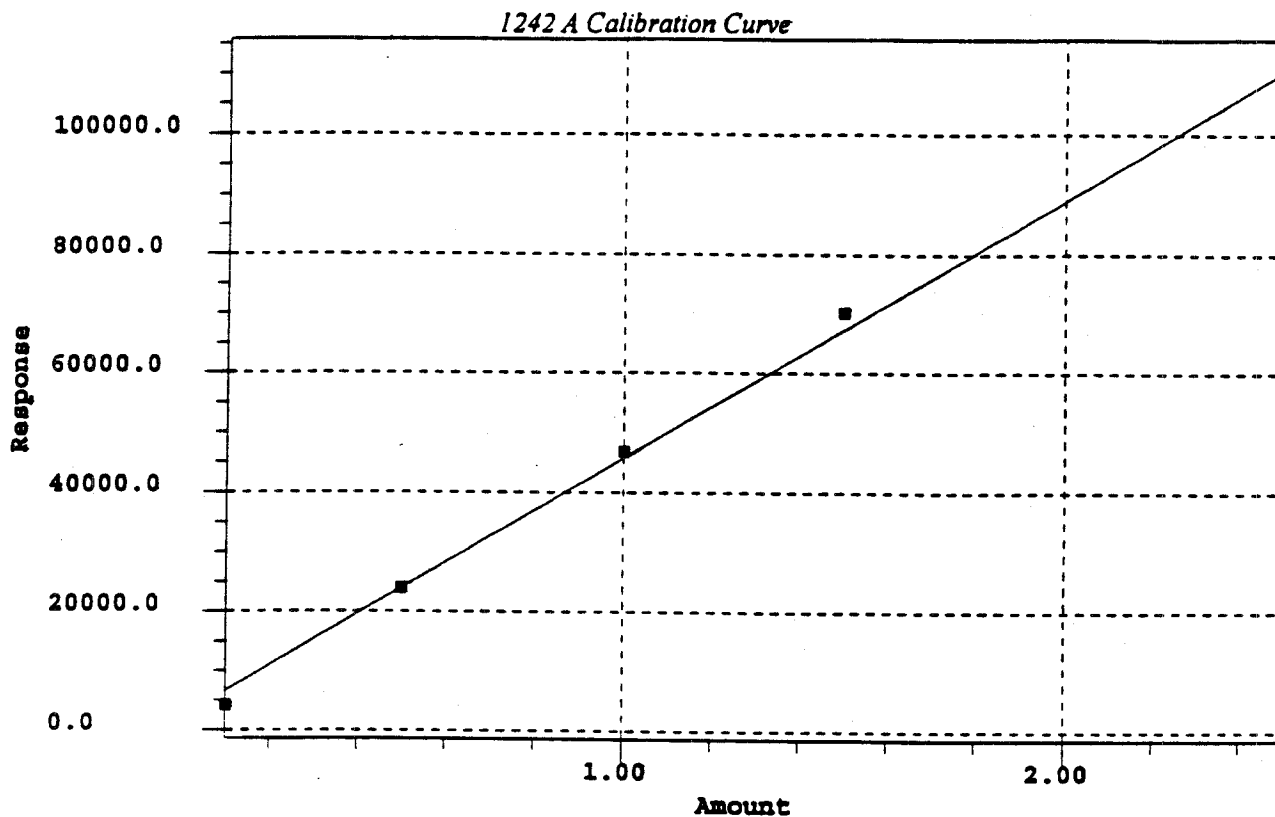
TETRA Point Table

#	Ignore?
1	No
2	No

TETRA Point Table

#	Ignore?
3	No
4	No
5	No

Table TETRA Average Table' contains no data.



1242 A Calibration Information

Processing Method	SIR_1242_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1242 A
Retention Time	8.689 min	Order	1
A	2139.560014	B	43338.343753
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.998347	R^2	0.996698
Standard Error	2689.918262		

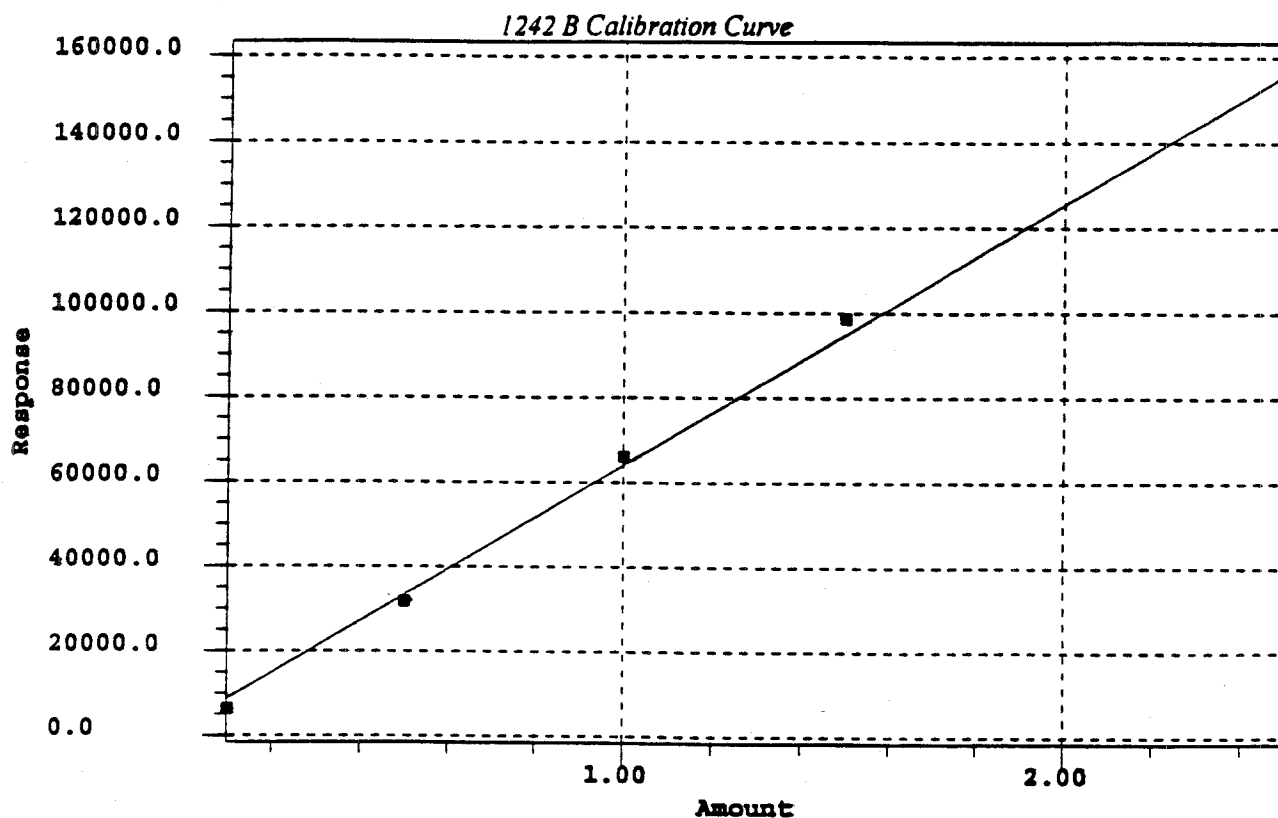
1242 A Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	4227.000000	0.048166	-51.834	No
2	0.500000	23997.529412	0.504356	0.871	No
3	1.000000	46752.297297	1.029406	2.941	No
4	1.500000	70249.236842	1.571580	4.772	No
5	2.500000	108166.461538	2.446492	-2.140	No

1242 A Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1242 A Average Table' contains no data.



1242 B Calibration Information

Processing Method	SIR_1242_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1242 B
Retention Time	10.919 min	Order	1
A	2421.321699	B	61409.605081
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.998601	R ²	0.997203
Standard Error	3506.688211		

1242 B Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	6477.500000	0.066051	-33.949	No
2	0.500000	31833.000000	0.478943	-4.211	No
3	1.000000	66218.882353	1.038886	3.889	No
4	1.500000	98543.521739	1.565263	4.351	No

1242 B Point Table

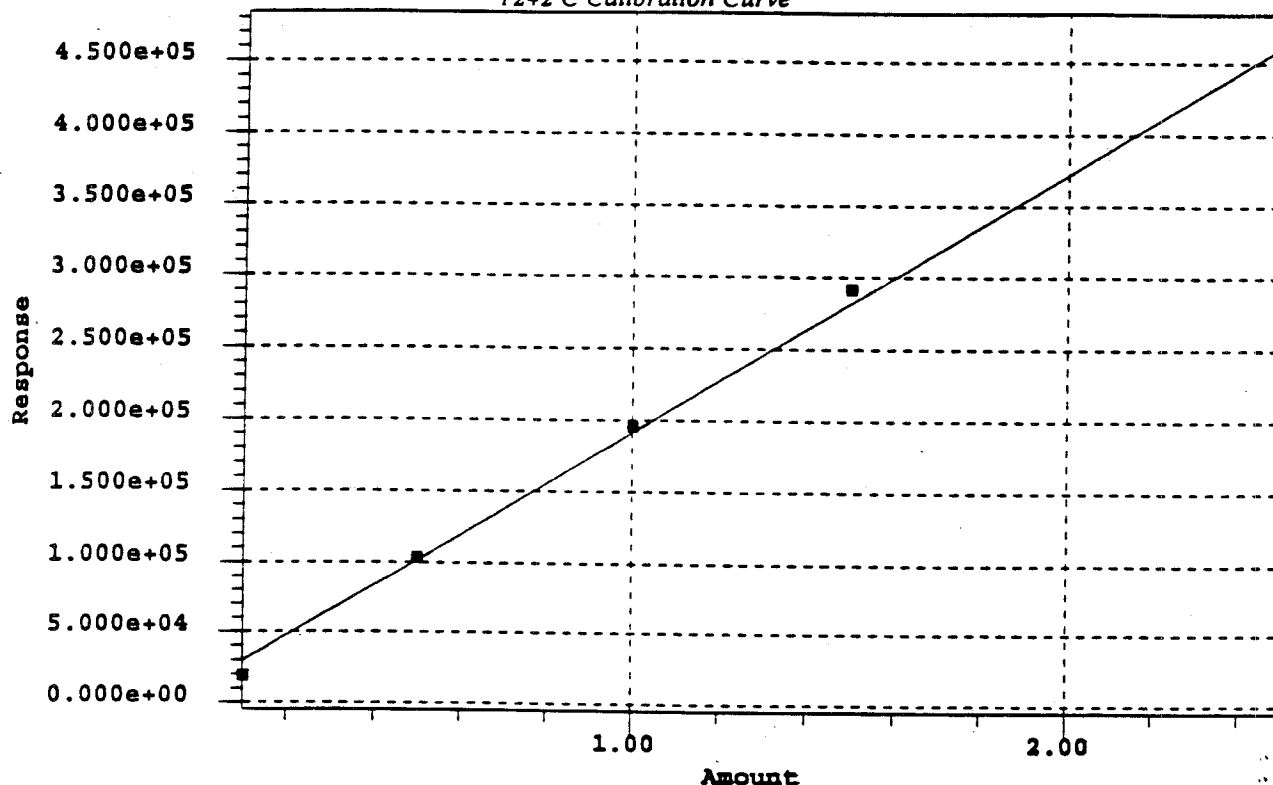
#	Amount	Response	Calc. Amount	% Deviation	Manual
5	2.500000	152927.492857	2.450857	-1.966	No

1242 B Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1242 B Average Table' contains no data.

1242 C Calibration Curve



1242 C Calibration Information

Processing Method	SIR_1242_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1242 C
Retention Time	11.908 min	Order	1
A	10421.467066	B	180460.693164
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.998670	R ²	0.997341
Standard Error	10047.008695		

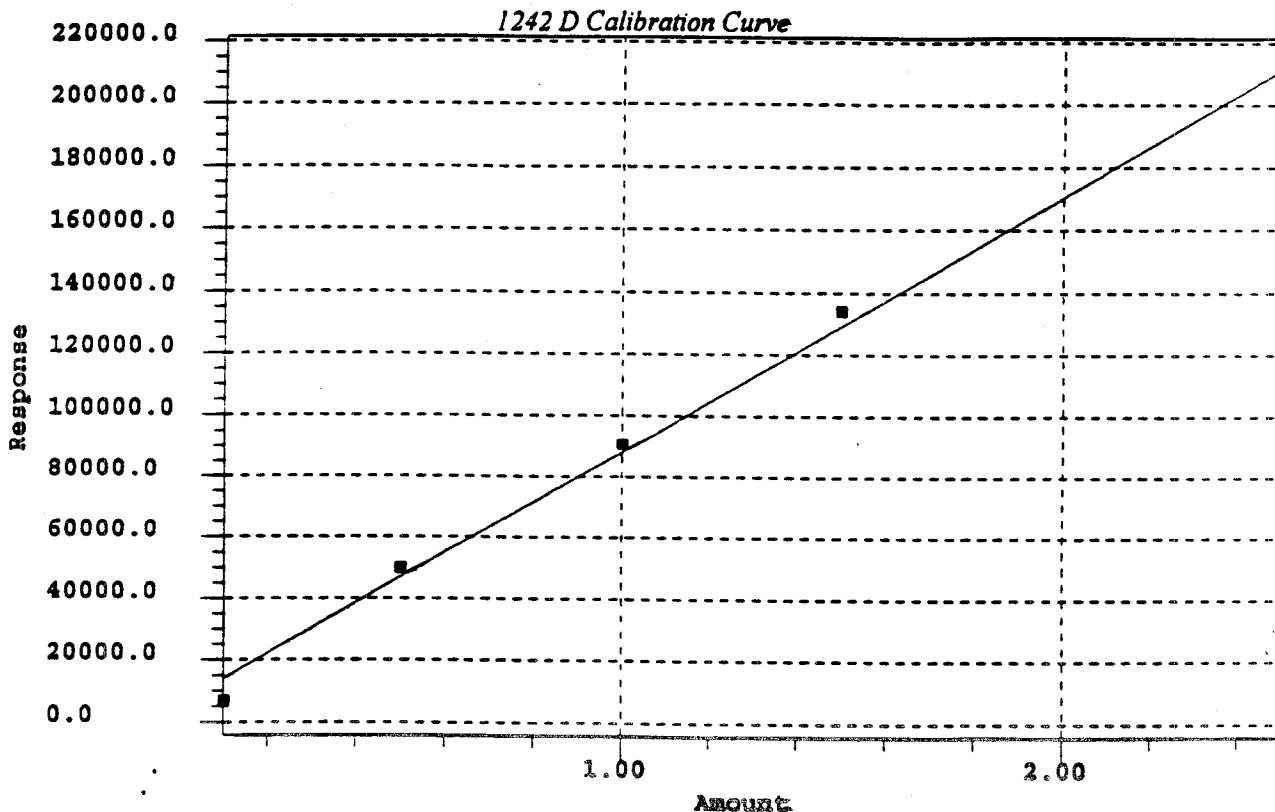
1242 C Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	18755.217949	0.046180	-53.820	No
2	0.500000	103523.674419	0.515914	3.183	No
3	1.000000	195667.174419	1.026516	2.652	No
4	1.500000	291500.828231	1.557566	3.838	No
5	2.500000	453240.322034	2.453824	-1.847	No

1242 C Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1242 C Average Table' contains no data.



1242 D Calibration Information

Processing Method	SIR_1242_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1242 D
Retention Time	12.250 min	Order	1
A	5414.849249	B	82292.246022
C	0.000000	D	0.000000
E	0.000000	F	0.000000

R 0.997465 R^2 0.994937
 Standard Error 6329.778305

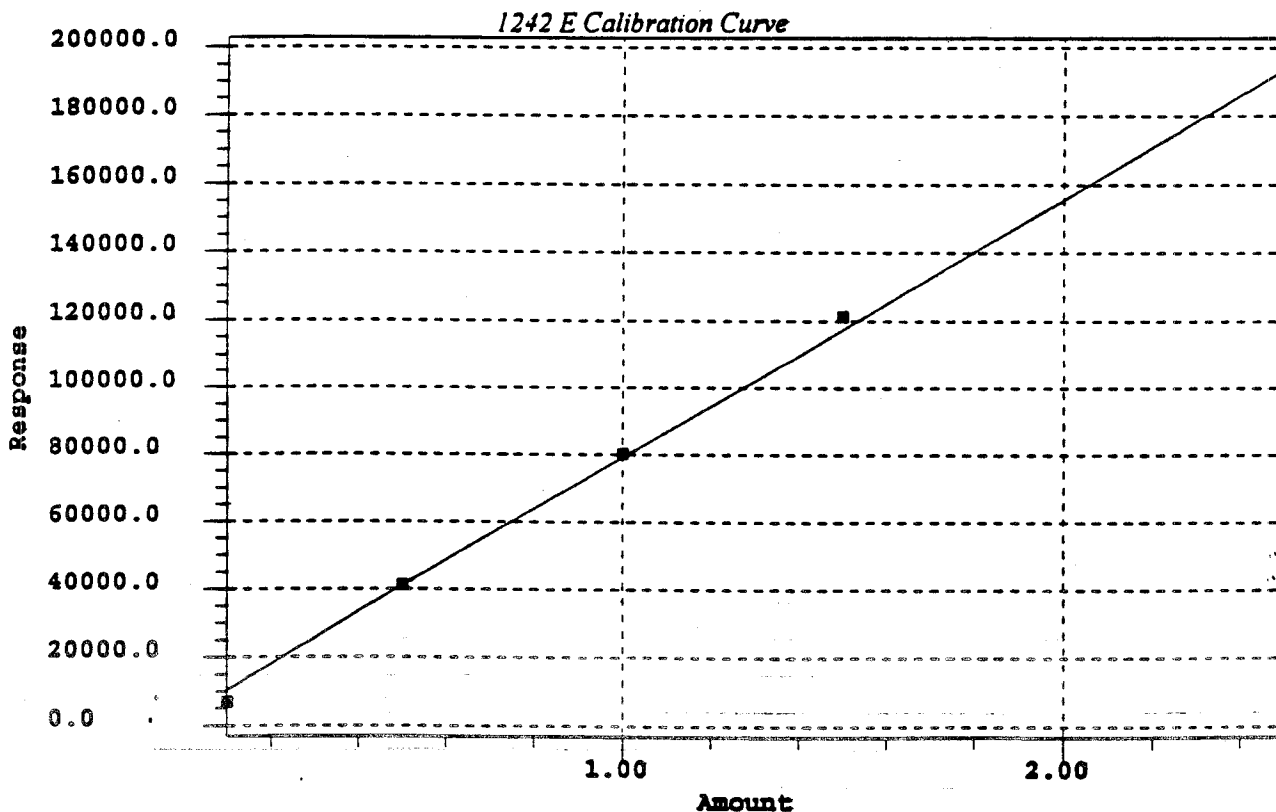
1242 D Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	6712.782051	0.015772	-84.228	No
2	0.500000	49929.186047	0.540930	8.186	No
3	1.000000	90755.406977	1.037043	3.704	No
4	1.500000	134179.423469	1.564723	4.315	No
5	2.500000	206334.025424	2.441532	-2.339	No

1242 D Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1242 D Average Table' contains no data.



1242 E Calibration Information

Processing Method	SIR_1242_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1242 E
Retention Time	14.156 min	Order	1

A	2492.519424	B	76398.967885
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.998971	R ²	0.997944
Standard Error	3739.233587		

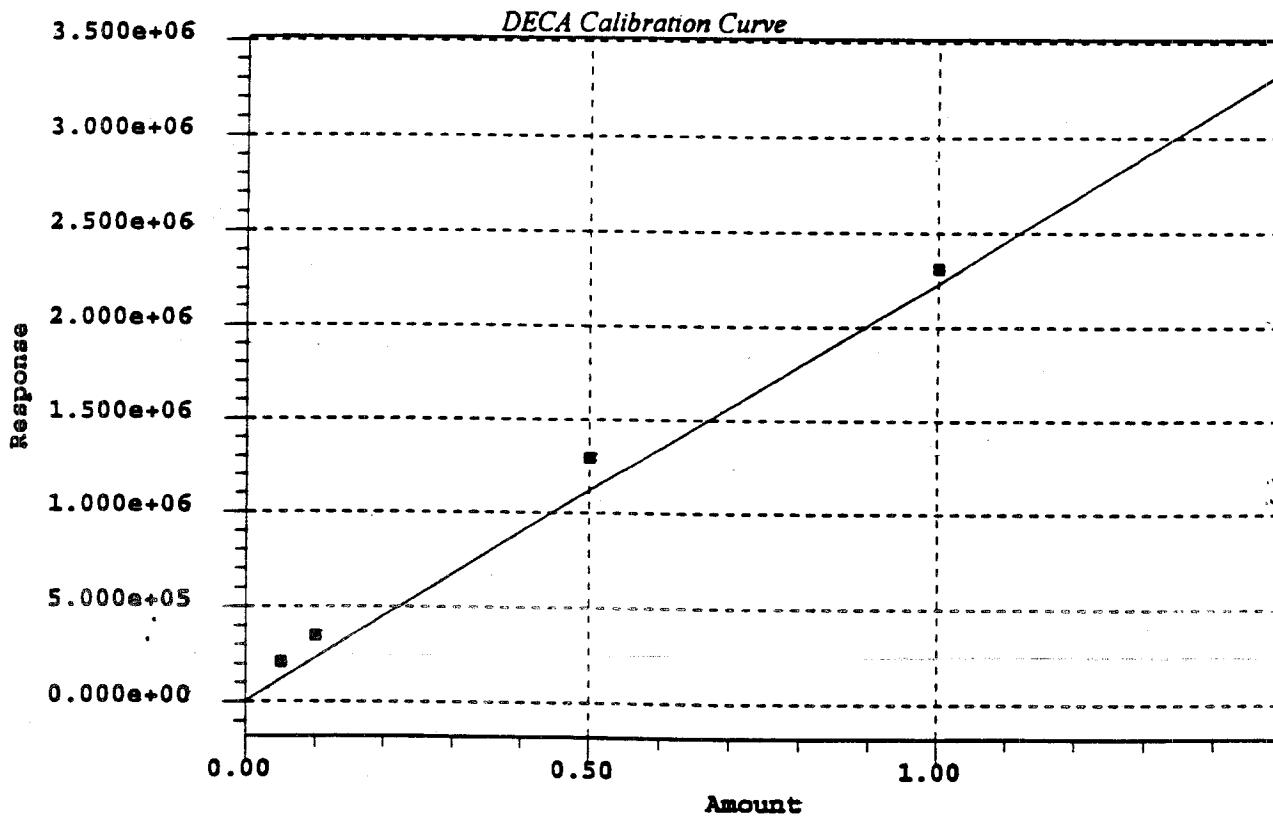
1242 E Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	6864.000000	0.057219	-42.781	No
2	0.500000	41288.714286	0.507810	1.562	No
3	1.000000	80478.074627	1.020767	2.077	No
4	1.500000	121361.867347	1.555903	3.727	No
5	2.500000	190304.161017	2.458301	-1.668	No

1242 E Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1242 E Average Table' contains no data.



DECA Calibration Information

Processing Method SIR_1242_0723 System SI_L4_S2

Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	DECA
Retention Time	25.760 min	Order	1
A	0.000000	B	2232083.274021
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.993883	R ²	0.987803
Standard Error	142455.023979		

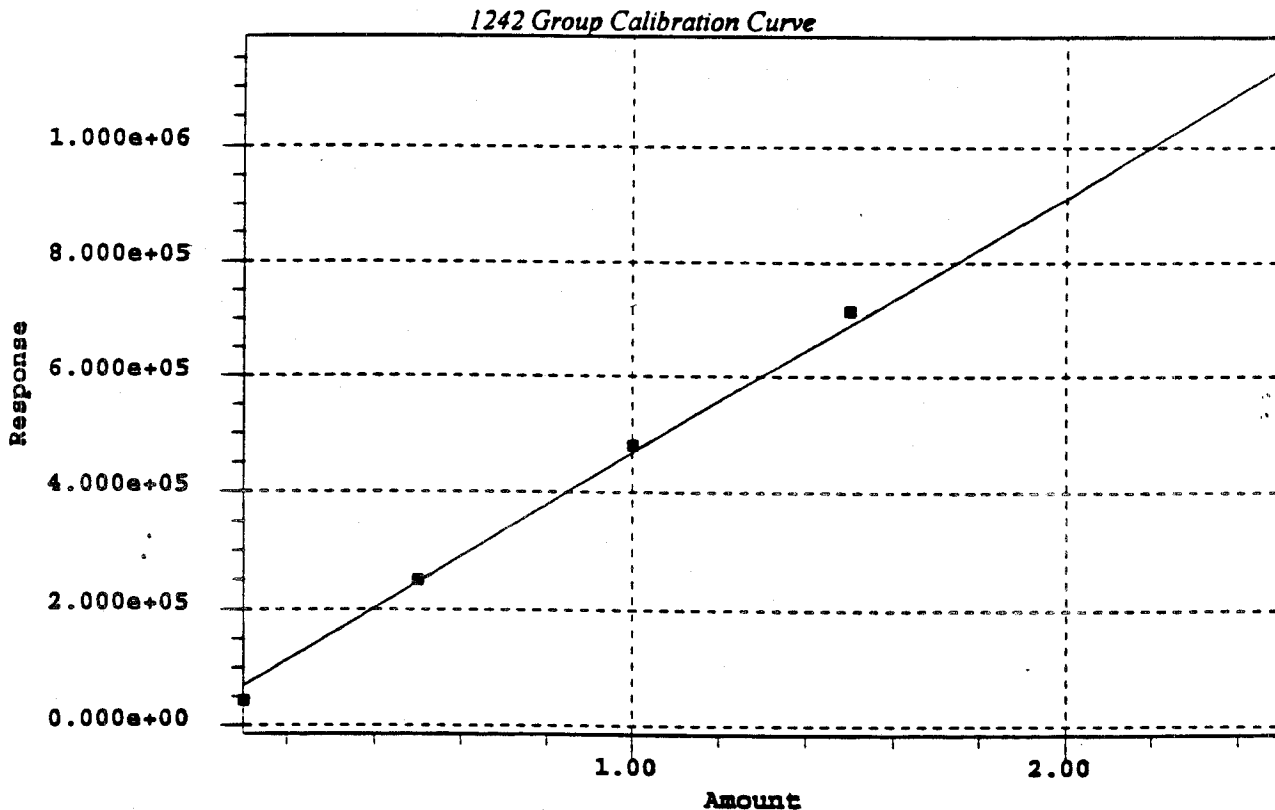
DECA Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.050000	210328.000000	0.094229	88.459	Yes
2	0.100000	347936.000000	0.155879	55.879	Yes
3	0.500000	1296543.000000	0.580867	16.173	Yes
4	1.000000	2315810.000000	1.037511	3.751	Yes
5	1.500000	3220534.000000	1.442838	-3.811	Yes

DECA Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table 'DECA Average Table' contains no data.



1242 Group Calibration Information

Processing Method	SIR_1242_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1242 Group
Retention Time	min	Order	1
A	22889.717453	B	443899.855905
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.998552	R^2	0.997105
Standard Error	25789.877167		

1242 Group Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	43036.500000	0.045386	-54.614	No
2	0.500000	250572.104163	0.512914	2.583	No
3	1.000000	479871.835672	1.029471	2.947	No
4	1.500000	715834.877629	1.561039	4.069	No
5	2.500000	1110972.462870	2.451190	-1.952	No

1242 Group Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1242 Group Average Table' contains no data.

Processing Method: SIR_1254_0723

Millennium v2.13

Date Printed: 10:39:01 PM, July 24, 1997

Method Name: SIR_1254_0723
 Date Created: 07/24/97 07:39:53 PM
 Method Type: GC

Calculated Custom Field Formulas

Response_Factor	Amount/Response
True_Surr3R	CConst1/Surr_3_R/CConst1
True_Surr1	CConst1/Surr_1/CConst1
True_Surr4R	CConst2/Surr_4_R/CConst2
True_Surr2	CConst2/Surr_2/CConst2
Surr_Rec_4R	Amount_R/Dilution_R*SampleWeightR*True_Surr4R*100
Surr_Rec_3R	Amount_R/SampleWeight*Dilution/Dilution_R*SampleWeightR*True_Surr3R*100
	0
Surr_Rec_1	Amount/Dilution*SampleWeight*True_Surr1*100
Surr_Rec_2	Amount/Dilution*SampleWeight*True_Surr2*100
Amount_R	Amount/Dilution*SampleWeight*Dilution_R/SampleWeightR
Sln_Conc	Amount/Dilution*SampleWeight

Calibration Parameters

Averaging None
 RT Window % 1.00
 Update RT Never
 CCalRef1

Peak Integration Parameters

Minimum Area 7261 uV*sec
 Minimum Height 1493 uV
 Threshold 50.000 uV/sec
 Peak Width 15.00 sec

Event Table

#	Start (min)	Event	Stop (min)
1	0.104	Inhibit Integration	5.637
2	29.363	Inhibit Integration	

Component Table

#	Name	Retention Time (min)	RT Window (min)	Peak Match	Quant By	Fit Type
1	TETRA	7.134	0.902	Closest	Area	Linear thru Zero
2	1254 A	15.884	0.169	Closest	Area	Linear
3	1254 B.	16.718	0.180	Closest	Area	Linear
4	1254 C	17.024	0.188	Closest	Area	Linear
5	1254 D	17.815	0.192	Closest	Area	Linear
6	1254 E	19.305	0.194	Closest	Area	Linear
7	DECA	25.768	0.782	Closest	Area	Linear thru Zero
8	1254 Group				Area	Linear

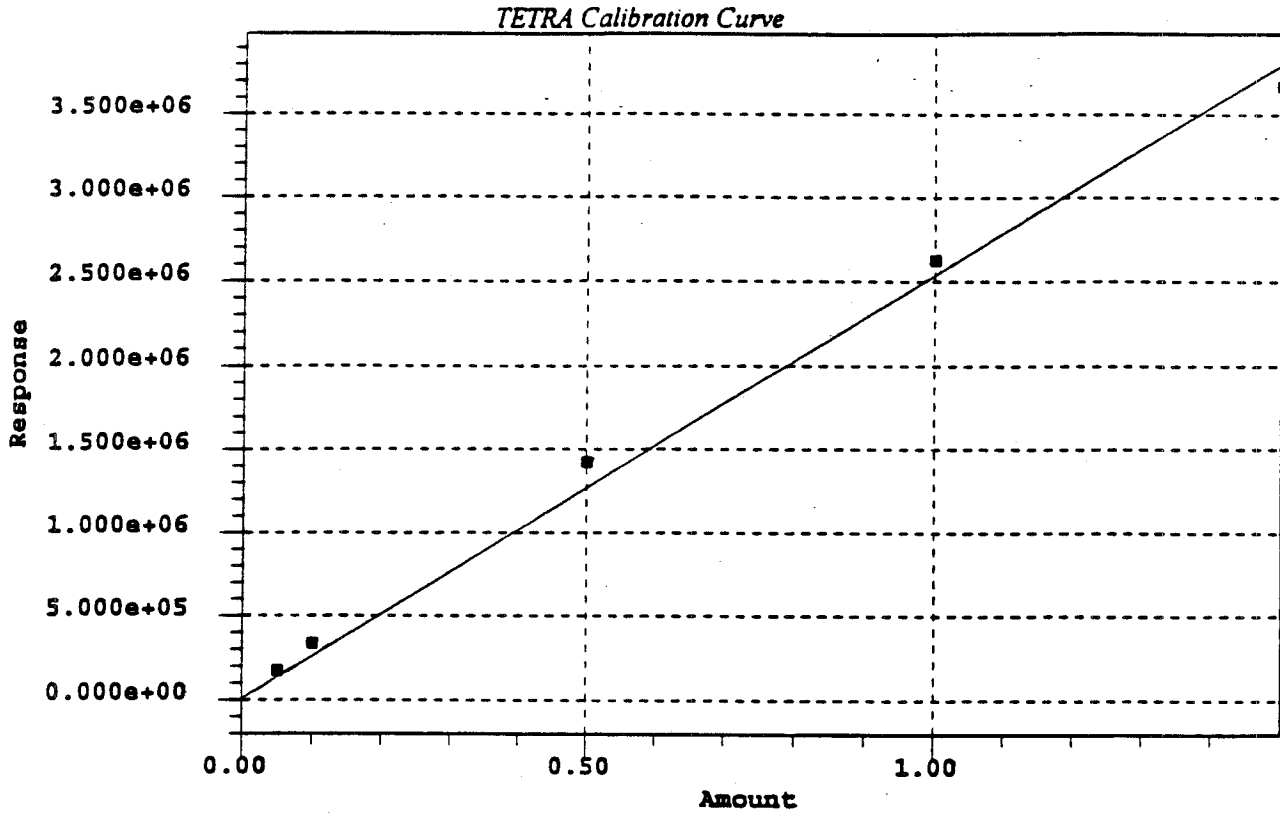
Component Table

#	Weighting	Must Peak	Default	Component Type	CConst1	CConst2
1	None	No	No	Single Peak	1.000000000	0.000000000
2	None	No	No	Single Peak	0.000000000	0.000000000
3	None	No	No	Single Peak	0.000000000	0.000000000
4	None	No	No	Single Peak	0.000000000	0.000000000
5	None	No	No	Single Peak	0.000000000	0.000000000
6	None	No	No	Single Peak	0.000000000	0.000000000
7	None	No	No	Single Peak	0.000000000	1.000000000
8	None	No	No	Named Group	0.000000000	0.000000000

Table Timed Group Table' contains no data.

Named Group Information

Group Name	1254 Group
Set Retention Time	None
Peak #1:	1254 A
Peak #2:	1254 B
Peak #3:	1254 C
Peak #4:	1254 D
Peak #5:	1254 E



TETRA Calibration Information

Processing Method	SIR_1254_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	TETRA
Retention Time	7.134 min	Order	1
A	0.000000	B	2531041.224199
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.996786	R ²	0.993583
Standard Error	120289.389017		

TETRA Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.050000	171736.000000	0.067852	35.704	Yes
2	0.100000	332260.000000	0.131274	31.274	Yes
3	0.500000	1424686.000000	0.562885	12.577	Yes
4	1.000000	2626157.000000	1.037580	3.758	Yes
5	1.500000	3673313.000000	1.451305	-3.246	Yes

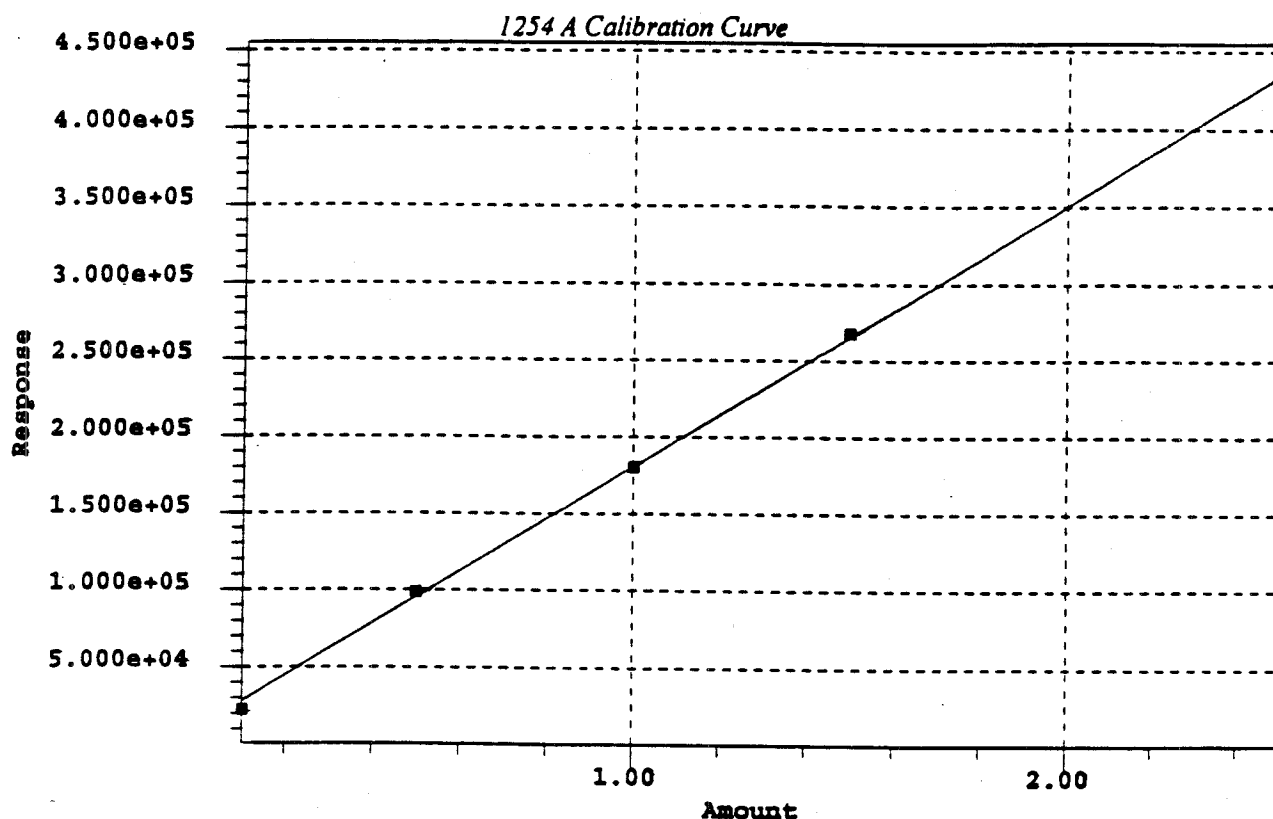
TETRA Point Table

#	Ignore?
1	No
2	No

TETRA Point Table

#	Ignore?
3	No
4	No
5	No

Table TETRA Average Table' contains no data.



1254 A Calibration Information

Processing Method	SIR_1254_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1254 A
Retention Time	15.884 min	Order	1
A	10186.075212	B	169796.808697
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999738	R^2	0.999476
Standard Error	4190.709355		

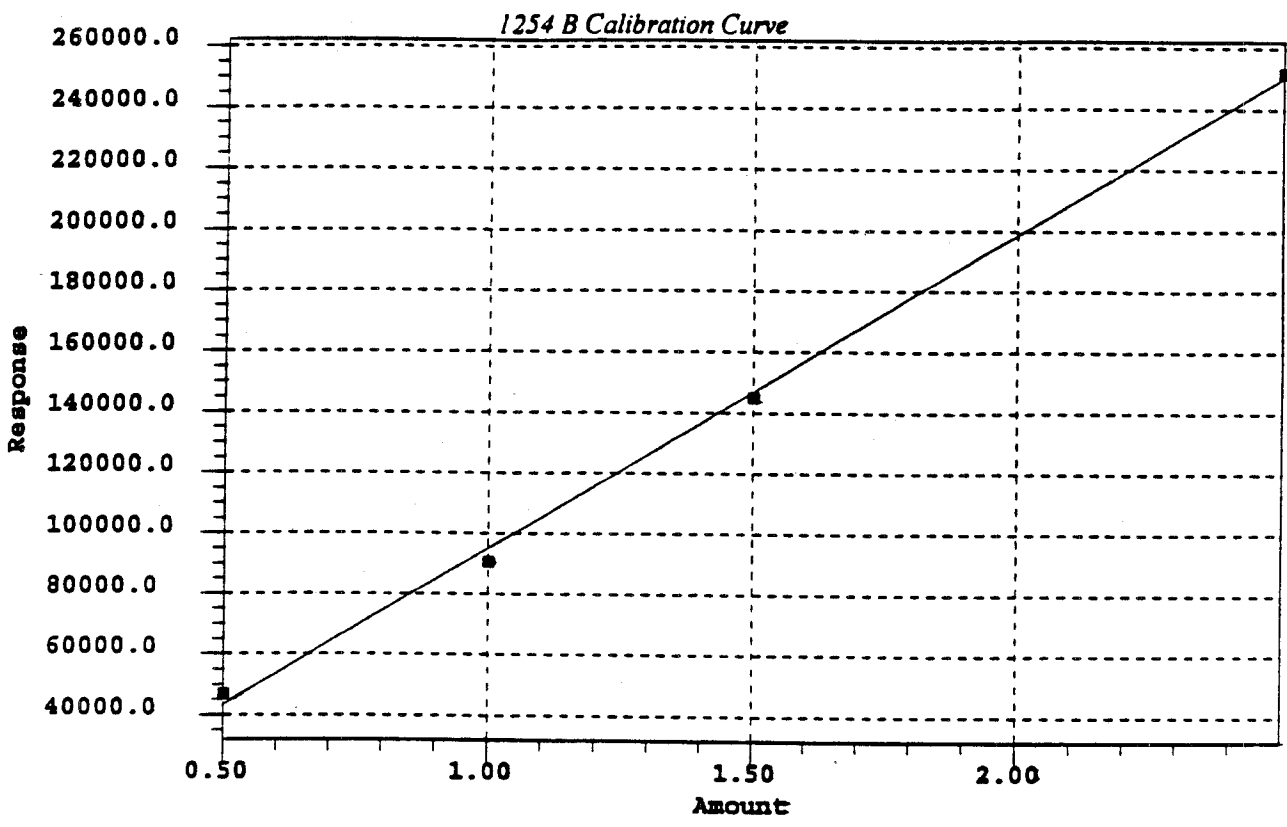
1254 A Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	22510.432432	0.072583	-27.417	No
2	0.500000	98883.500000	0.522374	4.475	No
3	1.000000	180271.400000	1.001699	0.170	No
4	1.500000	268023.250000	1.518504	1.234	No
5	2.500000	432103.922330	2.484840	-0.606	No

1254 A Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1254 A Average Table' contains no data.



1254 B Calibration Information

Processing Method	SIR_1254_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1254 B
Retention Time	16.718 min	Order	1
A	-8783.421413	B	103541.718359
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999202	R ²	0.998404
Standard Error	4328.859066		

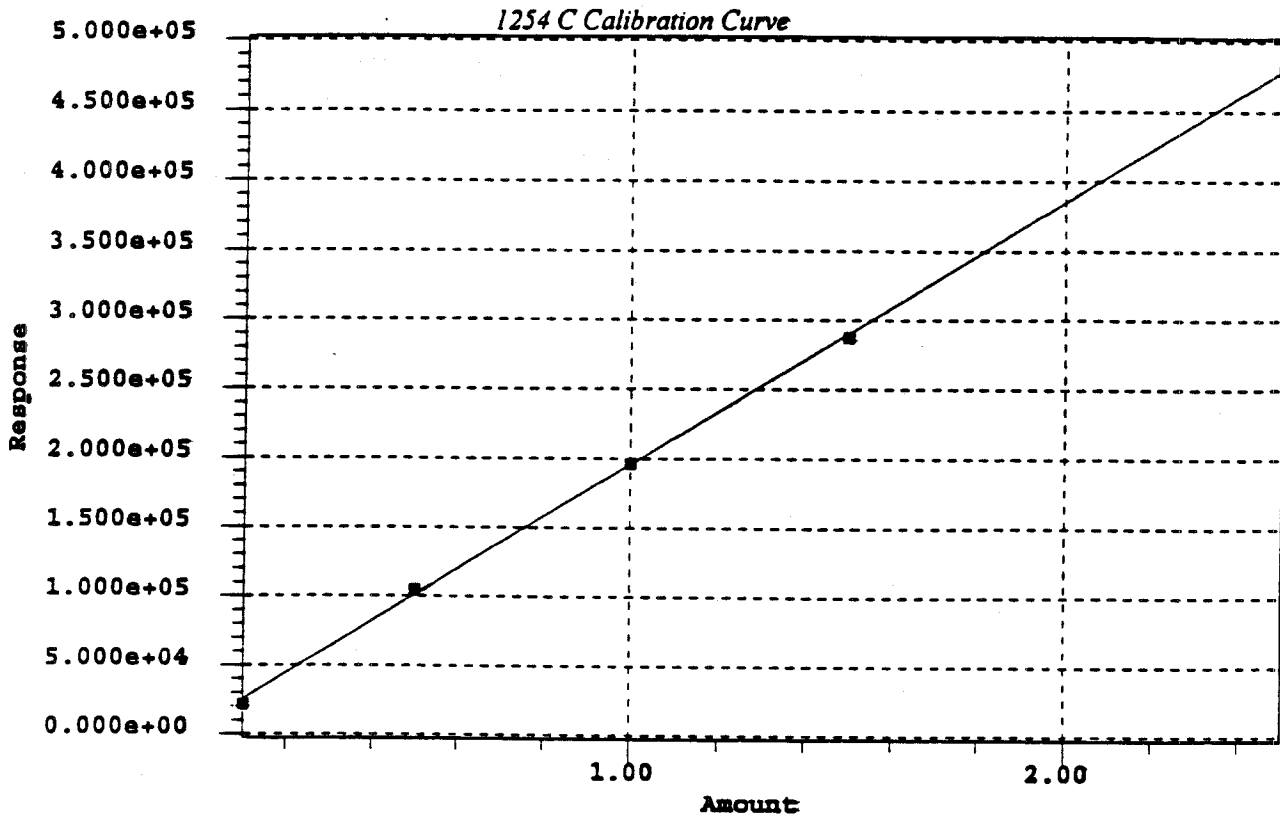
1254 B Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.500000	46846.174897	0.537267	7.453	No
2	1.000000	90630.481481	0.960134	-3.987	No
3	1.500000	145003.405063	1.485264	-0.982	No
4	2.500000	251865.703883	2.517334	0.693	No

1254 B Point Table

#	Ignore?
1	No
2	No
3	No
4	No

Table '1254 B Average Table' contains no data.



1254 C Calibration Information

Processing Method	SIR_1254_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1254 C
Retention Time	17.024 min	Order	1
A	5764.685488	B	189419.703358
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999870	R^2	0.999741
Standard Error	3288.874306		

1254 C Point Table

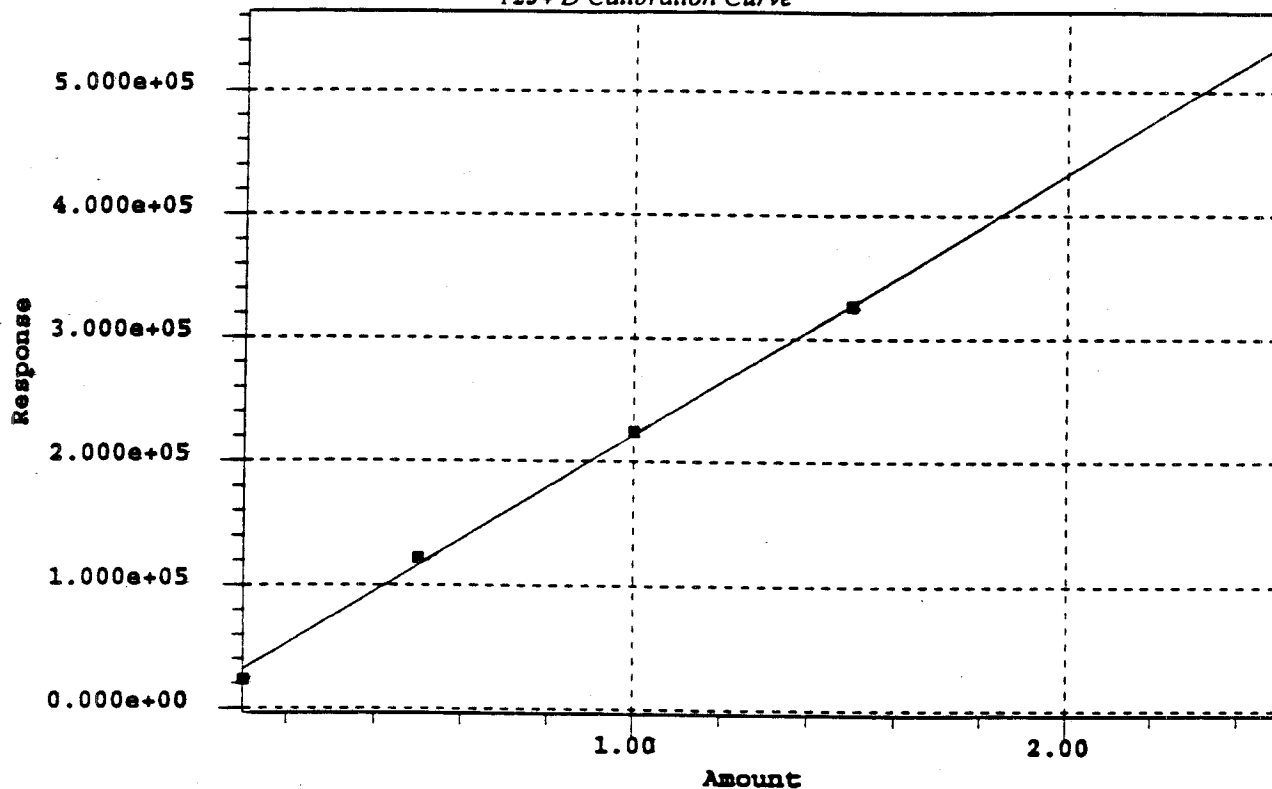
#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	21736.000000	0.084317	-15.683	No
2	0.500000	104564.925926	0.521594	4.319	No
3	1.000000	196102.666667	1.004848	0.485	No
4	1.500000	287465.620253	1.487179	-0.855	No
5	2.500000	479704.553398	2.502062	0.082	No

1254 C Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1254 C Average Table' contains no data.

1254 D Calibration Curve



1254 D Calibration Information

Processing Method	SIR_1254_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1254 D
Retention Time	17.815 min	Order	1
A	9808.617417	B	211305.603271
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999646	R ²	0.999293
Standard Error	6061.616011		

1254 D Point Table

#	Amount	Response	Calc. Amount	‡ Deviation	Manual
1	0.100000	23609.777778	0.065314	-34.686	No
2	0.500000	121906.681070	0.530502	6.100	No
3	1.000000	224269.833333	1.014934	1.493	No
4	1.500000	326733.639241	1.499842	-0.011	No

1254 D Point Table

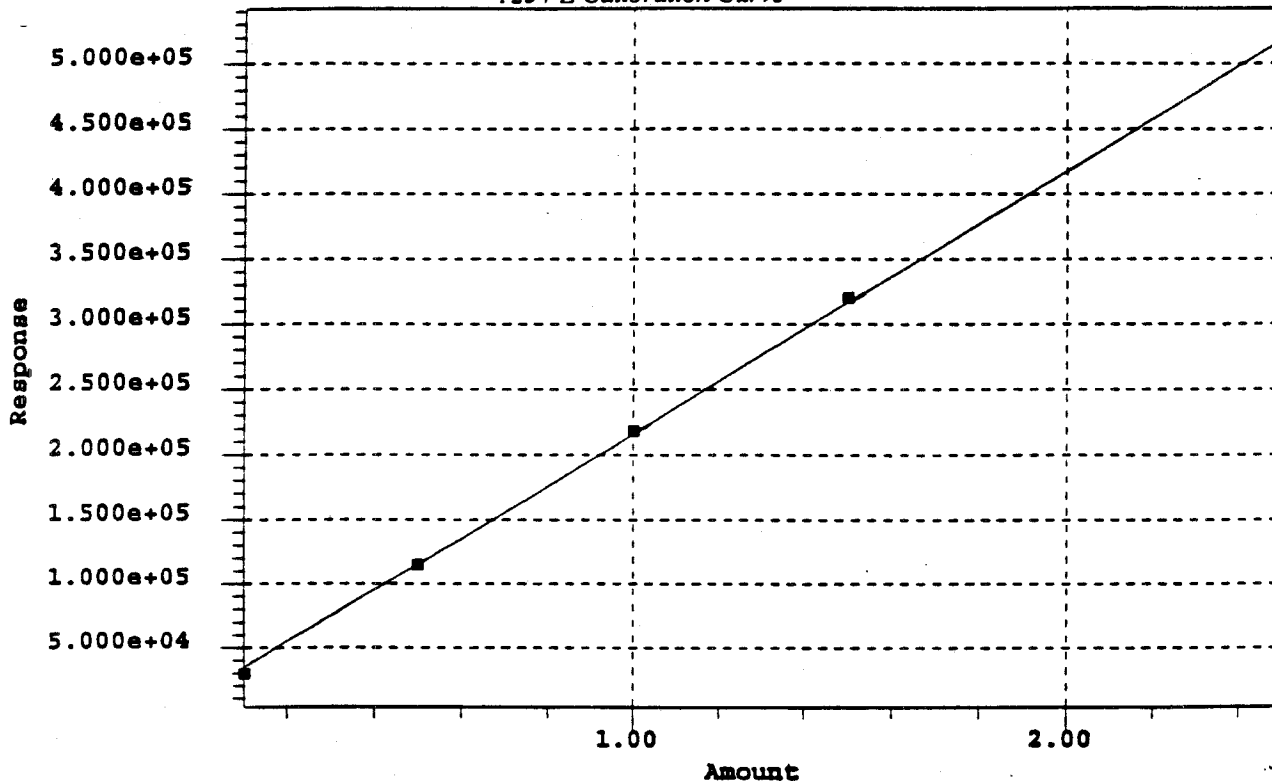
#	Amount	Response	Calc. Amount	% Deviation	Manual
5	2.500000	535834.533981	2.489408	-0.424	No

1254 D Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1254 D Average Table' contains no data.

1254 E Calibration Curve



1254 E Calibration Information

Processing Method	SIR_1254_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1254 E
Retention Time	19.305 min	Order	1
A	13718.191584	B	201528.961707
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999771	R^2	0.999542
Standard Error	4649.814075		

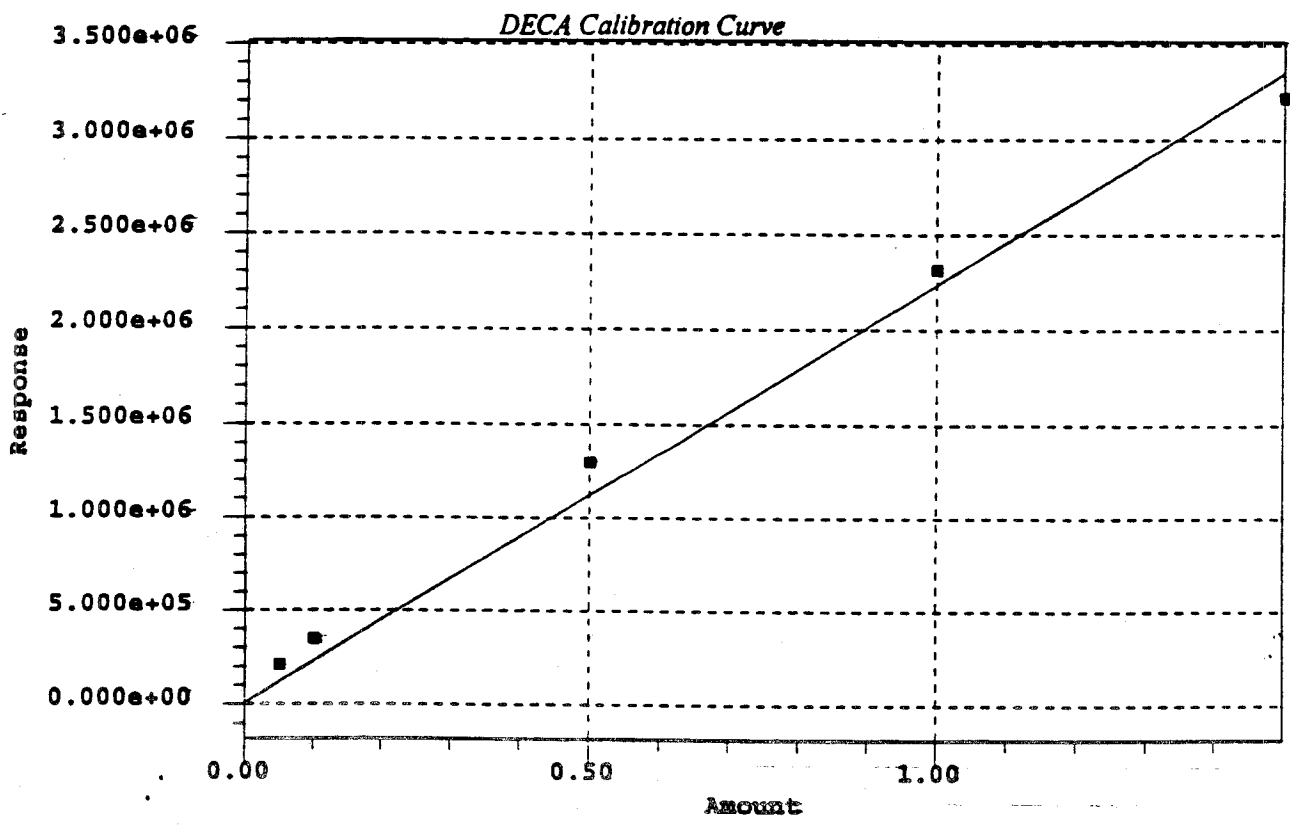
1254 E Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	29381.623377	0.077723	-22.277	No
2	0.500000	115308.574074	0.504098	0.820	No
3	1.000000	218427.833333	1.015783	1.578	No
4	1.500000	320363.525316	1.521594	1.440	No
5	2.500000	513671.587379	2.480802	-0.768	No

1254 E Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '1254 E Average Table' contains no data.



DECA Calibration Information

Processing Method	SIR_1254_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	DECA
Retention Time	25.768 min	Order	1
A	0.000000	B	2232083.274021
C	0.000000	D	0.000000
E	0.000000	F	0.000000

R 0.993883 R^2 0.987803
 Standard Error 142455.023979

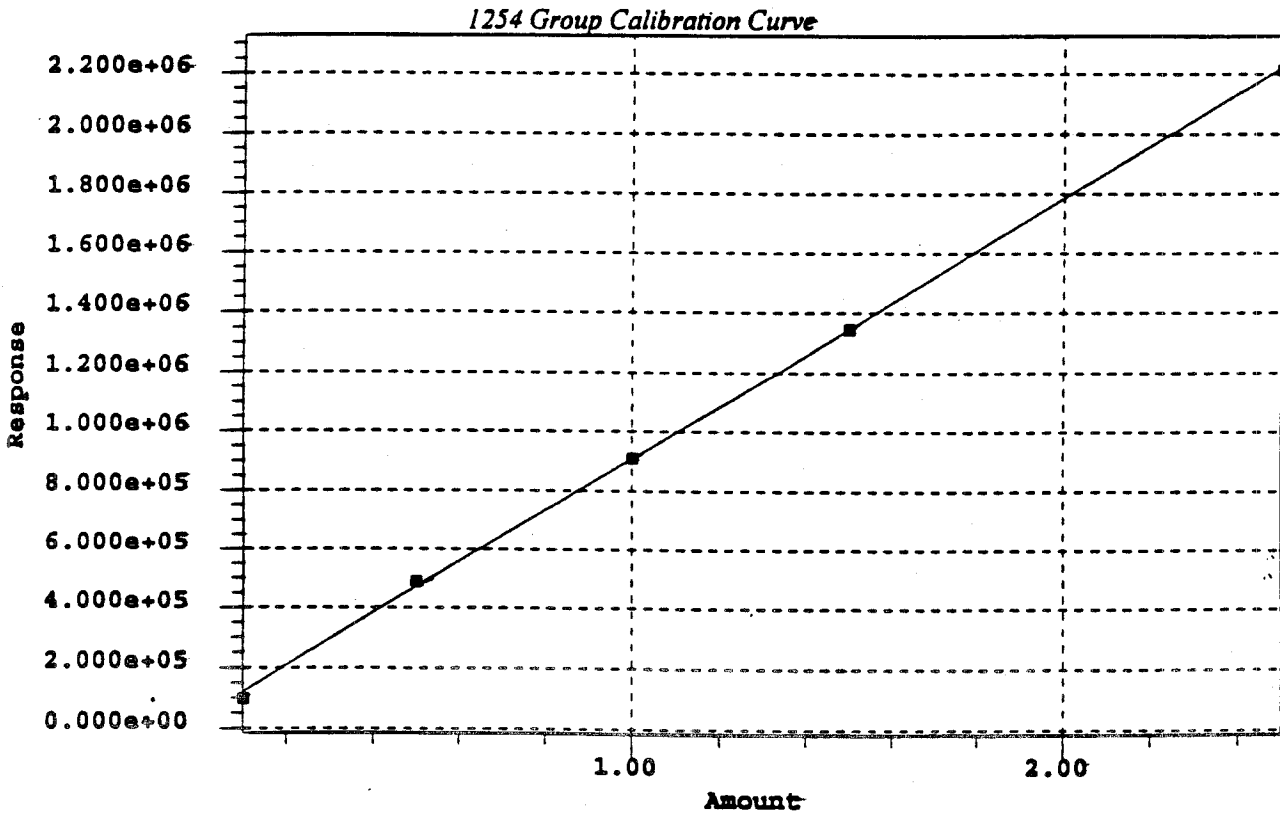
DECA Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.050000	210328.000000	0.094229	88.459	Yes
2	0.100000	347936.000000	0.155879	55.879	Yes
3	0.500000	1296543.000000	0.580867	16.173	Yes
4	1.000000	2315810.000000	1.037511	3.751	Yes
5	1.500000	3220534.000000	1.442838	-3.811	Yes

DECA Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table 'DECA Average Table' contains no data.



1254 Group Calibration Information

Processing Method	SIR_1254_0723	System	SI_L4_S2
Channel	SATIN-2	Date	24-JUL-97
Type	LC	Name	1254 Group
Retention Time	min	Order	1

A	29865.541415	B	876052.131811
C	0.000000	D	0.000000
E	0.000000	F	0.000000
R	0.999838	R^2	0.999676
Standard Error	17012.864304		

1254 Group Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	0.100000	97237.833587	0.076904	-23.096	No
2	0.500000	487509.855967	0.522394	4.479	No
3	1.000000	909702.214815	1.004320	0.432	No
4	1.500000	1347589.439873	1.504162	0.277	No
5	2.500000	2213180.300971	2.492220	-0.311	No

1254 Group Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

'able '1254 Group Average Table' contains no data.

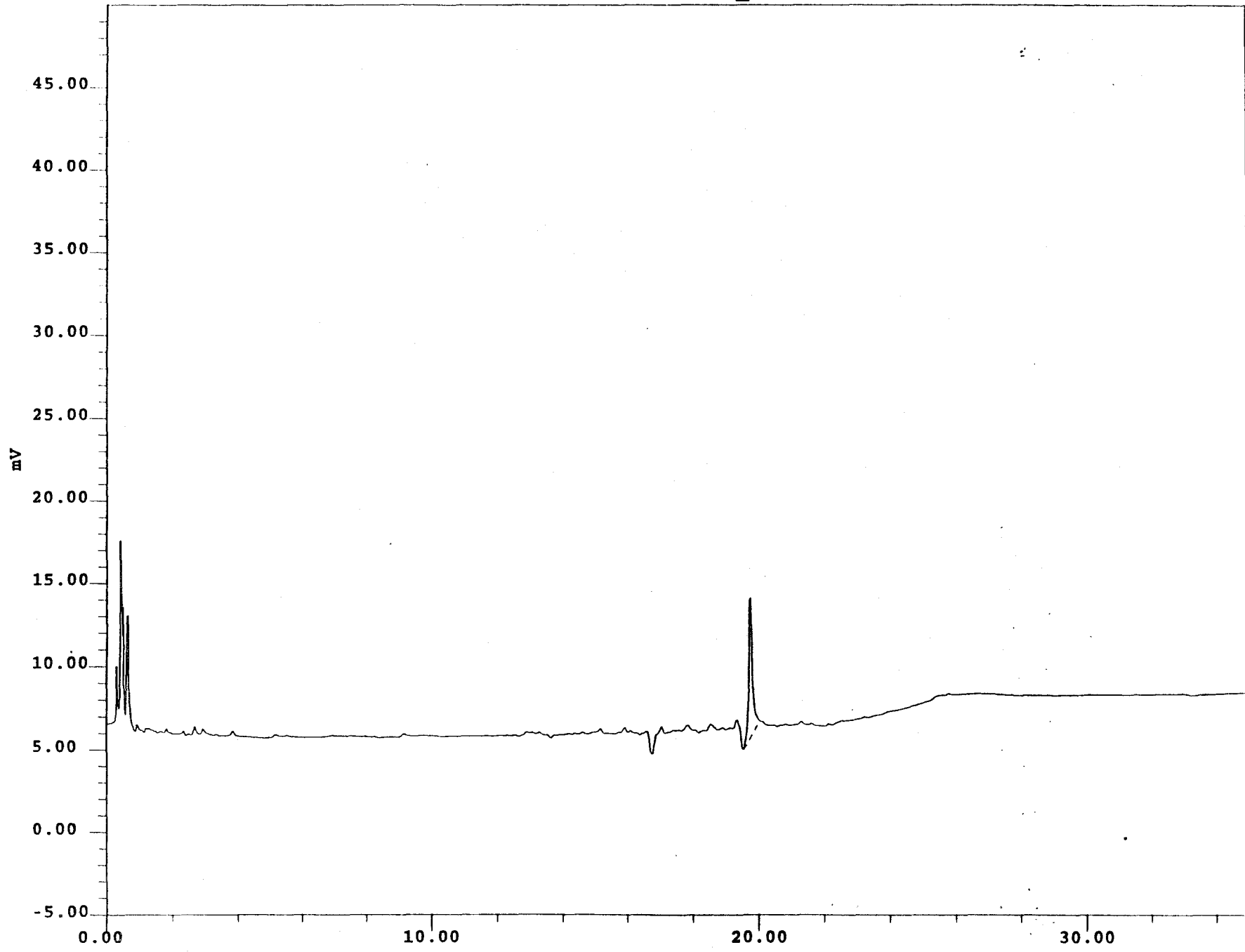
RUNLOG

Start of Analysis Lot SIR07230723

#	Vial	SampleNameR	Analysis_Lt_R	Date Acquired	Prp_Lt_R	Dilut_R	Additional_Comments
1	1	IB	SIR07230723	07/23/97 09:10:12 PM	0723PH01	1.00000	
2	2	CAL A5-2 1260 0	SIR07230723	07/23/97 09:49:36 PM	0723PH01	1.00000	
3	3	CAL A5-2 1260 0	SIR07230723	07/23/97 10:29:10 PM	0723PH01	1.00000	
4	4	CAL A5-2 1260 1	SIR07230723	07/23/97 11:08:38 PM	0723PH01	1.00000	
5	5	CAL A5-2 1260 1	SIR07230723	07/23/97 11:48:07 PM	0723PH01	1.00000	
6	6	CAL A5-2 1260 2	SIR07230723	07/24/97 12:27:30 AM	0723PH01	1.00000	
7	7	CAL A25-2 1242	SIR07230723	07/24/97 01:06:56 AM	0723PH01	1.00000	
8	8	CAL A25-2 1242	SIR07230723	07/24/97 01:46:19 AM	0723PH01	1.00000	
9	9	CAL A25-2 1242	SIR07230723	07/24/97 02:25:53 AM	0723PH01	1.00000	
10	10	CAL A25-2 1242	SIR07230723	07/24/97 03:05:19 AM	0723PH01	1.00000	
11	11	CAL A25-2 1242	SIR07230723	07/24/97 03:44:46 AM	0723PH01	1.00000	
12	12	CAL A25-1 1254	SIR07230723	07/24/97 04:24:09 AM	0723PH01	1.00000	
13	13	CAL A25-1 1254	SIR07230723	07/24/97 05:03:34 AM	0723PH01	1.00000	
14	14	CAL A25-1 1254	SIR07230723	07/24/97 05:42:57 AM	0723PH01	1.00000	
15	15	CAL A25-1 1254	SIR07230723	07/24/97 06:22:23 AM	0723PH01	1.00000	
16	16	CAL A25-1 1254	SIR07230723	07/24/97 07:01:42 AM	0723PH01	1.00000	
17	17	CAL A6-1 T/D 0.	SIR07230723	07/24/97 07:41:04 AM	0723PH01	1.00000	
18	18	CAL A6-1 T/D 0.	SIR07230723	07/24/97 08:20:24 AM	0723PH01	1.00000	
19	19	CAL A6-1 T/D 0.	SIR07230723	07/24/97 08:59:47 AM	0723PH01	1.00000	
20	20	CAL A6-1 T/D 1.	SIR07230723	07/24/97 09:39:06 AM	0723PH01	1.00000	
21	21	CAL A6-1 T/D 1.	SIR07230723	07/24/97 10:18:26 AM	0723PH01	1.00000	
22	22	ICV A23-4 1260	SIR07230723	07/24/97 10:57:43 AM	0723PH01	1.00000	
23	23	ICV0562367 1242	SIR07230723	07/24/97 11:37:04 AM	0723PH01	1.00000	
24	24	ICV A23-2 1254	SIR07230723	07/24/97 12:16:05 PM	0723PH01	1.00000	

End of Analysis Lot SIR07230723

SampleNameR: IB Prep_Lot_R: 0814PH01 Analysis_Lot_R: SIR07230814
Date Acquired: 08/14/97 09:41:11 AM Dilution_R: 1.00000



SampleNameR IB
Analysis_Lot_R SIR07230814
Prep_Lot_R 0814PH01

Date Acquired 08/14/97 09:41:11 AM
Acq Meth Set SI_1260
Processing Method SIR_1260_0723
Channel Descr. REAR

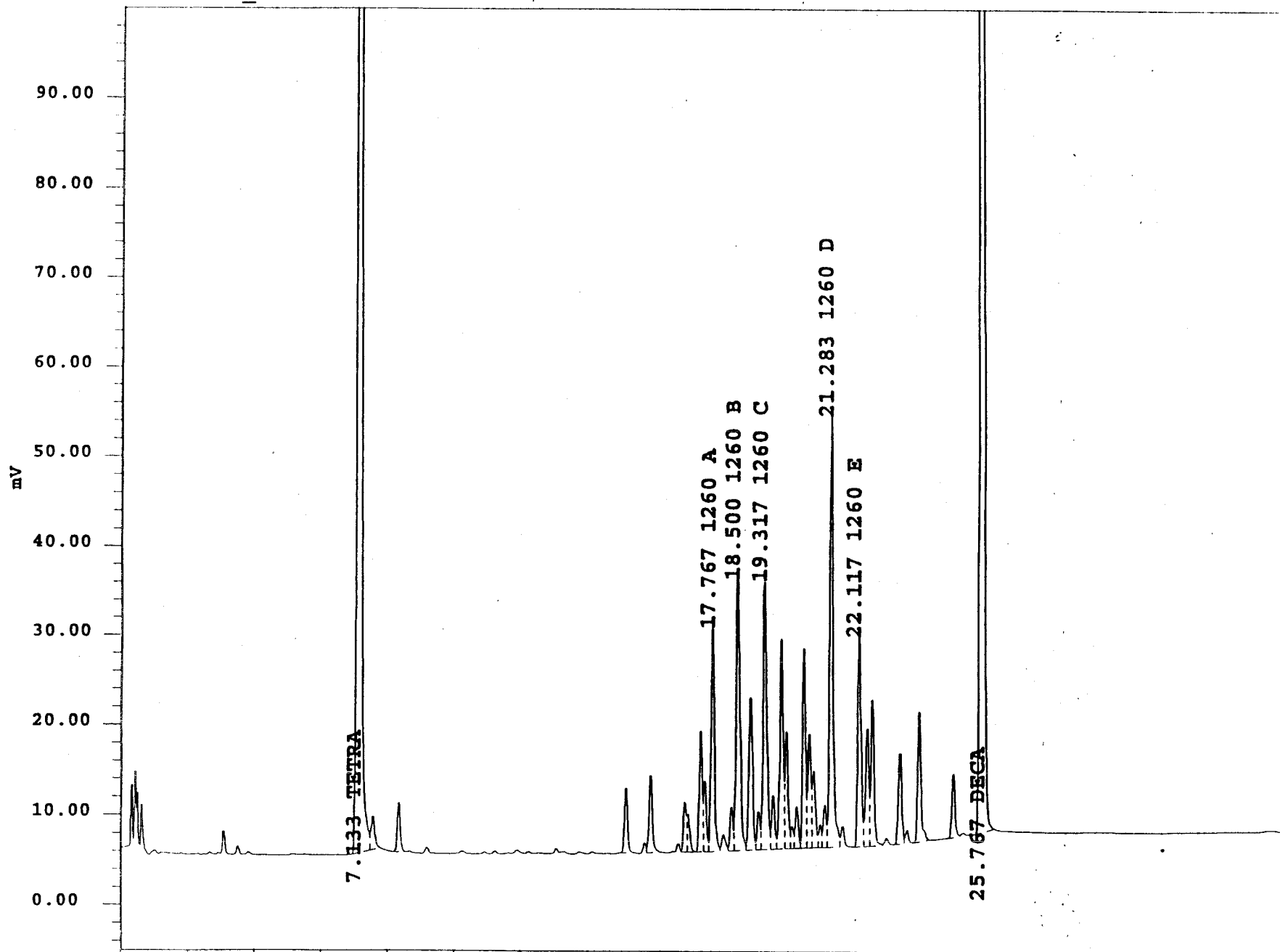
Dilution_R 1.00000
SampleWeightR 1.00000
Initials LZ

Table 'ECD Results' contains no data.

ND

0.10 mg/L sln. conc.

SampleNameR: CCV SVW1-14-1 1260 Prep_Lot_R: 0814PH01
Analysis_Lot_R: SIR07230814 Date Acquired: 08/14/97 10:22:16 AM
Dilution_R: 1.00000



SampleNameR CCV SVW1-14-1 1260

Analysis_Lot_R SIR07230814

Prep_Lot_R 0814PH01

Date Acquired 08/14/97 10:22:16 AM

Acq Meth Set SI_1260

Processing Method SIR_1260_0723

Channel Descr. REAR

Dilution_R 1.00000

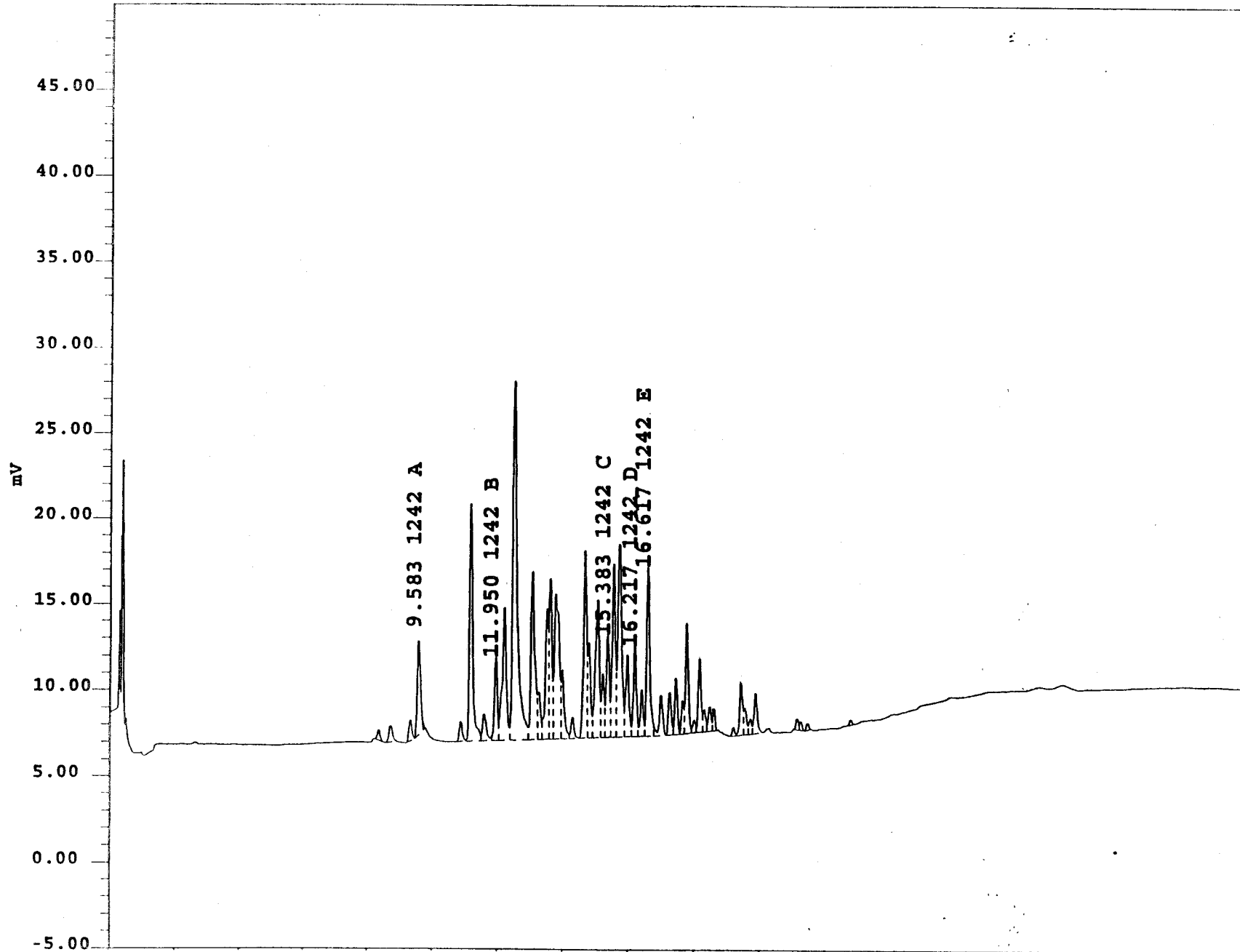
SampleWeightR 1.00000

Initials LZ

ECD Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Amount_R (ppm)
1	1260 Group		1133846	0.9296	0.929569
2	TETRA	7.133	2491567	0.9844	0.984404
3	1260 A	17.767	168757	0.9517	0.951687
4	1260 B	18.500	244614	0.9430	0.942969
5	1260 C	19.317	218573	0.9268	0.926780
6	1260 D	21.283	340577	0.9218	0.921804
7	1260 E	22.117	161325	0.9099	0.909949
8	DECA	25.767	1897792	0.8502	0.850233

SampleName: CCV1SVW1-25-1 1242 Prep Lot: 0814PH01
Analysis Lot: SIF07230814 Date Acquired: 08/14/97 10:22:16 AM
Dilution: 1.00000



SampleName CCV1SVW1-25-1 1
Analysis_Lot SIF07230814
Prep_Lot 0814PH01

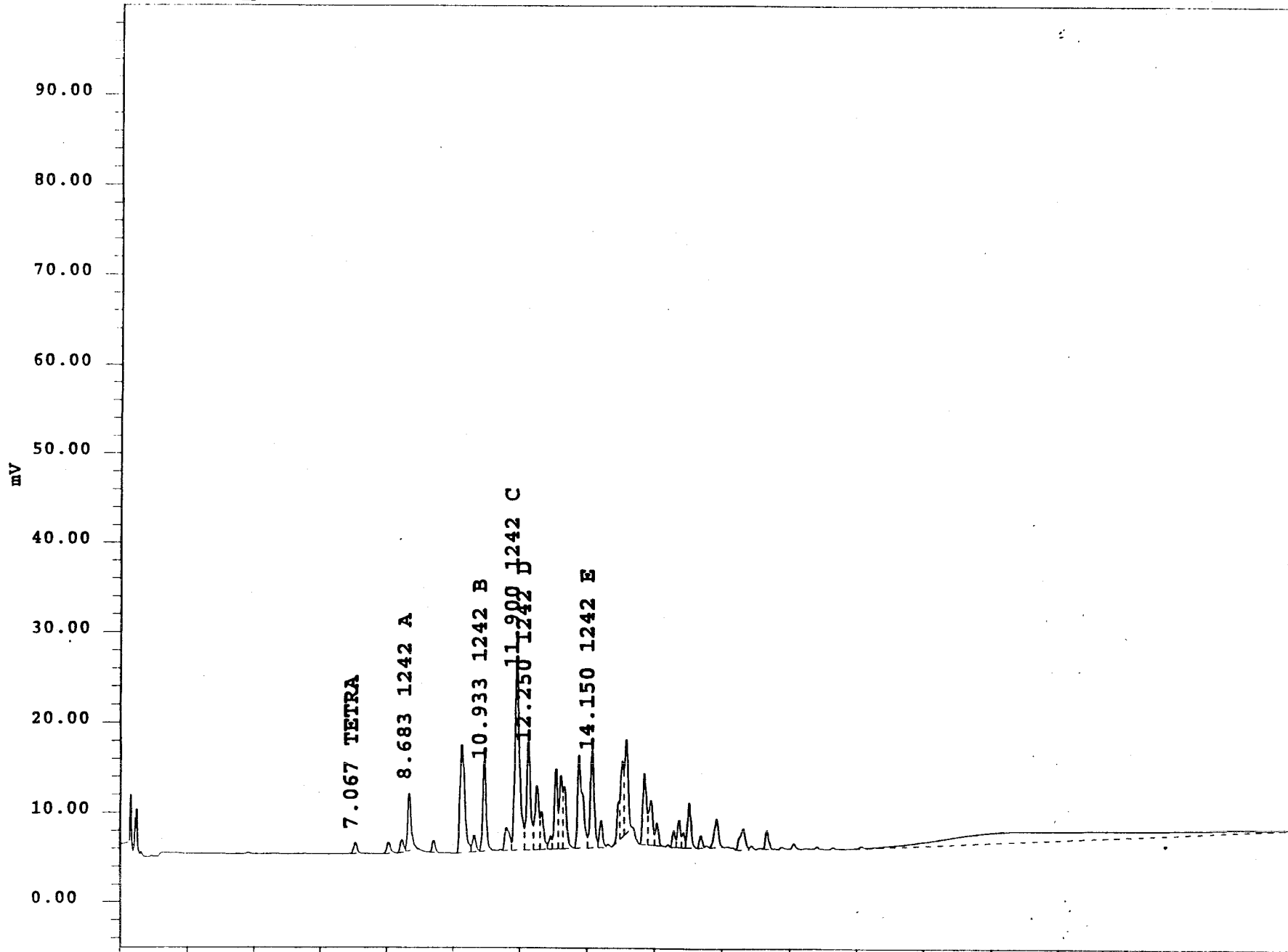
Date Acquired 08/14/97 10:22:16 AM
Acq Meth Set SI_1260
Processing Method SIF_1242_0723
Channel Descr. FRONT

Dilution 1.00000
SampleWeight 1.000
Initials LZ

ECD Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Amount (ppm)
1	1242 Group		203124	1.1522	1.152243
2	1242 A	9.583	37060	1.0366	1.036619
3	1242 B	11.950	29134	1.2629	1.262926
4	1242 C	15.383	38297	1.1209	1.120910
5	1242 D	16.217	33423	1.1815	1.181468
6	1242 E	16.617	65210	1.1943	1.194340

SampleNameR: CCV1SVW1-25-1 1242 Prep_Lot_R: 0814PH01
Analysis_Lot_R: SIR07230814 Date Acquired: 08/14/97 11:01:39 AM
Dilution_R: 1.00000



SampleNameR CCV1SVW1-25-1 1242

Date Acquired 08/14/97 11:01:39 AM

Dilution_R 1.00000

Analysis_Lot_R SIR07230814

Acq Meth Set SI_1260

SampleWeightR 1.00000

Prep_Lot_R 0814PH01

Processing Method SIR_1242_0723

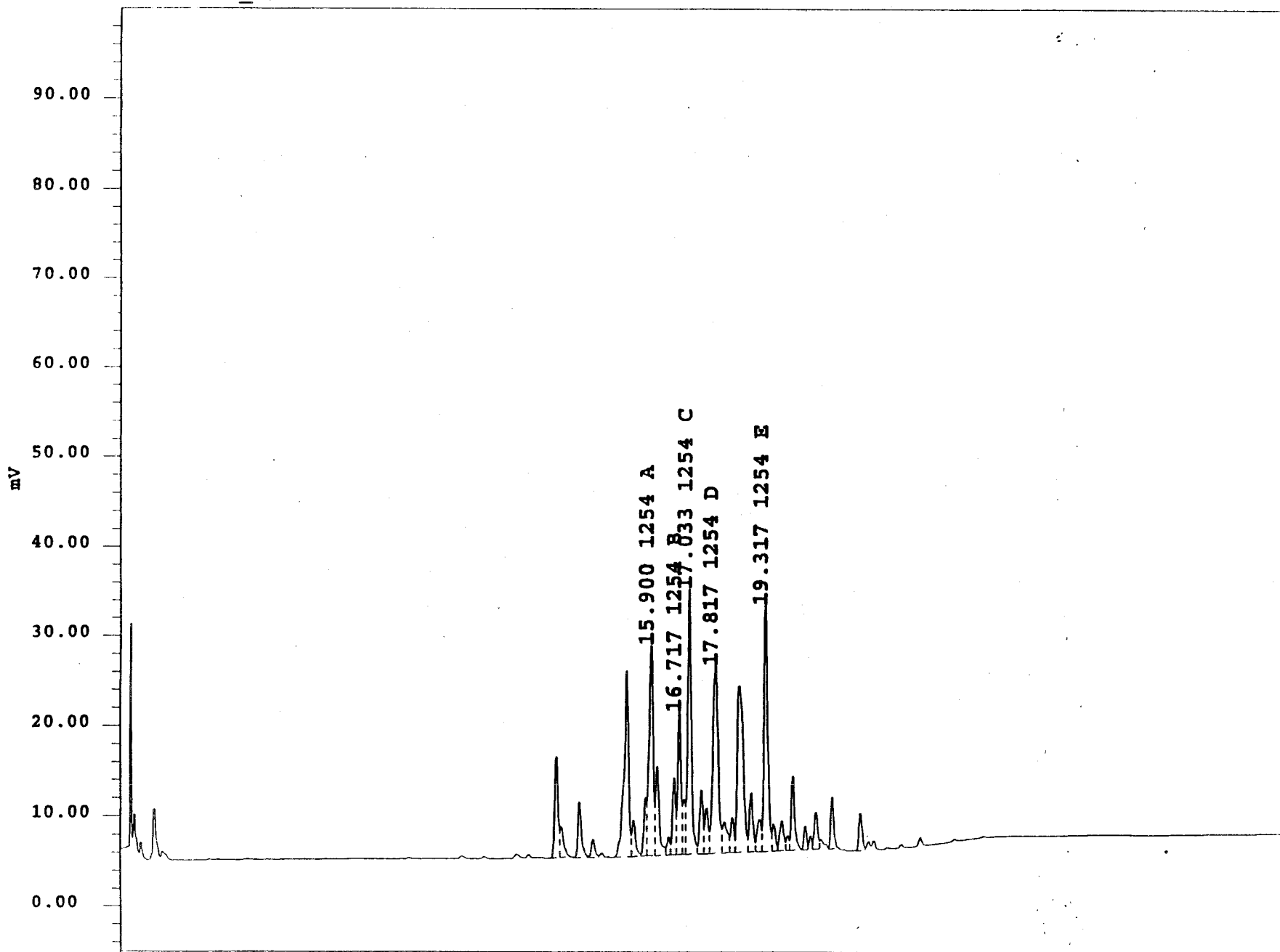
Initials LZ

Channel Descr. REAR

ECD Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Amount_R (ppm)
1	1242 Group		507935	1.0927	1.092690
2	TETRA	7.067	7853	0.0031	0.003103
3	1242 A	8.683	50828	1.1235	1.123453
4	1242 B	10.933	69799	1.0972	1.097181
5	1242 C	11.900	201915	1.0611	1.061135
6	1242 D	12.250	99594	1.1444	1.144448
7	1242 E	14.150	85799	1.0904	1.090416

SampleNameR: CCV2 A23-2 1254 Prep_Lot_R: 0814PH01
Analysis_Lot_R: SIR07230814 Date Acquired: 08/14/97 11:41:06 AM
Dilution_R: 1.00000



SampleNameR CCV2 A23-2 1254

Analysis_Lot_R SIR07230814

Prep_Lot_R 0814PH01

Date Acquired 08/14/97 11:41:06 AM

Acq Meth Set SI_1260

Processing Method SIR_1254_0723

Channel Descr. REAR

Dilution_R 1.00000

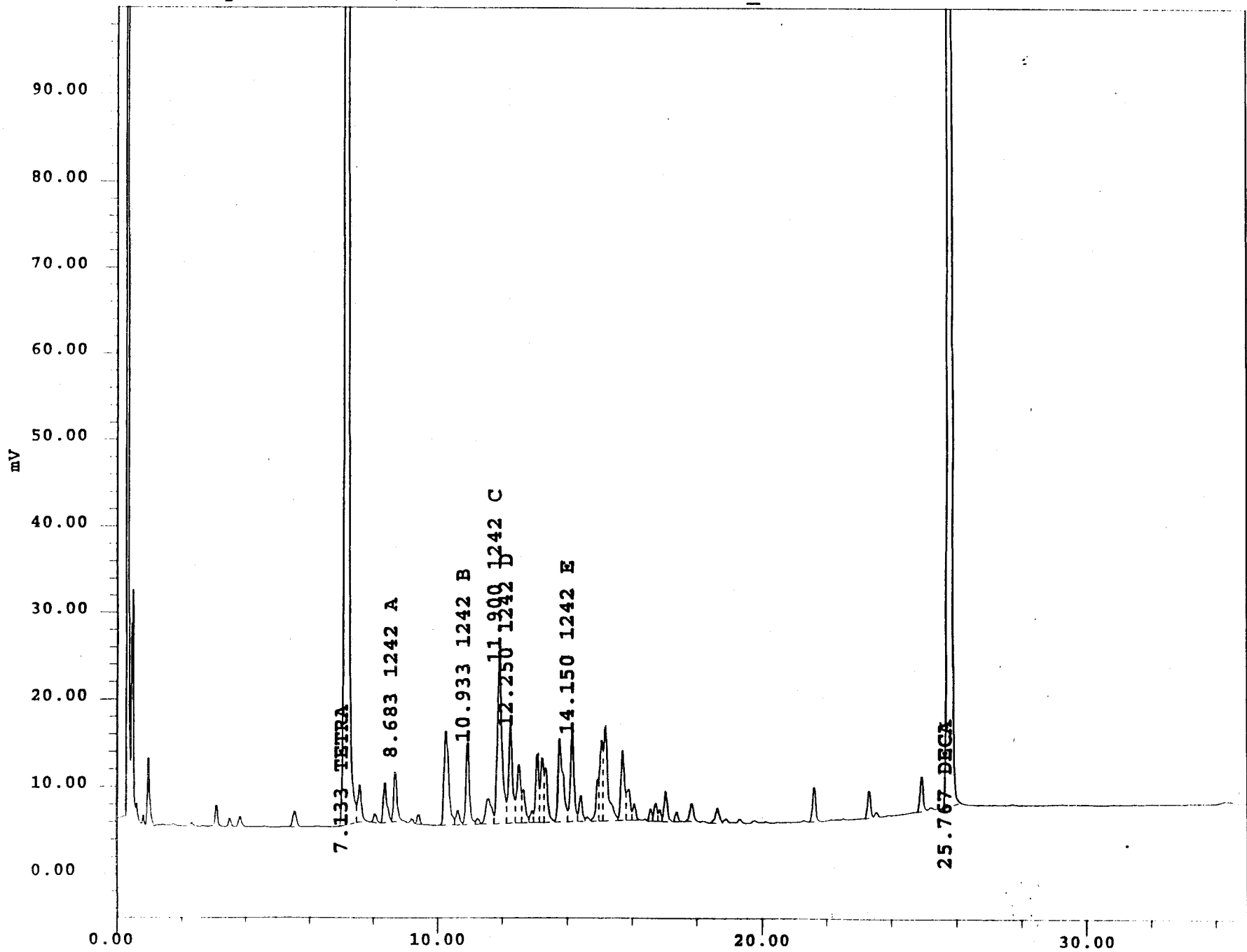
SampleWeightR 1.00000

Initials LZ

ECD Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Amount_R (ppm)
1	1254 Group		962672	1.0648	1.064784
2	1254 A	15.900	193879	1.0818	1.081837
3	1254 B	16.717	108809	1.1357	1.135700
4	1254 C	17.033	218280	1.1219	1.121930
5	1254 D	17.817	232814	1.0554	1.055368
6	1254 E	19.317	208890	0.9685	0.968458

SampleNameR: LCS XXX3110 Prep_Lot_R: XXX3110 Analysis_Lot_R: SIR07230814
Date Acquired: 08/14/97 02:18:34 PM Dilution_R: 1.00000



SampleNameR LCS XXX3110
Analysis_Lot_R SIR07230814
Prep_Lot_R XXX3110

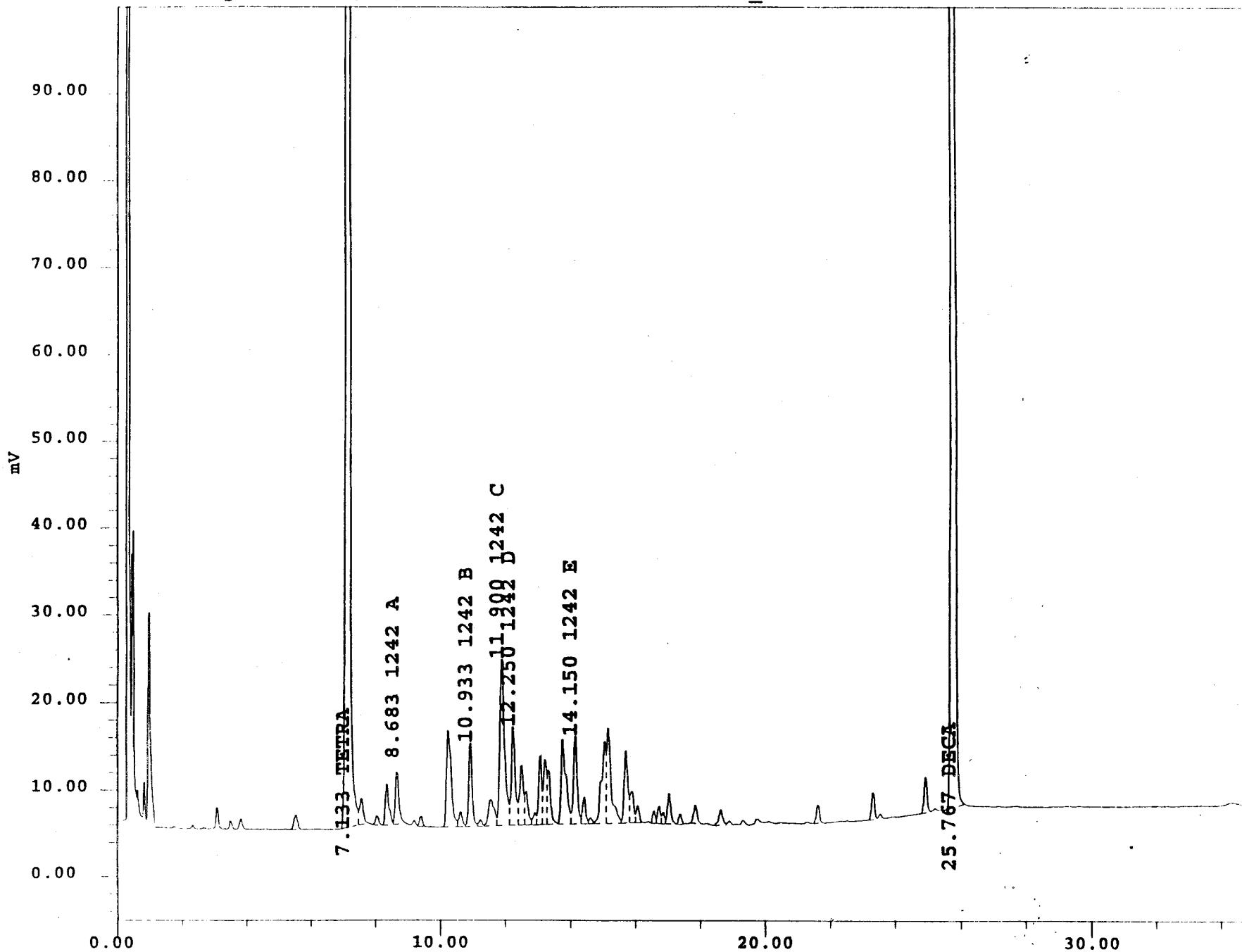
Date Acquired 08/14/97 02:18:34 PM
Acq Meth Set SI_1260
Processing Method SIR_1242_0723
Channel Descr. REAR

Dilution_R 1.00000
SampleWeightR 1.00000
Initials LZ

ECD Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Amount_R (ppm)
1	1242 Group		471390	1.0104	1.010364
2	TETRA	7.133	2219581	0.8769	0.876944
3	1242 A	8.683	43711	0.9592	0.959235
4	1242 B	10.933	66207	1.0387	1.038689
5	1242 C	11.900	187343	0.9804	0.980386
6	1242 D	12.250	93965	1.0760	1.076042
7	1242 E	14.150	80165	1.0167	1.016664
8	DECA	25.767	1808548	0.8103	0.810251

SampleNameR: LCSD XXX3110 Prep_Lot_R: XXX3110 Analysis_Lot_R: SIR07230814
Date Acquired: 08/14/97 02:57:58 PM Dilution_R: 1.00000



SampleNameR LCS D XXX3110
Analysis_Lot_R SIR07230814
Prep_Lot_R XXX3110

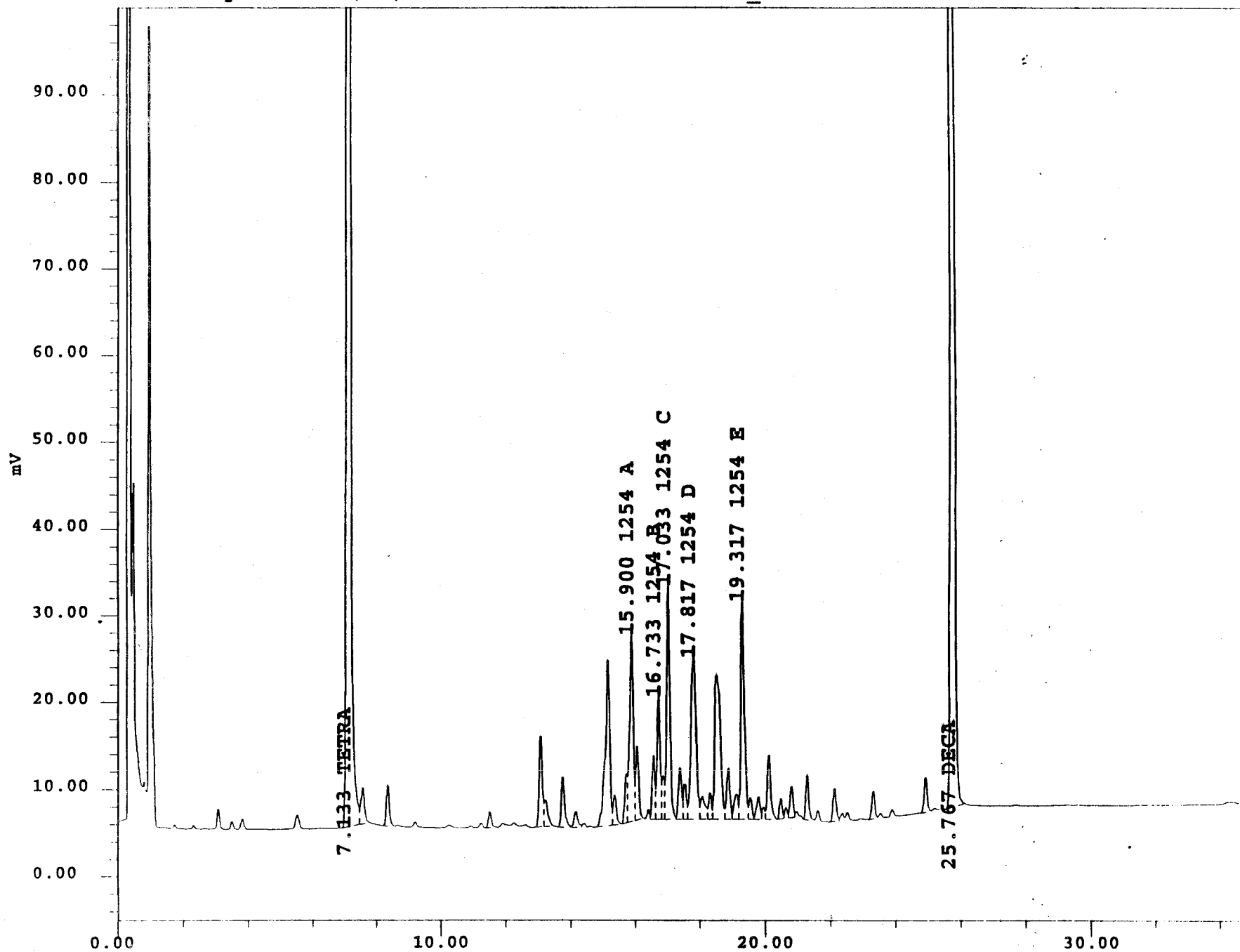
Date Acquired 08/14/97 02:57:58 PM
Acq Meth Set SI_1260
Processing Method SIR_1242_0723
Channel Descr. REAR

Dilution_R 1.00000
SampleWeightR 1.00000
Initials LZ

ECD Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Amount_R (ppm)
1	1242 Group		481088	1.0322	1.032211
2	TETRA	7.133	2236324	0.8836	0.883559
3	1242 A	8.683	45930	1.0104	1.010438
4	1242 B	10.933	66907	1.0501	1.050087
5	1242 C	11.900	191737	1.0047	1.004736
6	1242 D	12.250	95375	1.0932	1.093179
7	1242 E	14.150	81139	1.0294	1.029421
8	DECA	25.767	1871368	0.8384	0.838395

SampleNameR: LCS1 XXX3110 Prep_Lot_R: XXX3110 Analysis_Lot_R: SIR07230814
Date Acquired: 08/14/97 03:37:22 PM Dilution_R: 1.00000



SampleNameR LCS1 XXX3110
Analysis_Lot_R SIR07230814
Prep_Lot_R XXX3110

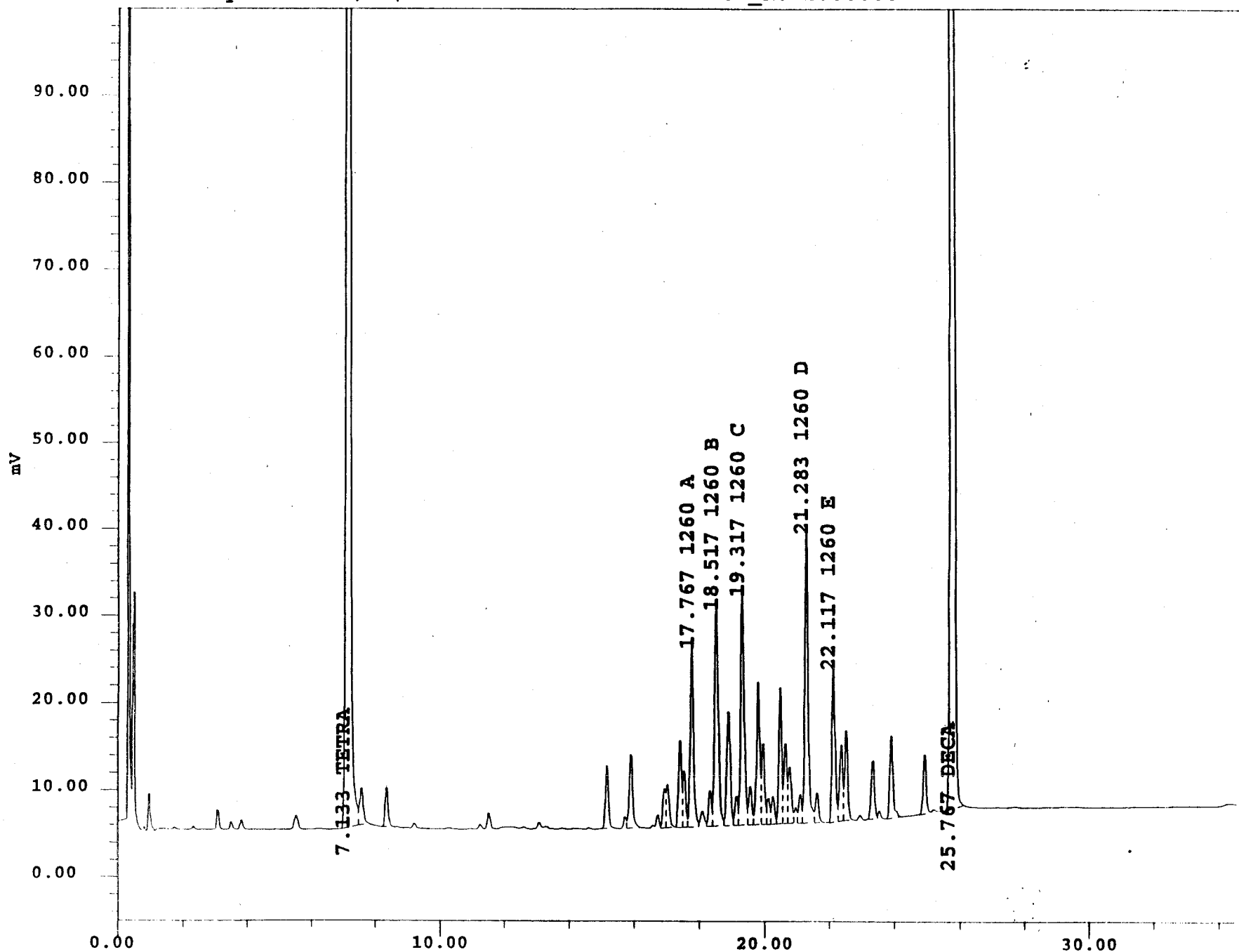
Date Acquired 08/14/97 03:37:22 PM
Acq Meth Set SI_1260
Processing Method SIR_1254_0723
Channel Descr. REAR

Dilution_R 1.00000
SampleWeightR 1.00000
Initials LZ

ECD Results

#	Name	Ret Time (min)	Area (uV*sec)	SIn_Conc	Amount_R (ppm)
1	1254 Group		850949	0.9373	0.937255
2	TETRA	7.133	2187253	0.8642	0.864171
3	1254 A	15.900	173100	0.9595	0.959465
4	1254 B	16.733	94039	0.9931	0.993055
5	1254 C	17.033	191109	0.9785	0.978485
6	1254 D	17.817	204004	0.9190	0.919025
7	1254 E	19.317	188698	0.8683	0.868259
8	DECA	25.767	1724427	0.7726	0.772564

SampleNameR: LCS2 XXX3110 Prep_Lot_R: XXX3110 Analysis_Lot_R: SIR07230814
Date Acquired: 08/14/97 04:16:43 PM Dilution_R: 1.00000



SampleNameR LCS2 XXX3110
Analysis_Lot_R SIR07230814
Prep_Lot_R XXX3110

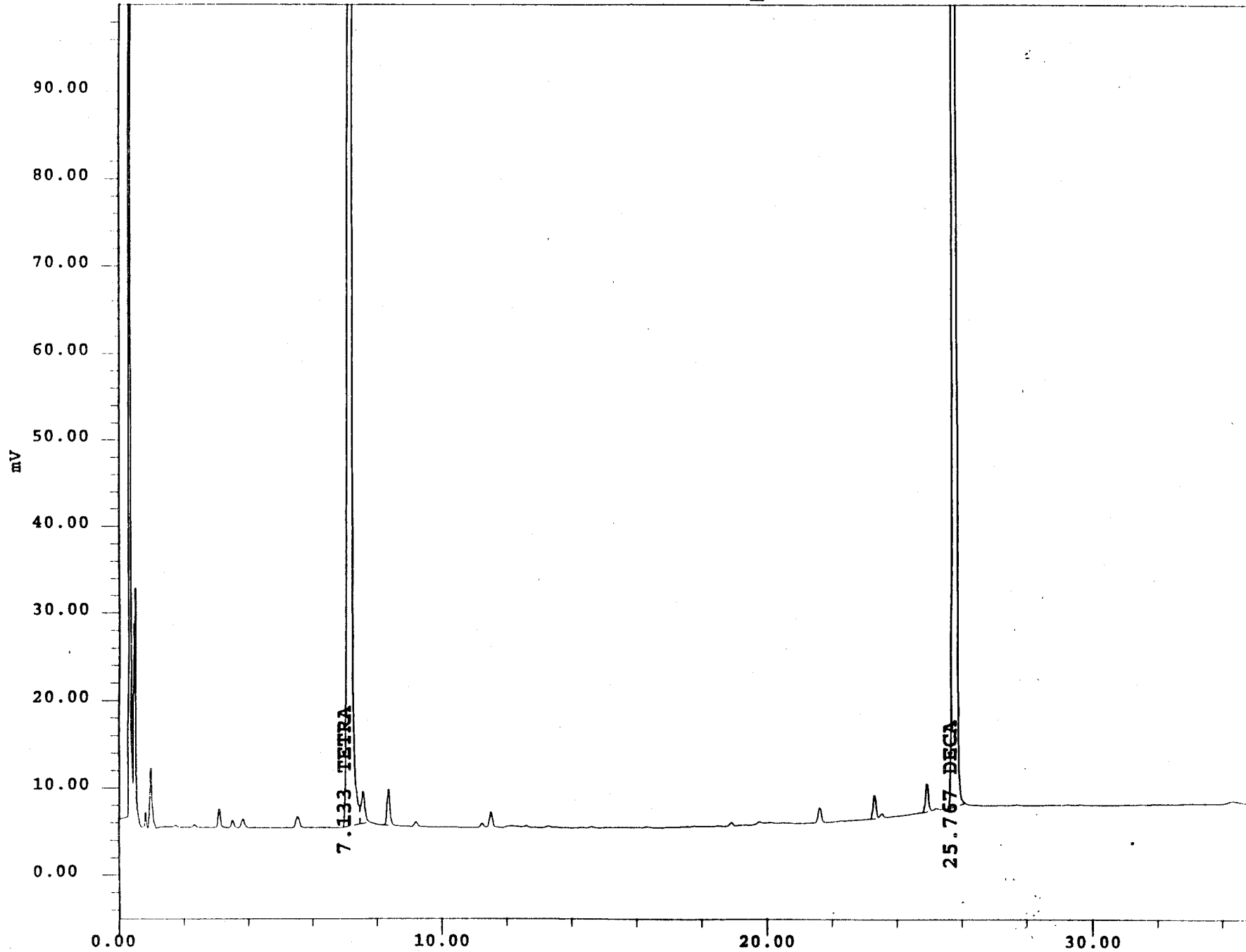
Date Acquired 08/14/97 04:16:43 PM
Acq Meth Set SI_1260
Processing Method SIR_1260_0723
Channel Descr. REAR

Dilution_R 1.00000
SampleWeightR 1.00000
Initials LZ

ECD Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Amount_R (ppm)
1	1260 Group		904189	0.7203	0.720266
2	TETRA	7.133	2144627	0.8473	0.847330
3	1260 A	17.767	142483	0.7826	0.782578
4	1260 B	18.517	206023	0.7728	0.772760
5	1260 C	19.317	196534	0.8229	0.822880
6	1260 D	21.283	237374	0.6149	0.614941
7	1260 E	22.117	121775	0.6727	0.672719
8	DECA	25.767	1804298	0.8083	0.808347

SampleNameR: MB XXX3110 Prep_Lot_R: XXX3110 Analysis_Lot_R: SIR07230814
Date Acquired: 08/14/97 04:56:04 PM Dilution_R: 1.00000



SampleNameR MB XXX3110
Analysis_Lot_R SIR07230814
Prep_Lot_R XXX3110

Date Acquired 08/14/97 04:56:04 PM
Acq Meth Set SI_1260
Processing Method SIR_1260_0723
Channel Descr. REAR

Dilution_R 1.00000
SampleWeightR 1.00000
Initials LZ

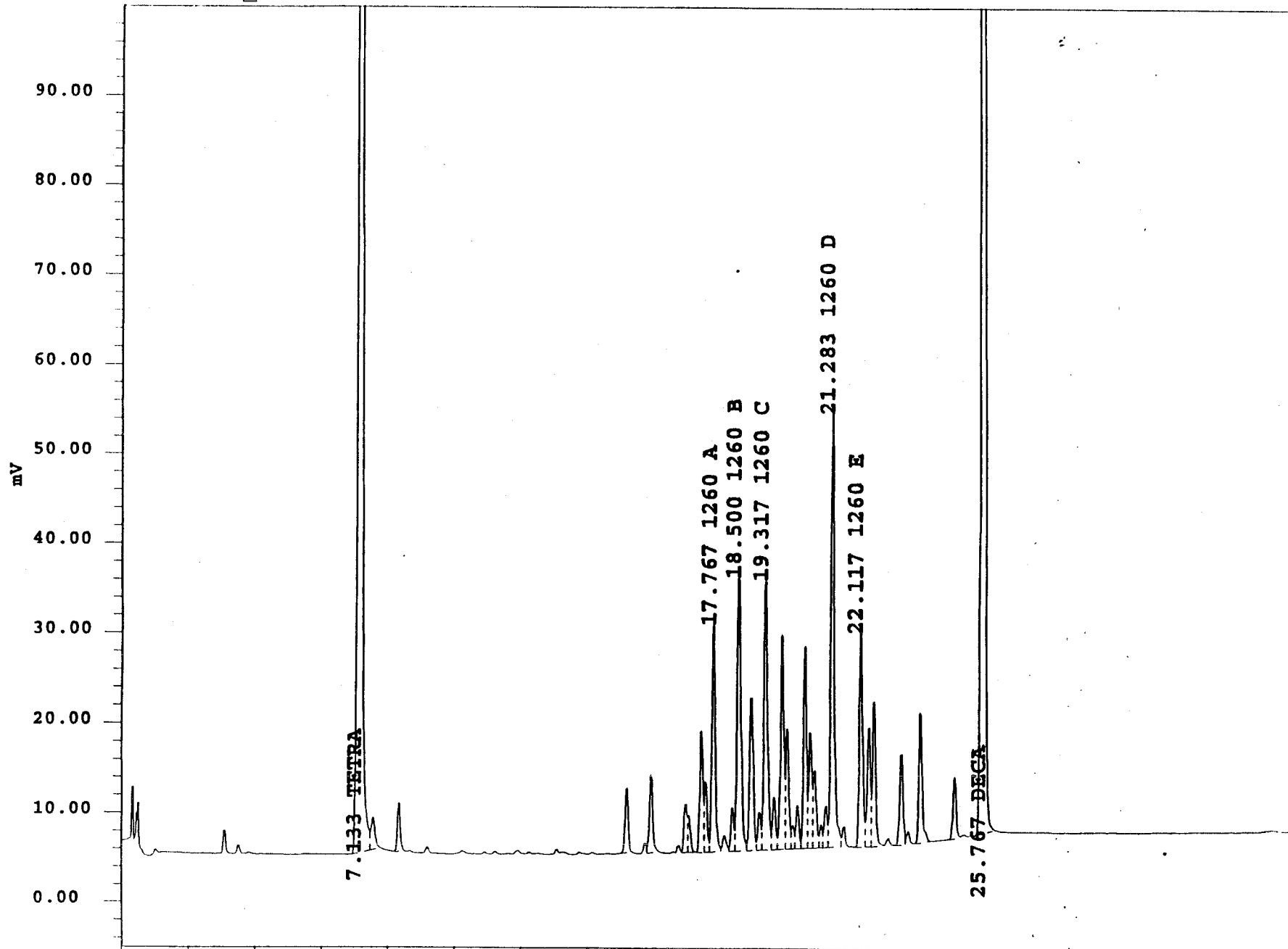
ECD Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Amount_R (ppm)
1	TETRA	7.133	2017772	0.7972	0.797210
2	DECA	25.767	1465896	0.6567	0.656739

ND

0.10 mg/L glucose

SampleNameR: CCV SVW1-14-1 1260 Prep_Lot_R: 0814PH01
Analysis_Lot_R: SIR07230814 Date Acquired: 08/14/97 05:37:55 PM
Dilution_R: 1.00000



SampleNameR CCV SVW1-14-1 1260

Analysis_Lot_R SIR07230814

Prep_Lot_R 0814PH01

Date Acquired 08/14/97 05:37:55 PM

Acq Meth Set SI_1260

Processing Method SIR_1260_0723

Channel Descr. REAR

Dilution_R 1.00000

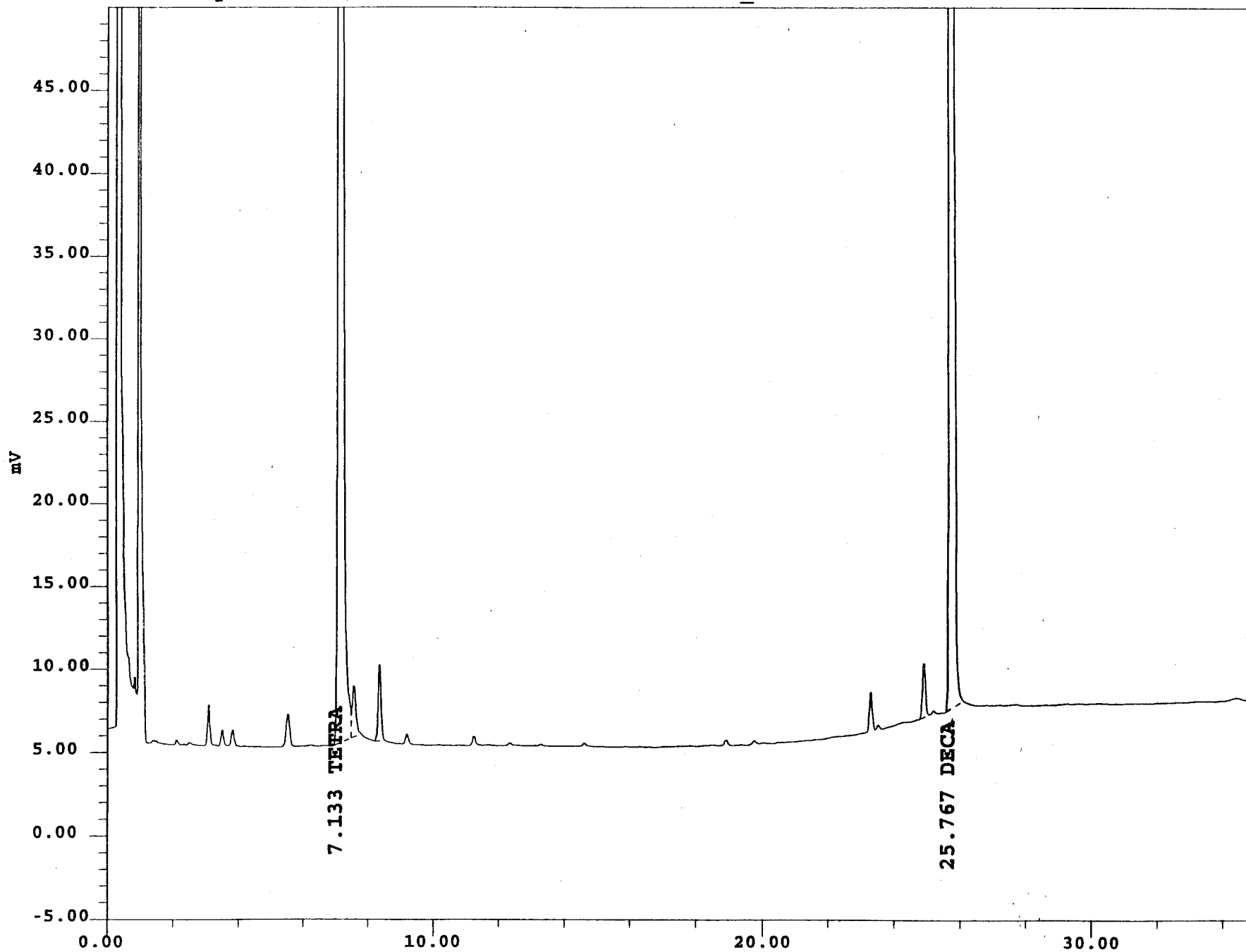
SampleWeightR 1.00000

Initials JLB

ECD Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Amount_R (ppm)
1	1260 Group		1148396	0.9428	0.942830
2	TETRA	7.133	2527098	0.9984	0.998442
3	1260 A	17.767	171746	0.9709	0.970929
4	1260 B	18.500	248496	0.9601	0.960089
5	1260 C	19.317	221760	0.9418	0.941803
6	1260 D	21.283	342890	0.9287	0.928680
7	1260 E	22.117	163504	0.9230	0.923020
8	DECA	25.767	1902048	0.8521	0.852140

SampleNameR: 974607001 Prep_Lot_R: XXX3123 Analysis_Lot_R: SIR07230814
Date Acquired: 08/14/97 08:15:51 PM Dilution_R: 1.00000



SampleNameR 974607001

Date Acquired 08/14/97 08:15:51 PM

Dilution_R 1.00000

Analysis_Lot_R SIR07230814

Acq Meth Set SI_1260

SampleWeightR 1.00000

Prep_Lot_R XXX3123 L2
10

Processing Method SIR_1260_0723

Initials JLB

Channel Descr. REAR

ECD Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Amount_R (ppm)
1	TETRA	7.133	2216033	0.8755	0.875542
2	DECA	25.767	1524624	0.6830	0.683050

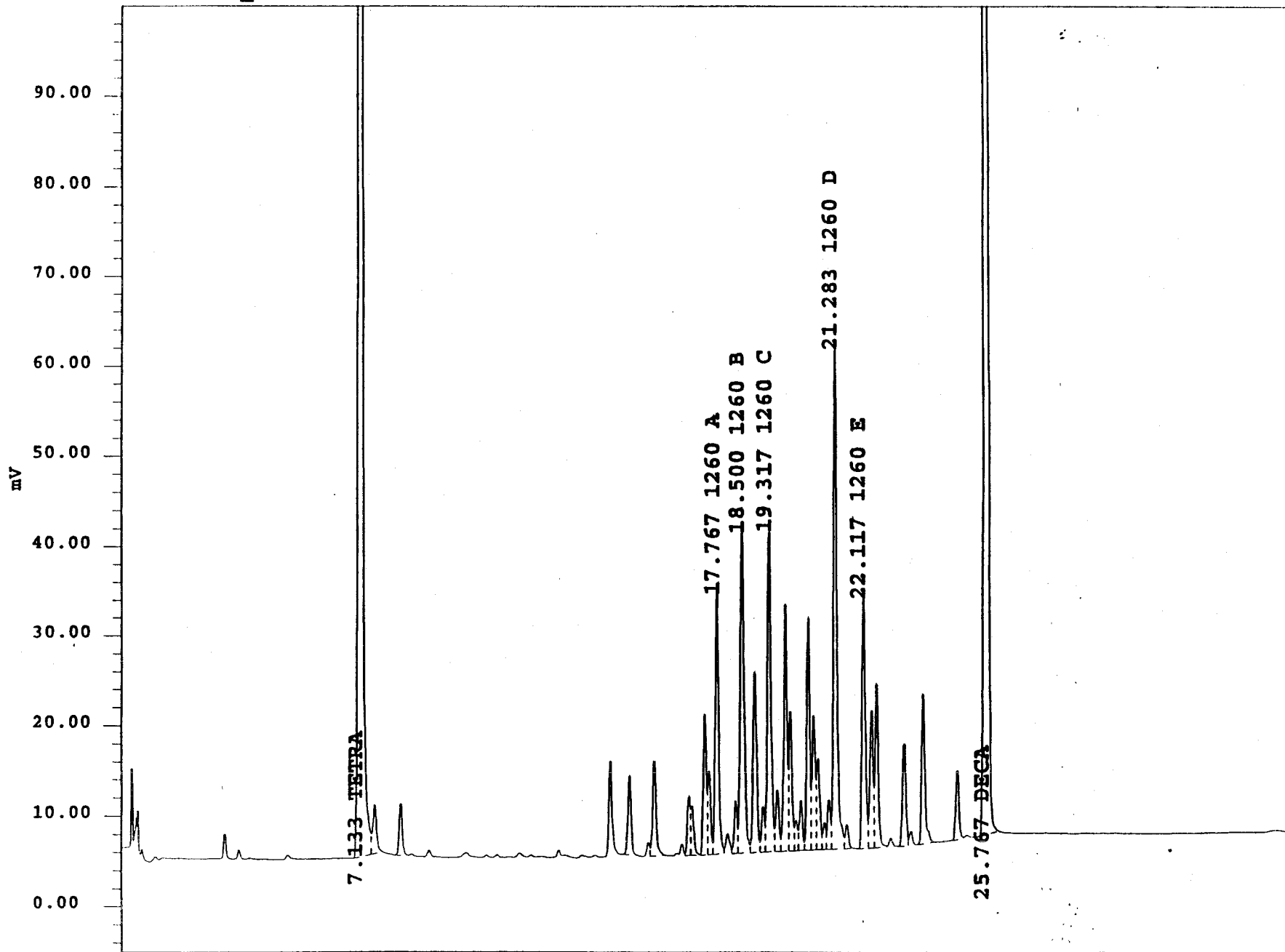
87.6%

68.3%

ND

0.10 mg/L sln. conc.

SampleNameR: CCV SVW1-14-1 1260 Prep_Lot_R: 0814XH01
Analysis_Lot_R: SIR07230814 Date Acquired: 08/15/97 12:51:09 AM
Dilution_R: 1.00000



SampleNameR CCV SVW1-14-1 1260

Analysis_Lot_R SIR07230814

Prep_Lot_R 0814XH01

Date Acquired 08/15/97 12:51:09 AM

Acq Meth Set SI_1260

Processing Method SIR_1260_0723

Channel Descr. REAR

Dilution_R 1.00000

SampleWeightR 1.00000

Initials JLB

ECD Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Amount_R (ppm)
1	1260 Group		1343292	1.1205	1.120453
2	TETRA	7.133	2572710	1.0165	1.016463
3	1260 A	17.767	201171	1.1603	1.160314
4	1260 B	18.500	293019	1.1565	1.156462
5	1260 C	19.317	264233	1.1420	1.142040
6	1260 D	21.283	393979	1.0806	1.080589
7	1260 E	22.117	190889	1.0873	1.087284
8	DECA	25.767	1952807	0.8749	0.874881

Error Summary Log

10/22/97

EDF 1.2a All files present in deliverable.

Laboratory:	CT&E Environmental Services, Inc., Anchorage, AK
Lab Report Number:	974607
Project Name:	Gambell Transformers
Work Order Number:	NA
Control Sheet Number:	NA

Npdisamp: Error Summary Log

10/22/97

Error type	Logcode	Projname	Npdlwo	Sampid	Matrix
There are no errors in this data file					

Npdftest: Error Summary Log

10/22/97

Error type	Labsampid	Qccode	Anmcode	Exmcode	Anadate	Run number
There are no errors in this data file					//	0

Npdres: Error Summary Log

10/22/97

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: repdl is less than mdl	974607001	CS	WS	AK102E	PR	08/15/97	1	DRO
Warning: repdl is less than mdl	974607001	CS	WS	AK102E	PR	08/15/97	1	RRO
Warning: extra parameter	113552	LB1	WS	AK101	PR	08/14/97	1	BR4FBZ
Warning: extra parameter	113552	LB1	WS	AK101	PR	08/14/97	1	BZ
Warning: extra parameter	113552	LB1	WS	AK101	PR	08/14/97	1	BZME
Warning: extra parameter	113552	LB1	WS	AK101	PR	08/14/97	1	DFBZ14
Warning: extra parameter	113552	LB1	WS	AK101	PR	08/14/97	1	EBZ
Warning: extra parameter	113552	LB1	WS	AK101	PR	08/14/97	1	XYLMP
Warning: extra parameter	113552	LB1	WS	AK101	PR	08/14/97	1	XYLO
Warning: extra parameter	113553	BS1	WS	AK101	PR	08/14/97	1	BR4FBZ
Warning: extra parameter	113553	BS1	WS	AK101	PR	08/14/97	1	BZ
Warning: extra parameter	113553	BS1	WS	AK101	PR	08/14/97	1	BZME
Warning: extra parameter	113553	BS1	WS	AK101	PR	08/14/97	1	DFBZ14
Warning: extra parameter	113553	BS1	WS	AK101	PR	08/14/97	1	EBZ
Warning: extra parameter	113553	BS1	WS	AK101	PR	08/14/97	1	XYLMP
Warning: extra parameter	113553	BS1	WS	AK101	PR	08/14/97	1	XYLO
Warning: extra parameter	113554	BD1	WS	AK101	PR	08/14/97	1	BR4FBZ
Warning: extra parameter	113554	BD1	WS	AK101	PR	08/14/97	1	BZ
Warning: extra parameter	113554	BD1	WS	AK101	PR	08/14/97	1	BZME
Warning: extra parameter	113554	BD1	WS	AK101	PR	08/14/97	1	DFBZ14
Warning: extra parameter	113554	BD1	WS	AK101	PR	08/14/97	1	EBZ
Warning: extra parameter	113554	BD1	WS	AK101	PR	08/14/97	1	XYLMP
Warning: extra parameter	113554	BD1	WS	AK101	PR	08/14/97	1	XYLO
Warning: extra parameter	113566	CC1	WS	AK101	PR	08/13/97	1	BR4FBZ
Warning: extra parameter	113566	CC1	WS	AK101	PR	08/13/97	1	BZ

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	113566	CC1		AK101	PR	08/13/97	1	BZME
Warning: extra parameter	113566	CC1	WS	AK101	PR	08/13/97	1	DFBZ14
Warning: extra parameter	113566	CC1	WS	AK101	PR	08/13/97	1	EBZ
Warning: extra parameter	113566	CC1	WS	AK101	PR	08/13/97	1	XYLMP
Warning: extra parameter	113566	CC1	WS	AK101	PR	08/13/97	1	XYLO
Warning: extra parameter	113567	CC2	WS	AK101	PR	08/13/97	1	BR4FBZ
Warning: extra parameter	113567	CC2	WS	AK101	PR	08/13/97	1	BZ
Warning: extra parameter	113567	CC2	WS	AK101	PR	08/13/97	1	BZME
Warning: extra parameter	113567	CC2	WS	AK101	PR	08/13/97	1	DFBZ14
Warning: extra parameter	113567	CC2	WS	AK101	PR	08/13/97	1	EBZ
Warning: extra parameter	113567	CC2	WS	AK101	PR	08/13/97	1	XYLMP
Warning: extra parameter	113567	CC2	WS	AK101	PR	08/13/97	1	XYLO
Warning: extra parameter	114787	CC3	WS	AK101	PR	08/14/97	1	BR4FBZ
Warning: extra parameter	114787	CC3	WS	AK101	PR	08/14/97	1	BZ
Warning: extra parameter	114787	CC3	WS	AK101	PR	08/14/97	1	BZME
Warning: extra parameter	114787	CC3	WS	AK101	PR	08/14/97	1	DFBZ14
Warning: extra parameter	114787	CC3	WS	AK101	PR	08/14/97	1	EBZ
Warning: extra parameter	114787	CC3	WS	AK101	PR	08/14/97	1	XYLMP
Warning: extra parameter	114787	CC3	WS	AK101	PR	08/14/97	1	XYLO
Warning: extra parameter	114788	CC4	WS	AK101	PR	08/14/97	1	BR4FBZ
Warning: extra parameter	114788	CC4	WS	AK101	PR	08/14/97	1	BZ
Warning: extra parameter	114788	CC4	WS	AK101	PR	08/14/97	1	BZME
Warning: extra parameter	114788	CC4	WS	AK101	PR	08/14/97	1	DFBZ14
Warning: extra parameter	114788	CC4	WS	AK101	PR	08/14/97	1	EBZ
Warning: extra parameter	114788	CC4	WS	AK101	PR	08/14/97	1	XYLMP
Warning: extra parameter	114788	CC4	WS	AK101	PR	08/14/97	1	XYLO
Warning: extra parameter	974607001	CS	WS	AK101	PR	08/14/97	1	BR4FBZ
Warning: extra parameter	974607001	CS	WS	AK101	PR	08/14/97	1	BZ
Warning: extra parameter	974607001	CS	WS	AK101	PR	08/14/97	1	BZME

Error type	Labsampid	Qccode	Prfx	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	974607001	CS		AK101	PR	08/14/97	1	DFBZ14
Warning: extra parameter	974607001	CS	WS	AK101	PR	08/14/97	1	EBZ
Warning: extra parameter	974607001	CS	WS	AK101	PR	08/14/97	1	XYLMP
Warning: extra parameter	974607001	CS	WS	AK101	PR	08/14/97	1	XYLO
Warning: extra parameter	974607002	CS	WS	AK101	PR	08/14/97	1	BR4FBZ
Warning: extra parameter	974607002	CS	WS	AK101	PR	08/14/97	1	BZ
Warning: extra parameter	974607002	CS	WS	AK101	PR	08/14/97	1	BZME
Warning: extra parameter	974607002	CS	WS	AK101	PR	08/14/97	1	DFBZ14
Warning: extra parameter	974607002	CS	WS	AK101	PR	08/14/97	1	EBZ
Warning: extra parameter	974607002	CS	WS	AK101	PR	08/14/97	1	XYLMP
Warning: extra parameter	974607002	CS	WS	AK101	PR	08/14/97	1	XYLO

Npdq: Error Summary Log

10/22/97

Error type	Lablotcl	Anmcode	Parlabel	Qccode	Labqid
There are no errors in this data files					

Npdicl: Error Summary Log

10/22/97

Error type	Cirevdate	Anmcode	Exmcode	Parlabel	Cicode
There are no errors in this data file	//				

**CT&E Environmental Services Inc.
Alaska Division**

Laboratory Data Report

Contents:

- Section 1: Case Narrative Information (COC, etc.)
- Section 2: CTE Final Reports
- Section 3.1, 4.1, 5.1 . . . : Quality Control Summary Forms
- Section 3.2, 4.2, 5.2 . . . : Initial Calibrations
- Section 3.3, 4.3, 5.3 . . . : Raw Analytical Data, if required

Sections 3 and above are arranged consecutively in the following fashion: Volatiles, SemiVolatiles, Metals, Inorganics, Miscellaneous.

Note: All quality assurance/quality control criteria is in compliance with the Alaska Department of Environmental Conservation (ADEC) and/or CTE's Assurance Program Plan. You may notice some differences in the content and organization of this and future data packages. These changes have been necessary to maintain the high quality and timely delivery of data packages that CTE strives to maintain. The data is available from the laboratory should any additional information be required. Please contact the Quality Assurance Manager should any questions occur.

Prepared by	(Signature)	<u>Elizabeth Wallmann</u>
	(Printed Name)	<u>Elizabeth Wallmann</u>
	(Date)	<u>12/16/97</u>
Reviewed by	(Signature)	<u>Mike Uley</u>
	(Printed Name)	<u>Mike Uley</u>
	(Date)	<u>12/17/97</u>

Case Narrative

Customer: JMMENGN

Montgomery Watson Americas Inc

Project: 974076

COE-Gambell-New Well

There were no analytical anomalies associated with your data.

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotcl	Run Sub
974076	97GAM001 NVW	974076001	WS	CS	AK102	SW3510	07/24/97	07/29/97	07/30/97	3028XXX	1
		108623	WS	BD1	AK102	SW3510	//	07/29/97	07/30/97	3028XXX	1
		108622	WS	BS1	AK102	SW3510	//	07/29/97	07/30/97	3028XXX	1
		108621	WS	LB1	AK102	SW3510	//	07/29/97	07/30/97	3028XXX	1



CT&E Environmental Services Inc.

Laboratory Division

97.4076

PO#: 605

CHAIN OF CUSTODY

Reports to:

Victor Harris
Montgomery Watson
4100 Seward
Anchorage AK

Invoice to:

[Signature]

Laboratory:

Page 1 of 1

CT&E Environmental Services Inc.
200 W Potter Dr.
Anchorage, AK 99518-1605
Phone (907) 562-2343 Fax: (907) 561-5301

Phone: 266 1140 Fax: 248 8884

QUOTE #

Bonnie McLean

Phone: 266 1141

Fax: 248 8884

Contact person for questions concerning these samples:

Special Instructions: 14-D T.A. -

Project Name/Number							
<u>COE - Gambel - New Well</u>							
Sampled By:							
<u>Bonnie McLean</u>							
Lab #	Sample #	Date/Time Sampled	# of Containers	Sample Matrix	DRO, AK 102, VOZ		Comments
	<u>97 GAMCOI NVW</u>	<u>7/24/97</u> <u>0500</u>	<u>4</u>	<u>W</u>	<u>2</u>	<u>2</u>	<u>H.T. Check</u>
SHORT HOLDING							

Sample Receipt:		Relinquished By:		Relinquished By:		Relinquished By:	
Number of Containers		Signature: <u>[Signature]</u>	Time: <u>0835</u>	Signature:	Time:	Signature:	Time:
COC Seals/Intact Y/N/NA		Printed Name: <u>BONNIE McLean</u>	Date: <u>7-29-97</u>	Printed Name:	Date:	Printed Name:	Date:
Temperature	<u>2.10C</u>	Received By:		Received By:		Received at Laboratory By:	
Turnaround Required		Signature:	Time:	Signature:	Time:	Signature: <u>Monica Steinborn</u>	Time: <u>7/29</u>
Data Deliverables Required	Level I Level II Level III	Printed Name:	Date:	Printed Name:	Date:	Printed Name: <u>Monica Steinborn</u>	Date: <u>8/3/97</u>



CT&E Environmental Services Inc.

Laboratory Division

200 W. Potter Drive
Anchorage, AK 99518-1608
Tel: (907) 562-2343
Fax: (907) 561-5301

SAMPLE RECEIPT CHECK LIST

Is sample temperature between 2.5 - 6.0 °C?	YES	<input checked="" type="radio"/> NO	Note #
What is the sample temperature	<u>2.1 °C</u>		
Are samples within holding times?	<input checked="" type="radio"/> YES	NO	
Were correct container and sample size submitted?	<input checked="" type="radio"/> YES	NO	
Were preservatives checked?	<input checked="" type="radio"/> YES	NO	
The required preservatives found?	<input checked="" type="radio"/> YES	NO	<u>n/a</u>
Do results go to ADEC	<input checked="" type="radio"/> YES	NO	<u>n/a</u>
Is the P.W.S.I.D.# given with samples	<input checked="" type="radio"/> YES	NO	<u>n/a</u>
Is this a Corp of Engineers project?	<input checked="" type="radio"/> YES	NO	

Additional Information Required on all Corp of Engineers Projects

COE Project: Gambell - New Well CT&E REF. # 97,4076
 Date Received: 7/28 # of Coolers 1
 Date Opened: _____ By Who (print): _____
 Date Logged in: 7/28 By Who (print): Monica Steinborn

Was there a shipping slip (airbill # _____)	YES	<input checked="" type="radio"/> NO	Note #
Was the cooler sealed with custody seals?	YES	NO	<u>Hand Carried</u>
Were these seals intact upon arrival?	YES	NO	
Was there a chain of custody (COC) with cooler?	<input checked="" type="radio"/> YES	NO	
Were the COC's filled out properly?	<input checked="" type="radio"/> YES	NO	
Did the COC indicate samples from a COE project?	<input checked="" type="radio"/> YES	NO	
Were all samples listed on COC accounted for?	<input checked="" type="radio"/> YES	NO	
Were samples packed to prevent breakage?	<input checked="" type="radio"/> YES	NO	
Were bottles unbroken and clearly labeled?	<input checked="" type="radio"/> YES	NO	
Were bottles sealed in separate plastic bags?	YES	NO	
Was there headspace in bottles for volatiles?	YES	<input checked="" type="radio"/> NO	

NOTES: The cooler was hand carried by client. I wasn't aware of custody seals.

Was client notified of problems? YES NO Date/time: _____
 Who was notified? _____ By whom?: _____
 How was this person notified? _____
 Was a copy of this form faxed for confirmation? _____

Fax # sent to: _____

100 522 35



Member of the SGS Group (Société Générale de Surveillance)

ALABAMA, ARIZONA, CALIFORNIA, FLORIDA, ILLINOIS, INDIANA, IOWA, KANSAS, MARYLAND, MICHIGAN, MISSOURI, NEW JERSEY, OHIO, WEST VIRGINIA

Army Corp of Engineers Project: YES NO Chem Lab I

Lab Due Date: _____

Computer W/O#: _____ 97.4076

(new) Account #: _____
 Client Name: Montgomery Watson
 Ordered By: Bonnie McLean
 Via: HC
 Purchase Order#: _____
 Requisition#: _____

Extraction Date: _____
 Holding Time: _____
 Date Due: 8/5
 Sample Received: 7/28 Time: 835
 Date Collected: 7/24 Time: 800
 Address: _____

Paid (Chk#) _____ (Cash) _____

Amount \$: _____

Phone #: _____ Fax: _____

Send Additional Reports to: _____

Phone #: _____ Fax #: _____

Special Instructions: _____

Sample #	Description	Matrix	Test Code	Parameter	Amount
	See COC(-1)	↓		AK102	
	↓	↓		VOC	
	trip blank(-2)	1		VOC	
				524.2	

EP Tox GC GC Prop H2O Metals Micro O/G Oils QC

Sample Remarks: _____

SHORT HOLDING

Chain Of Custody: YES Tags: NO
 Custody Seals: (broken) _____ (intact) _____
 Rec'd By: MS
 Logged By: MS
 Entered By: _____
 Proofed By: _____

Temp. of Samples: 211
 Sample Condition: Good Fair Poor
 Sample Containers: (2) 11 Amber
(4) 40ml VOA

97.4076

Code List

Code	Name
!	Out of control limits
1C	First Column Result - The Value Obtained from the First Column
2C	Second Column Result - The Value Obtained from the Second Column
<	Less Than
=	Equal To
>	Greater Than
ACZ	ACZ Laboratories, Steamboat, CO
AELF	American Environmental Laboratories, Pensacola, FL
AENP	American Environmental Network, Portland, OR
ALTC	Alta Analytical Lab Incorporated, El Dorado Hills, CA
APPL	Agriculture & Priority Pollutants Laboratories, Fresno, CA
ARDL	Applied Research and Development Lab, Inc., (ARDL) Mt. Vernon, IL
ARI	Analytical Resources, Inc., Seattle, WA
ATCA	Analytica, Anchorage, AK
ATCC	Analytica, CO
ATIA	Analytical Technologies, Inc., Anchorage, AK
ATIR	Analytical Technologies, Inc., Renton, WA
ATIS	Analytical Technologies, Inc., San Diego, CA
ATOX	Air Toxics LTD, Folsom, CA
BCLB	BC Laboratories, Bakersfield, CA
BD	Blank Spike Duplicate
BMLA	Boreochem Mobile Lab & Analytical Services
BRS	Brelje & Race, Santa Rosa, CA
BS	Blank Spike
CASA	Columbia Analytical Services, Inc., Anchorage, AK
CASB	Columbia Analytical Services, Inc., Bothell, WA
CASK	Columbia Analytical Services, Inc., Kelso, WA
CC	Continuing Calibration Verification
CCAC	Coast-to-Coast Analytical Services, Inc., Camarillo, CA
CCSJ	Coast-to-Coast Analytical Services, Inc., San Jose, CA
CDM	CDM Federal Programs Corporation
CHEM	Chemic Laboratory, San Diego, CA
CKY	CKY Inc., Torrance, CA
CLPA	Contract Laboratory Program Accuracy Limits for Spiked Samples
CLPCC	CLP Continuing Calibration Acceptance Criteria
CLPIC	CLP Initial Calibration Acceptance Criteria
CLPLR	Contract Laboratory Program Precision for Lab Replicates
CLPP	Contract Laboratory Program Precision Limits for Spiked Samples
CLTP	Clayton Environmental Consultants, Inc., Pleasanton, CA
CS	Client Sample
CTB	Curtis & Tompkins, Berkeley, CA
CTE	CT&E Environmental Services, Inc., Anchorage, AK
CTEC	CT&E Environmental Services, Inc., Charleston, NC
DDL	Method Defined Detection Limit
DMP	D & M Laboratories, Petaluma, CA
DOWL	Dowl Engineering Alaska Test Labs, Anchorage, AK
EBA	EBA
ECEN	Ecology & Environment, Inc.
ECI	EcoChem, Inc.
EQL	Estimated Quantitation Limit
ETCS	ETC, Santa Rosa, CA
FORA	Forensic Analytical
IC	Initial Calibration Verification

Code	Name
IDL	Instrument Detection Limit
IN	Internal Standard
KD	Known (External Reference Material) Duplicate
LAB1	Laboratory 1
LAB2	Laboratory 2
LAL	Lockheed Analytical Laboratory, Las Vegas, NV
LAS	LAS Laboratories, Inc.
LB	Lab Blank
LCC	Laboratory Continuing Calibration Accuracy
LDC	Laboratory Data Consultants
LIC	Laboratory Initial Calibration Accuracy
LLD	Lowest Level of Detection
LLR	Laboratory Established Precision for Lab Replicates
LR	Lab Replicate
LSA	Laboratory Sample Accuracy for Spiked Samples
LSP	Laboratory Sample Precision for Spiked Samples
LTL	Laucks Testing Lab, Inc.
MASA	MultiChem Analytical Services, Anchorage, AK
MASR	MultiChem Analytical Services, Renton, WA
MDL	Method Detection Limit
MEA	Method Established Accuracy for Spiked Samples
MECC	Method Established Continuing Calibration Acceptance Criteria
MEIC	Method Established Initial Calibration Acceptance Criteria
MELR	Method Established Precision for Laboratory Replicates
MEP	Method Established Precision for Spiked Samples
MLR	Matrix Laboratory Replicate Precision
MS	GC/MS Result - Value Confirmed Using GC/MS
MS	Lab Matrix Spike
MSA	Matrix Spike Accuracy for Spiked Samples
MSP	Matrix Spike Precision for Spiked Samples
MSSL	Mountain States Analytical, Salt Lake City, UT
NA	Not Applicable
NA	Not Available - Result Not Available
NC	Non-Client Sample
NCAB	North Creek Analytical, Bothell, WA
NCAP	North Creek Analytical, Beaverton, OR
ND	Not Detected
NETB	NET Burbank, Burbank, CA
NETC	NET Cambridge, Bedford, MA
NETO	NET Portland, Portland, OR
NETS	NET Pacific, Inc., Santa Rosa, CA
NR	Not Reported - Data Not Reported
NTL	Northern Testing Laboratories, Anchorage, AK
NU	Not Usable - Data Not Usable
OEIR	OnSite Environmental, Inc., Redmond, WA
PAC	Pacific Analytical, Carlsbad, CA
PARA	Paragon Analytics, Inc., CO
PHLE	Philip Environmental
PIC	Pace Analytical Services, Inc., Camarillo, CA
PIHB	Pace Analytical Services, Inc., Huntington Beach, CA
PIL	Pace Analytical Services, Inc., Lenexa, KS
PIM	Pace Analytical Services, Inc., Minneapolis, MN
PIN	Pace Analytical Services, Inc., Novato, CA
PINY	Pace Analytical Services, Inc., New York, NY
PIP	Pace Analytical Services, Inc., Pittsburgh, PA

Code	Name
PITB	Pace Analytical Services, Inc., Tampa Bay, FL
PIWF	Pace Analytical Services, Inc., Wappingers Falls, NY
PQL	Practical Quantitation Limit
PR	Primary Result - The Primary Result for a Parameter
PRL	Parameter Range Limit
QALA	Quality Analytical Laboratores, Inc., Montgomery, AL
QALC	Quality Analytical Laboratories, Inc., Redding, CA
QES	Quanterra Environmental Services, Santa Ana, CA
QESA	Quanterra Environmental Services, Arvada, CO
QESC	Quanterra Environmental Services, North Canton, OH
QESF	Quanterra Environmental Services, Tampa, FL
QESG	Quanterra Environmental Services, Garden Grove,
QESI	Quanterra Environmental Services, City of Industry, CA
QESJ	Quanterra - Research Triangle Park Lab., Raleigh, NC
QESK	Quanterra Environmental Services, Knoxville, TN
QESL	Quanterra Environmental Services, St. Louis, MO
QESN	Quanterra Environmental Services, Anchorage, AK
QESP	Quanterra Environmental Services, Pittsburg, PA
QESR	Quanterra Environmental Services, Richland, WA
QESS	Quanterra Environmental Services, Sacramento, CA
QEST	Quanterra Environmental Services, Austin, TX
QESZ	Quanterra Environmental Services, Anchorage, AK
RM	Known (External Reference Material)
RS	Reagent Solvent
SAS	Sound Analytical Services, Inc., Tacoma, WA
SBSA	Both Reagent and Matrix Sample Accuracy for Surrogates
SBSP	Both Reagent and Matrix Sample Precision for Surrogates
SC3S	S-Cubed, A Division of Maxwell Laboratories, Inc., San Diego, CA
SCLA	Contract Laboratory Program Limits for Surrogate Accuracy
SCLP	Contract Laboratory Program Limits for Surrogate Precision
SD	Lab Matrix Spike Duplicate
SLSA	Laboratory Sample Limits for Accuracy for Surrogates
SLSP	Laboratory Sample Limits for Precision for Surrogates
SMEA	Method Established Limits for Accuracy for Surrogates
SMEP	Method Established Limits for Precision for Surrogates
SMSA	Sample Matrix Limits for Accuracy for Surrogates
SMSP	Sample Matrix Limits for Precision for Surrogates
SPEC	Spectra Laboratory, Inc., Tacoma, WA
SRAD	Standard Reference Accuracy Defined by Agency/Manufacturer
SRMA	Standard Reference Material Accuracy Limits Determined by Lab
SRMP	Standard Reference Material Precision Limits Determined by Lab
SRPD	Standard Reference Precision Defined by Agency/Manufacturer
SU	Surrogate
SWAA	Shannon & Wilson, Inc., Anchorage, AK
SWLB	Southwest Laboratory
SWRI	Southwest Resarch Institute, San Antonio, TX
TI	Tentatively Identified Compound
TRID	Triangle Laboratories, Inc., Durham, NC



CT&E Environmental Services Inc.

Laboratory Division

Laboratory Analysis Report

August 15, 1997

Victor Harris
Montgomery Watson Americas Inc
4100 Spenard Rd
Anchorage, AK 99517-2901

Client Name	Montgomery Watson Americas Inc
Project ID	COE-Gambell-New Well [974076]
Printed	August 15, 1997

Enclosed are the analytical results associated with the above project.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by CT&E. A copy of our Quality Control Manual that outlines this program is available at your request.

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth in our Quality Assurance Program Plan.

If you have any questions regarding this report or if we can be of any other assistance, please call your CT&E Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- U - Indicates the compound was analyzed for but not detected.
- J - Indicates an estimated value that falls below PQL, but is greater than the MDL.
- B - Indicates the analyte is found in the blank associated with the sample.
- * - The analyte has exceeded allowable limits.
- GT - Greater Than
- D - Secondary Dilution
- LT - Less Than
- ! - Surrogate out of range



CT&E Ref.# 974076001
Client Name Montgomery Watson Americas Inc
Project Name/# COE-Gambell-New Well
Client Sample ID 97GAM001 NVW
Matrix Water (Surface, Eff., Ground)
Ordered By
PWSID

Client PO# 605
Printed Date/Time 08/15/97 17:26
Collected Date/Time 07/24/97 08:00
Received Date/Time 07/28/97 08:35
Technical Director: Stephen C. Ede

Released By *J. Windbank*

Sample Remarks:

<u>Parameter</u>	<u>Results</u>	<u>PQL</u>	<u>Units</u>	<u>Method</u>	<u>Allowable Limits</u>	<u>Prep Date</u>	<u>Analysis Date</u>	<u>Init</u>
AK102								
Diesel Range Organics	0.124	0.101	mg/L	AK102 DRO		07/29/97	07/30/97	WAA
Surrogates								
5a Androstane <surrogate>	77.1		%	AK102 DRO	(50-150)	07/29/97	07/30/97	

Semi-Volatiles Sample QC Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Workorder Number: 974076

Analysis: **Diesel Range Organics**
 Method: **AK102**
 Matrix: **Liquid**

Analysis Lot Number: SCR01720730
XFC 3034

Extraction Lot Number: xxx 3028

Analysis:

Assurance Notes:

Acceptance Criteria:

		Yes	No	N/A	
A. Holding Time:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14 days from sample collection for TCLP extraction.
	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7 days from sample collection (or TCLP extraction) for prep extraction.
	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>		40 days from extraction (or collection time if oil) for analysis.
B. Surrogates:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>		50% - 150% Recovery

C. Notes: _____

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

Analyst's Signature: Michael Piebe

Reviewer's Signature: Bill Ante

Printed Name & Date: Michael Piebe 7-31

Printed Name & Date: Bill Ante 7-31-97

Semi-Volatiles Quality Control Summary Page
CT&E Environmental Services Inc.
QA/QC Data Deliverables

Analysis Date: 7-30-97

Analysis Lot Number: 5C R01220750
 Extraction Lot Number: YXY3028

Analysis: **Diesel Range Organics**
 Method: **AK102**
 Matrix: **Liquid**

Analysis: Assurance Notes: Acceptance Criteria:

		Yes	No*	
A. Calibration:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Correlation Coefficient ≥ 0.995 , Relative Standard Deviation $< 25\%$
B. Method Blank:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All concentrations are below the Practical Quantitation Limit
C. Continuing Calibration Verification Std:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	$< 25\%$ Relative Percent Difference from average calibration response factor.
D. Quality Control Sample/Laboratory Std:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	75% - 125% Recovery
E. Laboratory Control Sample:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	60% - 120% Recovery
F. Laboratory Control Sample Duplicate:	All criteria met. All criteria met.	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	60% - 120% Recovery $< 20\%$ Relative Percent Difference
G. QC Surrogates:	All criteria met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	50% - 150% Recovery
H. Notes:	_____			

I certify that except as specifically noted in this report, all statements and data appearing in this report are in conformance with the provisions of the Quality Assurance Plan (QAP) prepared by this firm and on file with the Alaska Department of Environmental Conservation.

***Out-of-control conditions
require a supervisor's signature.**

Analyst's Signature: Michael Friebe
 Printed Name & Date: Michael Friebe 7-31

Supervisor's Signature: _____
 Date: _____

Project Name: COE-Gambell-New Well	Analysis: Diesel Range Organics, Alaska Dept. of					
Project No: 974076	Method: AK102					
	Prep Meth: SW3510					
Field ID: 97GAM001 NVW	Lab Samp ID: 974076001					
Descr/Location:	Rec'd Date: 07/28/97					
Sample Date: 07/24/97	Prep Date: 07/29/97					
Sample Time: 0800	Analysis Date: 07/30/97					
Matrix: Surface Water	QC Batch: 3028XXX					
Basis: Not Filtered	Notes:					
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics	0.1	0.101	PQL	0.124	MG/L	1.01
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
5a-Androstane		50-150	SMEA	77.1%		1.01

Approved by: _____

Date: _____

QA/QC Report Method Blank Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974076 Date: 10/13/97

Page: 2

QC Batch: 3028XXX Matrix: Surface Water Lab Samp ID: 108621 Analysis Date: 07/30/97 Basis: Not Filtered	Analysis: Diesel Range Organics, Alaska Dept. of Method: AK102 Prep Meth: SW3510 Prep Date: 07/29/97 Notes:					
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics	0.1	0.100 PQL		ND	MG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
5a-Androstane		50-150 SMEA		54.6%		1

QA/QC Report
Blank Spike/Duplicate Blank Spike Summary

CT&E Environmental Services, Inc., Anchorage, AK

Lab Report No.: 974076 Date: 10/13/97

Page: 3

QC Batch: 3028XXX Matrix: Surface Water Lab Samp ID: 108622											
Analyte	Analysis Method	Spike Level		Spike Result		Units	% Recoveries			Acceptance Criteria	
		LCS	LCD	LCS	LCD		LCS	LCD	RPD	%Rec	RPD
Diesel Range Organics	AK102	8.	8.	5.12	4.89	MG/L	64.0	61.1	4.6	120-60 MEA	20MEP
5a-Androstane	AK102	100.	100.	91.4	78.8	PERCENT	91.4	78.8	15	150-50 SMEA	20SMEP

RunLog

PROJECT	HSN	SAMPLE TYPE	RUN DATE/TIME	RUN INST	DIL	ANAL BATCH	PREP BATCH	SEQ	
	109386	CCVF	7/30/97 12:13:00 PM	SCR	1	3034XFC		1	
	109387	CCVB	7/30/97 12:13:00 PM	SCR	1	3034XFC		2	
	109388	IBF	7/30/97 12:50:00 PM	SCR	1	3034XFC		3	
	109389	IB	7/30/97 12:50:00 PM	SCR	1	3034XFC		4	
	109390	CCVR	7/30/97 2:04:01 PM	SCR	1	3034XFC		5	
✓	108621	MB	7/30/97 3:18:00 PM	SCR	1	3034XFC	3028XXX	6	
	108766	MB	7/30/97 3:18:00 PM	SCR	1	3034XFC	3029XXX	7	
✓	108622	LCS	7/30/97 3:56:00 PM	SCR	1	3034XFC	3028XXX	8	
	108767	LCS	7/30/97 3:56:00 PM	SCR	1	3034XFC	3029XXX	9	
✓	108623	LCSD	7/30/97 4:33:00 PM	SCR	1	3034XFC	3028XXX	10	
	108768	LCSD	7/30/97 4:33:00 PM	SCR	1	3034XFC	3029XXX	11	
	974050	974050001	PS	7/30/97 5:10:00 PM	SCR	1	3034XFC	3028XXX	12
	974051	974051001	PS	7/30/97 5:47:00 PM	SCR	1	3034XFC	3028XXX	13
	974051	974051002	PS	7/30/97 6:25:00 PM	SCR	1	3034XFC	3028XXX	14
	974051	974051003	PS	7/30/97 7:02:00 PM	SCR	1	3034XFC	3028XXX	15
	974051	974051004	PS	7/30/97 7:40:00 PM	SCR	1	3034XFC	3028XXX	16
	974051	974051005	PS	7/30/97 8:17:00 PM	SCR	1	3034XFC	3028XXX	17
	974051	974051006	PS	7/30/97 8:54:00 PM	SCR	1	3034XFC	3028XXX	18
	974051	974051007	PS	7/30/97 9:32:00 PM	SCR	1	3034XFC	3028XXX	19
✓	974076	974076001	PS	7/30/97 10:09:00 PM	SCR	1	3034XFC	3028XXX	20
	974082	974082002	PS	7/30/97 10:47:00 PM	SCR	1	3034XFC	3029XXX	21
	109391	LSF	7/30/97 11:23:00 PM	SCR	1	3034XFC		22	
	109392	LSB	7/30/97 11:23:00 PM	SCR	1	3034XFC		23	
	974115	974115001	PS	7/31/97	SCR	1	3034XFC	3029XXX	24
	108783	LCS	7/31/97 1:15:00 AM	SCR	1	3034XFC	3030XXX	25	
	108784	LCSD	7/31/97 1:52:00 AM	SCR	1	3034XFC	3030XXX	26	
	974079	974079002	PS	7/31/97 2:29:00 AM	SCR	1	3034XFC	3030XXX	27
	974079	974079003	PS	7/31/97 3:06:00 AM	SCR	1	3034XFC	3030XXX	28
	974079	974079004	PS	7/31/97 3:44:00 AM	SCR	1	3034XFC	3030XXX	29
	974079	974079005	PS	7/31/97 4:21:00 AM	SCR	1	3034XFC	3030XXX	30
	974079	974079006	PS	7/31/97 4:58:00 AM	SCR	1	3034XFC	3030XXX	31
	974079	974079007	PS	7/31/97 5:35:00 AM	SCR	1	3034XFC	3030XXX	32
	974079	974079008	PS	7/31/97 6:13:00 AM	SCR	1	3034XFC	3030XXX	33
	974080	974080001	PS	7/31/97 6:50:00 AM	SCR	1	3034XFC	3030XXX	34
	974080	974080002	PS	7/31/97 7:27:00 AM	SCR	1	3034XFC	3030XXX	35
	974080	974080003	PS	7/31/97 8:04:00 AM	SCR	1	3034XFC	3030XXX	36
	974080	974080004	PS	7/31/97 8:41:00 AM	SCR	1	3034XFC	3030XXX	37
	109393	LSF	7/31/97 9:19:00 AM	SCR	1	3034XFC		38	
	109394	LSB	7/31/97 9:19:00 AM	SCR	1	3034XFC		39	
	108782	MB	7/31/97 9:56:00 AM	SCR	1	3034XFC	3030XXX	40	
	109395	LSB	7/31/97 11:12:00 AM	SCR	1	3034XFC		41	
	109396	LSR	7/31/97 11:50:00 AM	SCR	1	3034XFC		42	

CT&E - Environmental Services Inc. Anchorage, Alaska

Extraction Bench Sheet

Horizon Batch # XXX - 3028/3029

Extraction Method: 3510/AK102/8100m

Extraction Start Date/Time: 7/28/97 1125

Extraction Finish Date/Time: 7/28/97

Surrogates:	ID	Added (ml)	Conc.
	SVW 1-12-1	1ml	100ug/L

Extr. Technician: *E. P.*

Martix Spikes:	ID	Added (ml)	Conc.
	SVW 1-4-2	1ml	800ug/L

Spike Witness: _____

Posted By / Date: _____

Solvent Lot No. Used: CH_2Cl_2 Lot: 37156

TV Temperature: 38°C

Batch Released By: _____

#	Workorder No.	Initial Wt/Vol (gm/mL)	Final Volume (ml)	Shaker speed 70 RPM	(pH, sonication level, sample and/or extract description) Comments
1	Method Blank	1000	1ml	3x for	QC and Sample acidified
2	LCS	↓	↓	2min	2
3	LCSD	↓	↓	↓	
4	974050-1	1010ml	↓	↓	pH 7 No emission
5	4051-1	1000ml	↓	↓	
6	-2	1010ml	↓	↓	
7	-3	1010ml	↓	↓	
8	-4	1000ml	↓	↓	
9	-5	1000ml	↓	↓	
10	-6	1000ml	↓	↓	
11	-7	1000ml	↓	↓	
12					pH = 2
13	4082-2	1000ml	↓	↓	
14	4115-1	970ml	↓	↓	
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

NOTES:

Processing Method: SCR_AK102_AK103S_0122_R6

Millennium v2.13

Date Printed: 11:28:16 AM, July 24, 1997

Method Name: SCR_AK102_AK103S_0122_R6
Date Created: 07/24/97 11:13:22 AM
Method Type: GC

Calculated Custom Field Formulas

True_Surr3	CConst1/Surr_3_R/CConst1
True_Surr1	CConst1/Surr_1/CConst1
True_Surr4	CConst2/Surr_4_R/CConst2
True_Surr2	CConst2/Surr_2/CConst2
Surr_Rec_4	Amount/Dilution*SampleWeightR*True_Surr4*100
Surr_Rec_3	Amount/Dilution*SampleWeightR*True_Surr3*100
Surr_Rec_1	Amount/Dilution*SampleWeight*True_Surr1*100
Surr_Rec_2	Amount/Dilution/SampleWeight*True_Surr2*100
Sln_Conc	Amount/Dilution*SampleWeight
True_Hydraulic	Hydraulic [Amount]
True_Diesel	Diesel [Amount] -SURROGATE AK102 [Amount]
True_RRO	RRO [Amount] -SURROGATE AK103 [Amount]
True_Diesel_Ext	DRO_Ext [Amount]
True_Diesel_R	True_Diesel/Dilution*Dilution_R*SampleWeight/SampleWeightR
True_RRO_R	True_RRO/Dilution*Dilution_R*SampleWeight/SampleWeightR
Amount_R	Amount/Dilution*Dilution_R*SampleWeight/SampleWeightR

Calibration Parameters

Averaging	None
RT Window %	1.00
Update RT	Never
CCalRef1	

Peak Integration Parameters

Minimum Area	0 uV*sec
Minimum Height	0 uV
Threshold	3.000 uV/sec
Peak Width	15.00 sec

Event Table

#	Start (min)	Event	Value	Stop (min)
1	0.100	Set Minimum Height	999999999.000	
2	0.513	Forward Horizontal by Time		22.764
3	7.309	Set Minimum Height	0.000	
4	7.309	Force Drop Line		15.885
5	15.972	Force Drop Line		18.253
6	18.255	Force Drop Line		20.274
7	20.354	Force Drop Line		22.764
8	22.764	Inhibit Integration		

Component Table

#	Name	Retention Time (min)	RT Window (min)	Peak Match	Quant By
1	SURROGATE AK103				Area

Component Table

#	Name	Retention Time (min)	RT Window (min)	Peak Match	Quant By
2	Diesel	7.309			Area
3	C10	7.706	0.200	Closest	None
4	C16	13.410	0.140	Closest	None
5	5 alpha Androstane	15.941	0.178	Closest	Area
6	C24	17.949	0.200	Closest	None
7	RRO	18.253			Area
8	C25	18.417	0.200	Closest	None
9	C28	19.728	0.200	Closest	None
10	DTC	20.334	0.200	Closest	Area
11	C36	22.666	0.400	Closest	None
12	SURROGATE AK102				Area

Component Table

#	Fit Type	Weighting	Must Peak	Default	Component Type	CConst1
1	Linear thru Zero	None	No	No	Named Group	
2	Linear thru Zero	None	No	No	Timed Group	
3	Linear thru Zero	None	No	No	Single Peak	
4	Linear thru Zero	None	No	No	Single Peak	
5	Linear thru Zero	None	No	No	Single Peak	1.000000000
6	Linear thru Zero	None	No	No	Single Peak	
7	Linear thru Zero	None	No	No	Timed Group	
8	Linear thru Zero	None	No	No	Single Peak	
9	Linear thru Zero	None	No	No	Single Peak	
10	Linear thru Zero	None	No	No	Single Peak	0.000000000
11	Linear thru Zero	None	No	No	Single Peak	
12	Linear thru Zero	None	No	No	Named Group	

Component Table

#	CConst2
1	
2	
3	
4	
5	0.000000000
6	
7	
8	
9	
10	1.000000000
11	
12	

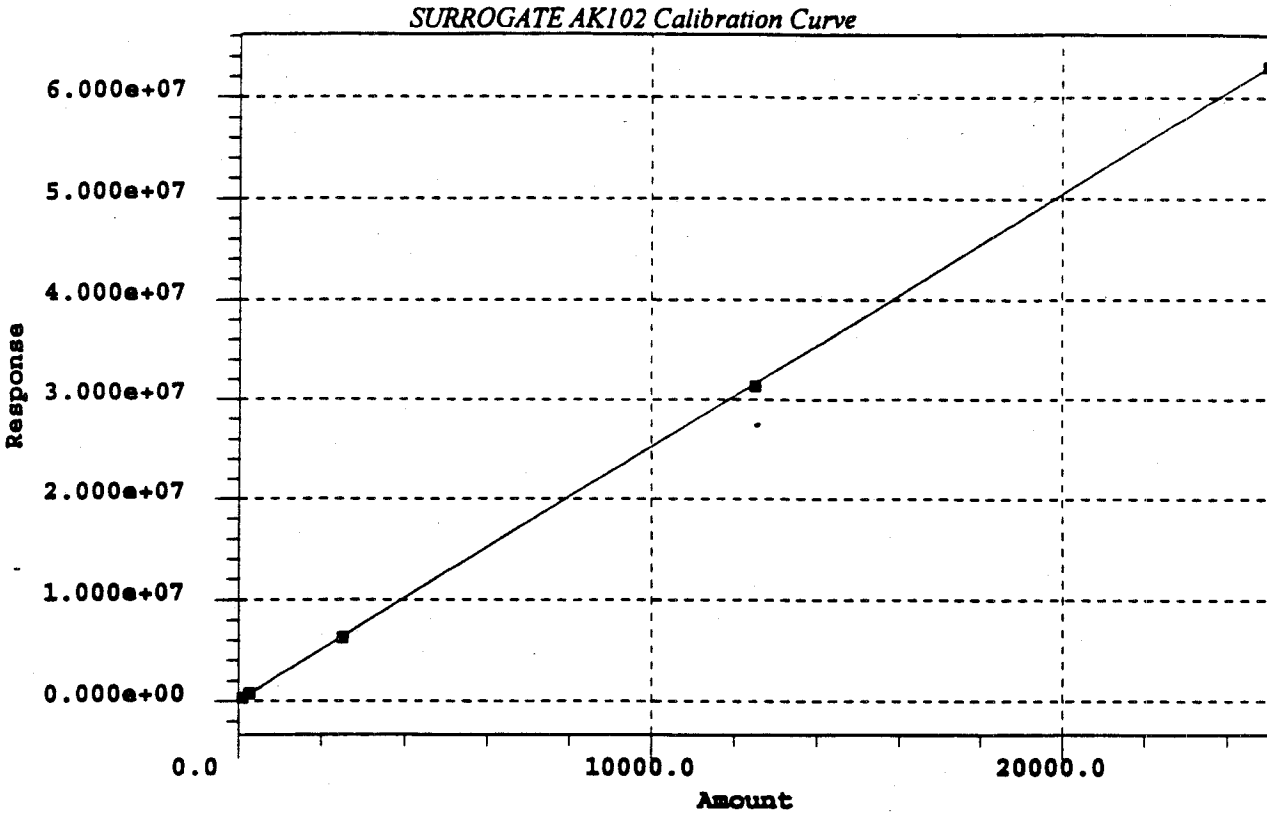
Timed Group Table

#	Group Name	Start (min)	Stop (min)
1	Diesel	7.309	18.253
2	RRO	18.253	22.764

Named Group Information

Group Name SURROGATE AK102
Set Retention Time None
Peak #1: 5 alpha Androstane

Group Name SURROGATE AK103
Set Retention Time None
Peak #1: DTC



SURROGATE AK102 Calibration Information

Processing Method	SCR AK102_AK103S_0122_R6	System	SC_L2_S3
Channel	SATIN-2	Date	24-JUL-97
Retention Time	LC	Name	SURROGATE AK102
	min	Order	1
	0.000000	B	2520.177768
	0.000000	D	0.000000
	0.000000	F	0.000000
	0.999989	R ²	0.999978
Standard Error	127756.272767		

SURROGATE AK102 Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	100.000000	331817.508775	131.664327	31.664	Yes
2	250.000000	765500.993419	303.748808	21.500	Yes
3	2500.000000	6264404.748753	2485.699552	-0.572	Yes
4	12500.000000	31325752.315615	12429.977248	-0.560	Yes
5	25000.000000	63094609.291225	25035.777275	0.143	Yes

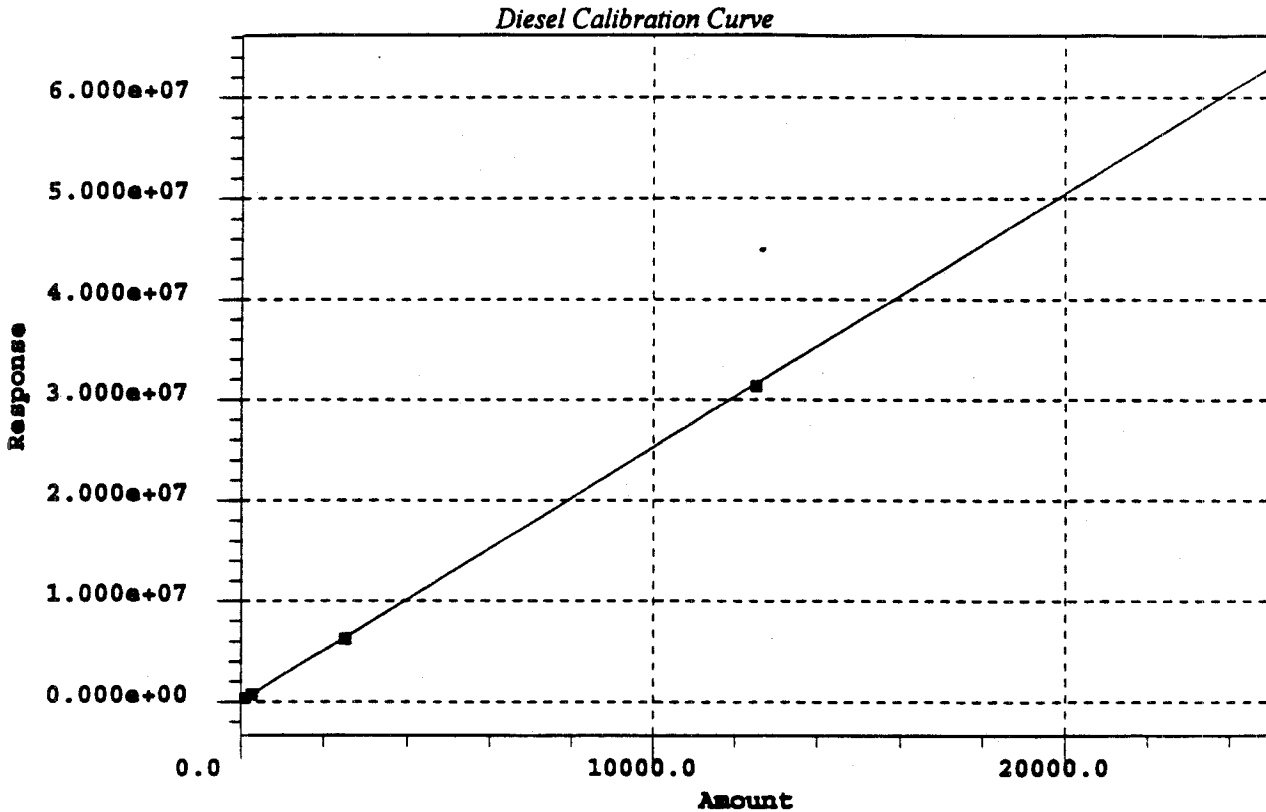
SURROGATE AK102 Point Table

#	Ignore?
1	No
2	No

SURROGATE AK102 Point Table

#	Ignore?
3	No
4	No
5	No

Table 'SURROGATE AK102 Average Table' contains no data.



Diesel Calibration Information

essing Method	SCR_AK102_AK103S_0122_R6	System	SC_L2_S3
nel	SATIN-2	Date	24-JUL-97
	LC	Name	Diesel
ntion Time	7.520 min	Order	1
	0.000000	B	2520.177768
	0.000000	D	0.000000
	0.000000	F	0.000000
	0.999989	R^2	0.999978
ard Error	127756.272767		

Diesel Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	100.000000	331817.508775	131.664327	31.664	Yes
2	250.000000	765500.993419	303.748808	21.500	Yes
3	2500.000000	6264404.748753	2485.699552	-0.572	Yes
4	12500.000000	31325752.315615	12429.977248	-0.560	Yes
5	25000.000000	63094609.291225	25035.777275	0.143	Yes

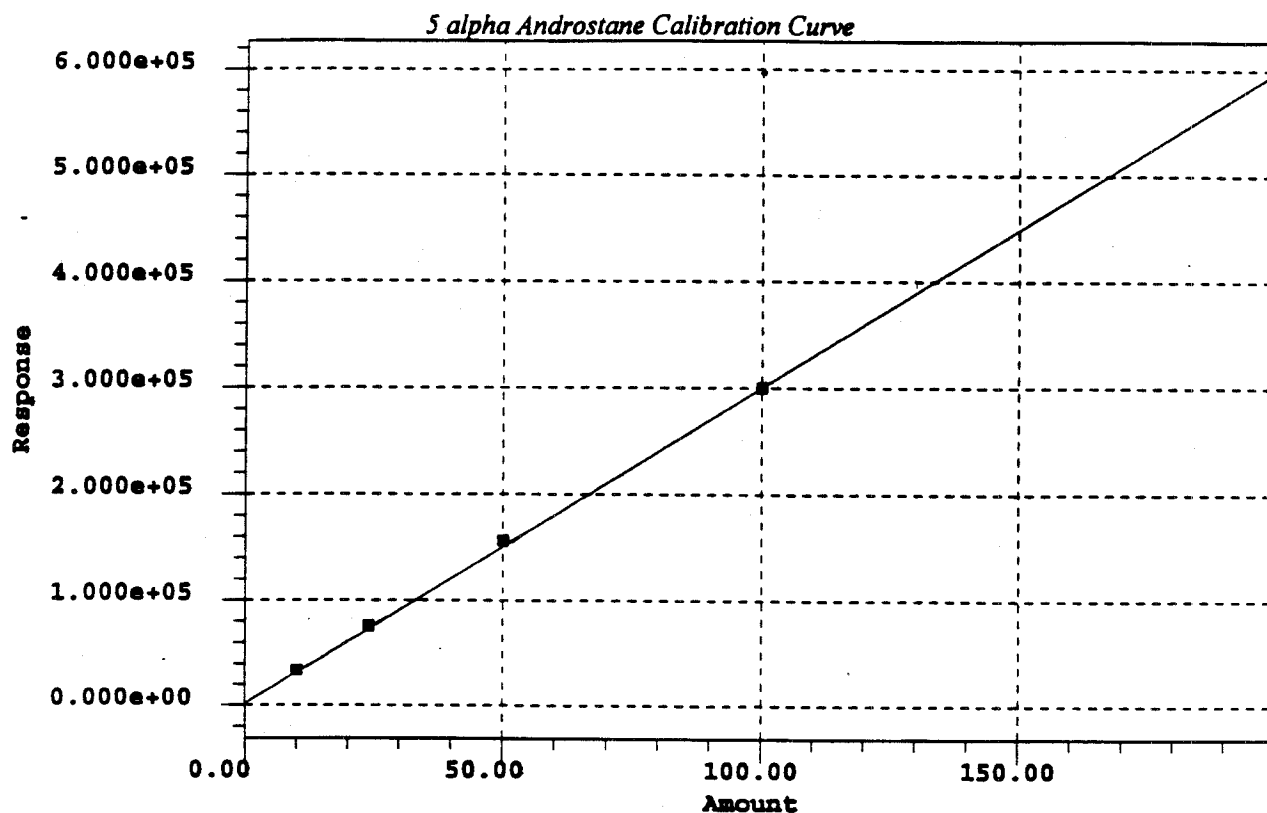
Diesel Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table 'Diesel Average Table' contains no data.

C10 has no calibration curve

C16 has no calibration curve



5 alpha Androstane Calibration Information

Processing Method	SCR_AK102_AK103S_0122_R6	System	SC_L2_S3
Channel	SATIN-2	Date	24-JUL-97
	LC	Name	5 alpha Androstane
Retention Time	15.941 min	Order	1
	0.000000	B	2986.856230
	0.000000	D	0.000000
	0.000000	F	0.000000
	0.999792	R^2	0.999584
Standard Error	4624.297002		

5 alpha Androstane Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	10.000000	33395.359895	11.180772	11.808	Yes

5 alpha Androstane Point Table

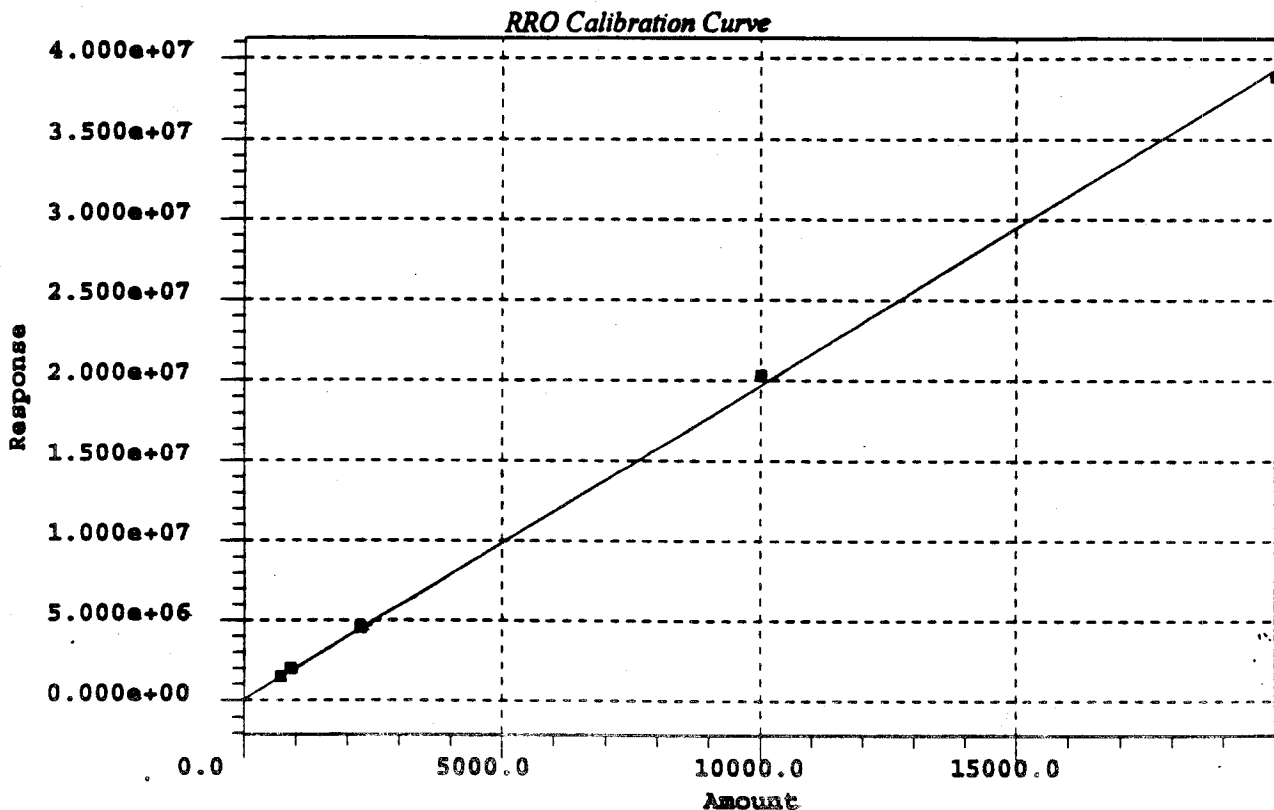
#	Amount	Response	Calc. Amount	% Deviation	Manual
2	24.000000	75240.219883	25.190439	4.960	Yes
3	50.000000	156393.160159	52.360458	4.721	Yes
4	100.000000	299979.219824	100.433096	0.433	Yes
5	200.000000	594358.840136	198.991446	-0.504	Yes

5 alpha Androstane Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table '5 alpha Androstane Average Table' contains no data.

C24 has no calibration curve



RRO Calibration Information

Processing Method	SCR_AK102_AK103S_0122_R6	System	SC_L2_S3
Injection	SATIN-2	Date	24-JUL-97
Retention Time	18.400 min	Name	RRO
	0.000000	Order	1
	0.000000	B	1963.499031
		D	0.000000

Standard Error 0.000000 F 0.000000
 0.999667 R^2 0.999334
 dard Error 417608.255109

RRO Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	715.000000	1505844.098071	766.918686	7.261	Yes
2	894.000000	2002330.640963	1019.776740	14.069	Yes
3	2240.000000	4542178.699035	2313.308347	3.273	Yes
4	10000.000000	20318211.698070	10347.961151	3.480	Yes
5	20000.000000	38897564.899035	19810.330576	-0.948	Yes

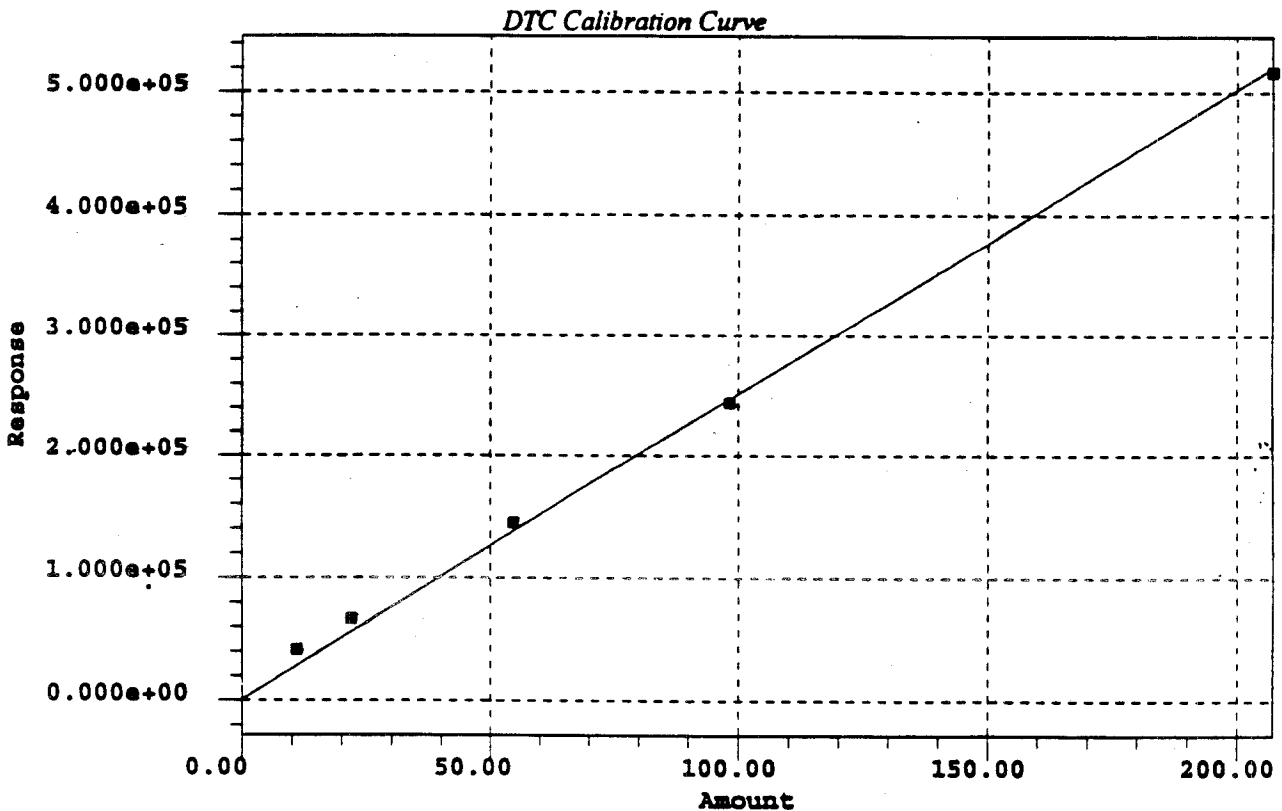
RRO Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table 'RRO Average Table' contains no data.

C25 has no calibration curve

C28 has no calibration curve



DTC Calibration Information

Processing Method	SCR_AK102_AK103S_0122_R6	System	SC_L2_S3
Injection	SATIN-2	Date	24-JUL-97
Injection Time	LC	Name	DTC
	20.334 min	Order	1
	0.000000	B	2511.261313
	0.000000	D	0.000000
	0.000000	F	0.000000
	0.998613	R^2	0.997229
Standard Error	10139.797921		

DTC Point Table

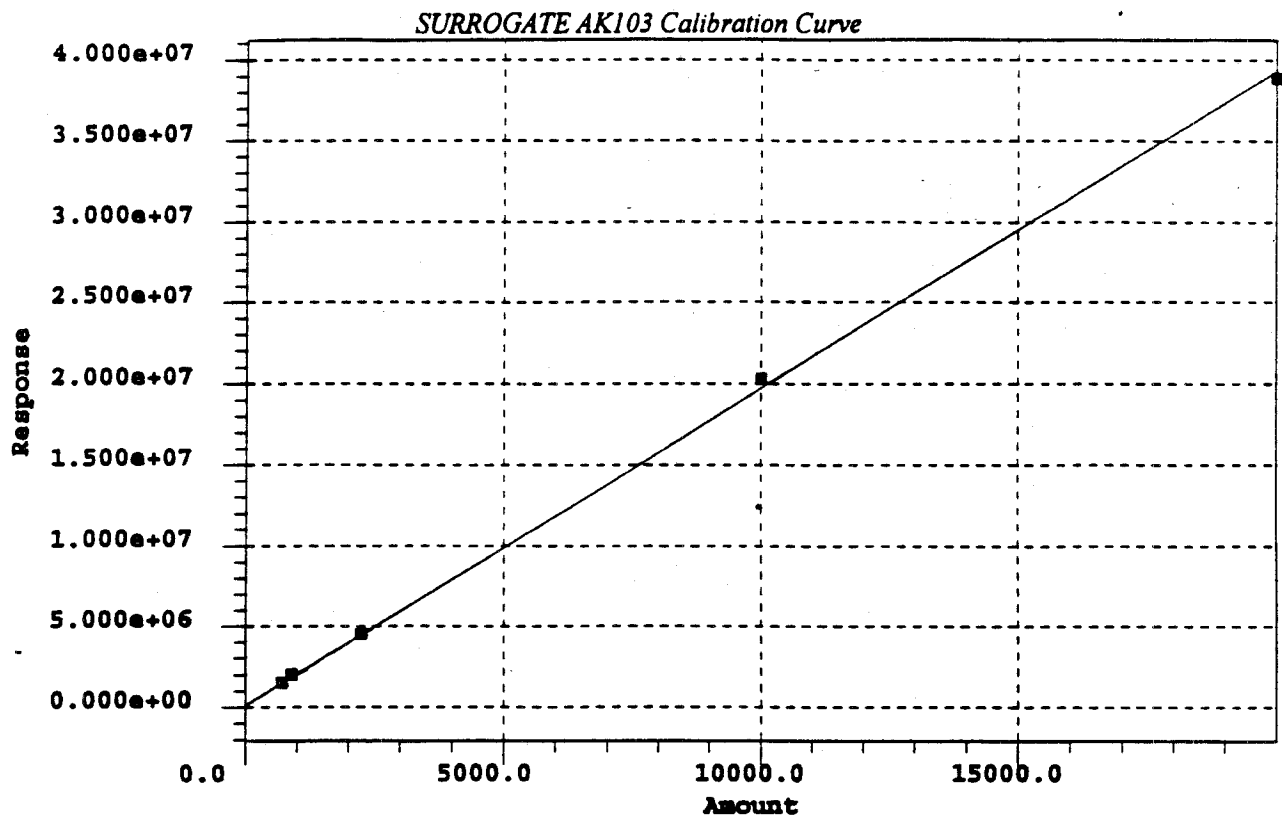
#	Amount	Response	Calc. Amount	% Deviation	Manual
1	10.900000	41467.000000	16.512419	51.490	Yes
2	21.800000	66667.100112	26.547257	21.776	Yes
3	54.600000	144633.920027	57.594134	5.484	Yes
4	98.300000	244401.399945	97.322170	-0.995	Yes
5	207.000000	517016.239944	205.879108	-0.541	Yes

DTC Point Table

#	Ignore?
1	No
2	No
3	No
4	No
5	No

Table 'DTC Average Table' contains no data.

C36 has no calibration curve



SURROGATE AK103 Calibration Information

Processing Method	SCR_AK102_AK103S_0122_R6	System	SC_L2_S3
Channel	SATIN-2	Date	24-JUL-97
LC		Name	SURROGATE AK103
Retention Time	min	Order	1
	0.000000	B	1963.499031
	0.000000	D	0.000000
	0.000000	F	0.000000
	0.999667	R^2	0.999334
Standard Error	417608.255109		

SURROGATE AK103 Point Table

#	Amount	Response	Calc. Amount	% Deviation	Manual
1	715.000000	1505844.098071	766.918686	7.261	Yes
2	894.000000	2002330.640963	1019.776740	14.069	Yes
3	2240.000000	4542178.699035	2313.308347	3.273	Yes
4	10000.000000	20318211.698070	10347.961151	3.480	Yes
5	20000.000000	38897564.899035	19810.330576	-0.948	Yes

SURROGATE AK103 Point Table

#	Ignore?
1	No
2	No
3	No
4	No

SURROGATE AK103 Point Table

#	Ignore?
5	No

Table 'SURROGATE AK103 Average Table' contains no data.

**EXTRACTABLE PETROLEUM HYDROCARBONS
DIESEL and RESIDUAL RANGE MONOMANICS
CALIBRATION CHECK**

Lab Name: Commercial Testing and Engineering Company
Environmental Laboratory Services (Alaska)

Initial Calibration Date: 01/22/97

Instrument ID: SCR

Method Name: SCR_AK102_AK103S_0122

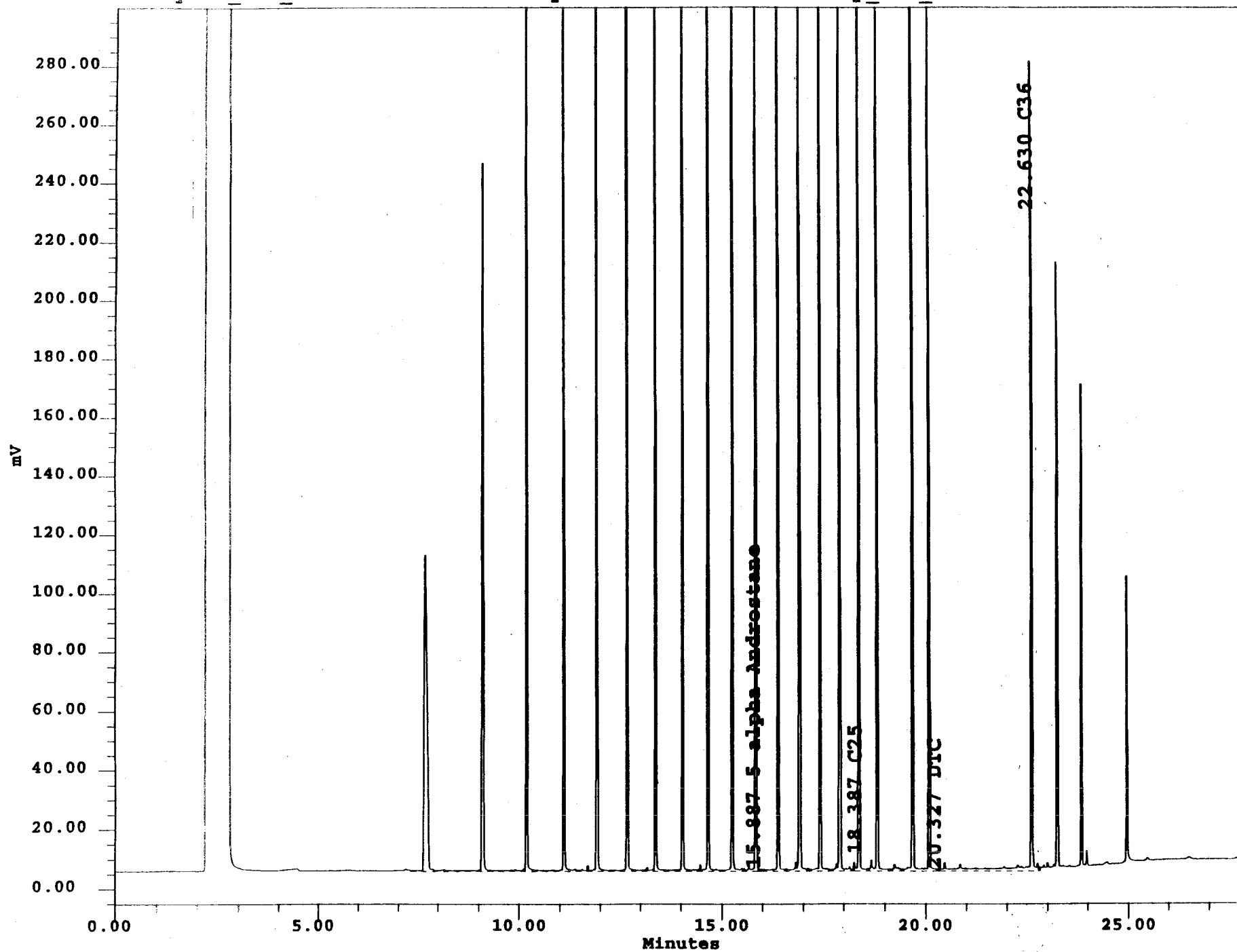
Method: AK102 & AK103 (through C36)

COMPOUND	STD RF	STD RF	STD RF	STD RF	STD RF	STD RF	STD RF	STD RF	STD RF	STD RF	STD RF	STD RF
Mid. Dist. Blend	3318	3062	2508	2508	2524					2783	382	13.7
5 alpha Androstane	3340	3135	3128	3000	2972					3115	148	4.7
RRO: (01/22/97)												
Oil Blend	2108	2240	2028	2032	1945					2070	111	5.3
DTC	3804	3058	2649	2486	2498					2899	556	19.2

Channel View Table

#	SampleNameR	Vial	SampleType	Date Acquired	Channel	Analysis_Lot_R
1	CALA 3350617 10	9	Standard	01/22/97 17:24:10	SATIN-2	SCR01220122
2	CALA 3350617 24	10	Standard	01/22/97 18:03:11	SATIN-2	SCR01220122
3	CALA 3350617 50	11	Standard	01/22/97 18:42:06	SATIN-2	SCR01220122
4	CALA 3350617 100	12	Standard	01/22/97 19:20:59	SATIN-2	SCR01220122
5	CALA 3350617 200	13	Standard	01/22/97 19:59:42	SATIN-2	SCR01220122
6	CALD 3350617 10.9	15	Standard	01/22/97 21:17:24	SATIN-2	SCR01220122
7	CALD 3350617 21.8	16	Standard	01/22/97 21:56:12	SATIN-2	SCR01220122
8	CALD 3350617 54.6	17	Standard	01/22/97 22:34:55	SATIN-2	SCR01220122
9	CALD 3350617 98.3	18	Standard	01/22/97 23:13:36	SATIN-2	SCR01220122
10	CALD 3350617 207	19	Standard	01/22/97 23:52:16	SATIN-2	SCR01220122
11	CALB 0221137 100	21	Standard	01/23/97 01:09:43	SATIN-2	SCR01220122
12	CALB 0221137 250	22	Standard	01/23/97 01:48:13	SATIN-2	SCR01220122
13	CALB 0221137 2500	23	Standard	01/23/97 02:27:04	SATIN-2	SCR01220122
14	CALB 0221137 12500	24	Standard	01/23/97 03:05:38	SATIN-2	SCR01220122
15	CALB 0221137 25000	25	Standard	01/23/97 03:44:34	SATIN-2	SCR01220122
16	CALR 3350617 715	27	Standard	01/23/97 05:02:01	SATIN-2	SCR01220122
17	CALR 3350617 894	28	Standard	01/23/97 05:40:44	SATIN-2	SCR01220122
18	CALR 3350617 2240	29	Standard	01/23/97 06:19:24	SATIN-2	SCR01220122
19	CALR 0221137 10000	30	Standard	01/23/97 06:58:25	SATIN-2	SCR01220122
20	CALR 0221137 20000	31	Standard	01/23/97 07:37:30	SATIN-2	SCR01220122

Analysis Lot_R: SCR01220730 SampleName: C10-C44 Prep_Lot_R: 0730EB01



Channel Descr. Rear_FID

Acq Meth Set SC_AK102_AK103

Date Acquired 07/30/97 11:35:47 AM

Processing Method SCR_AK102_AK103S_0122

SampleNameR C10-C44

Analysis_Lot_R SCR01220730

Prep_Lot_R 0730EB01

Surr_3_R 0.0000

Surr_4_R 0.0000

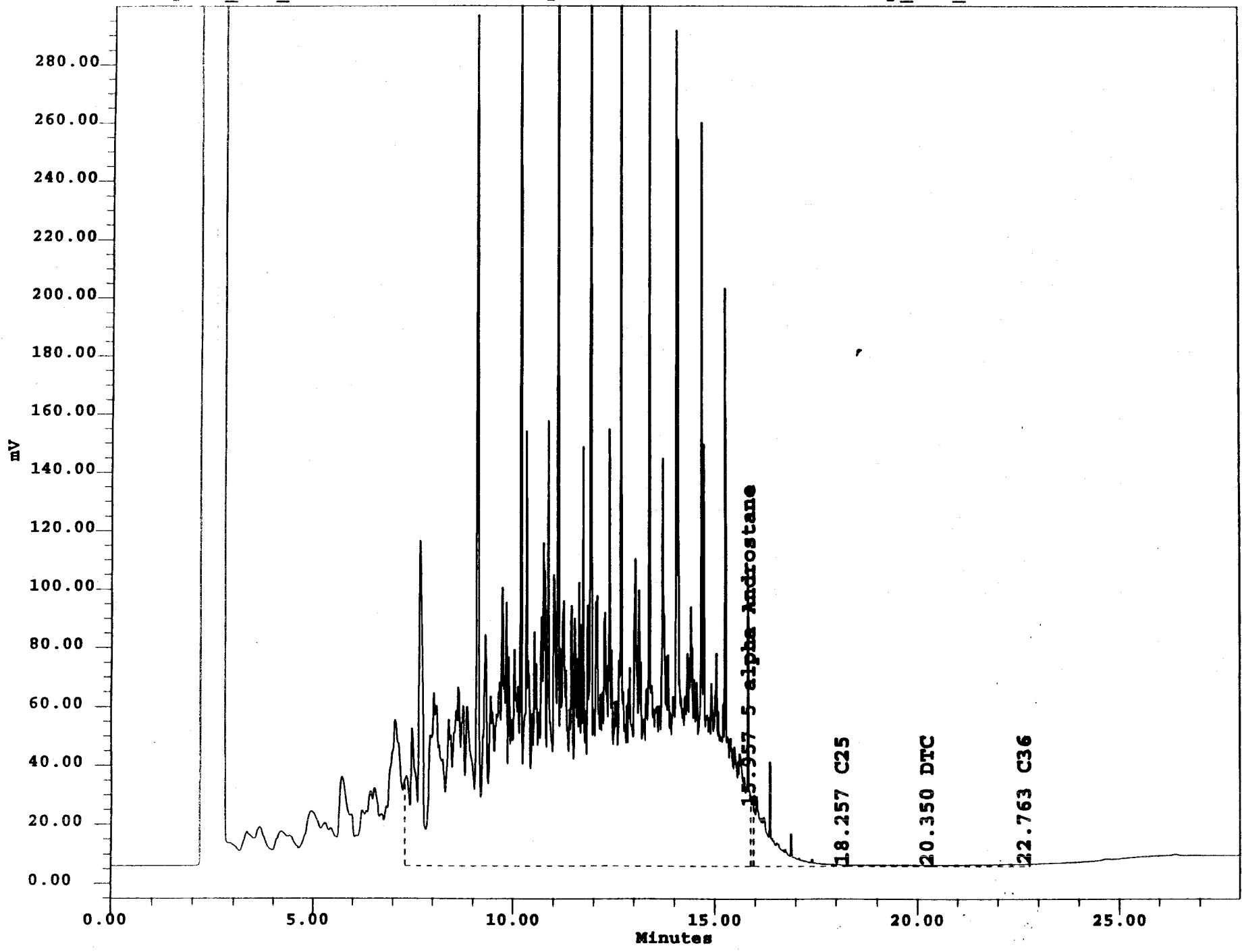
Dilution_R 1.00000

SampleWeightR 1.00000

Initials WAA

DRO and RRO Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	TRUE_RRO_R	True_Diesel_R
1	SURROGATE AK102		3133	1.243	1702.2777	4106.5098
2	SURROGATE AK103		1800	0.917	1702.2777	4106.5098
3	Diesel	15.277	10352268	4107.753	1702.2777	4106.5098
4	5 alpha Androst	15.887	3133	1.049	1702.2777	4106.5098
5	C25	18.387	2669276		1702.2777	4106.5098
6	RRO	18.387	3344221	1703.195	1702.2777	4106.5098
7	DTC	20.327	1800	0.717	1702.2777	4106.5098
8	C36	22.630	672045		1702.2777	4106.5098



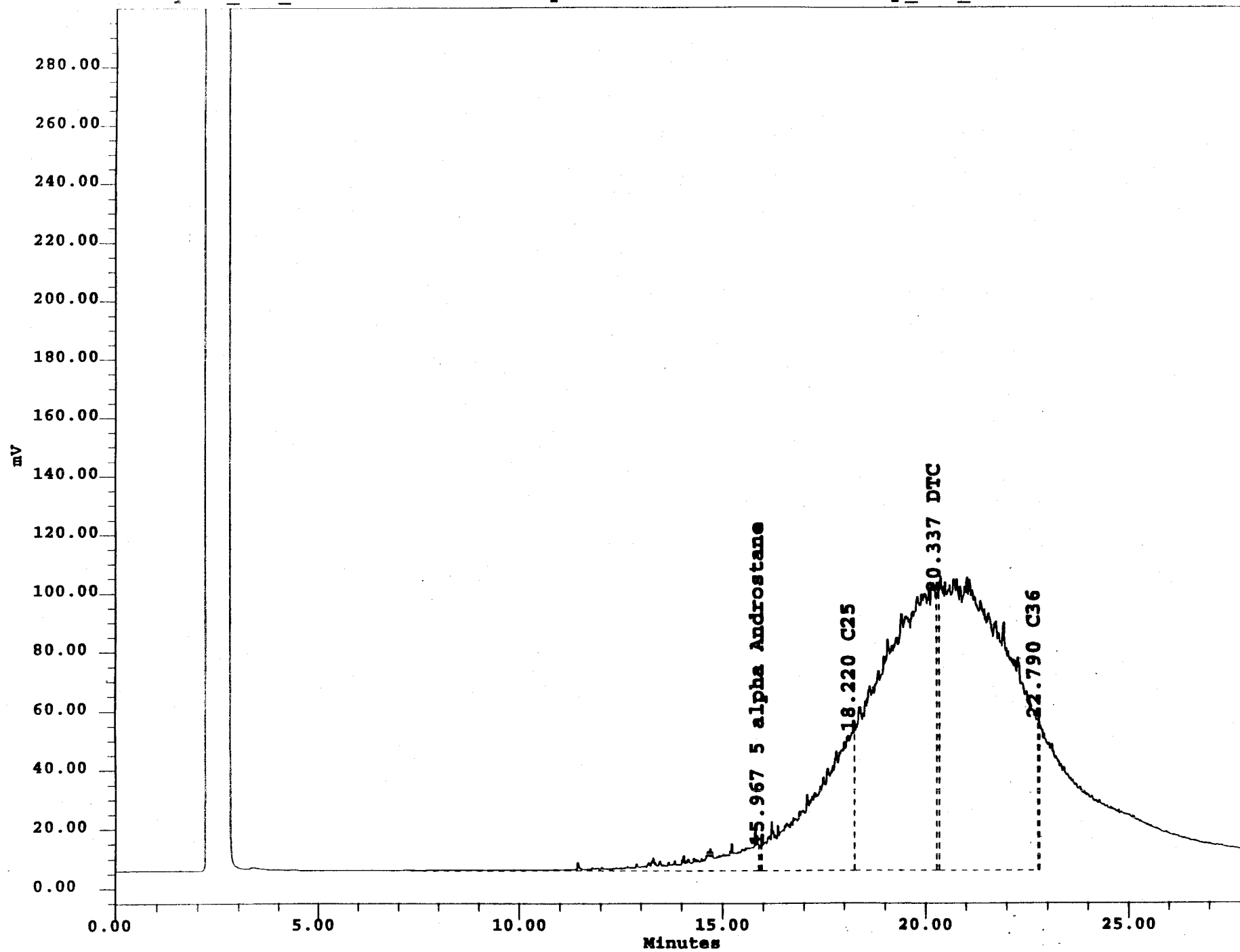
Channel Descr. Rear_FID
Acq Meth Set SC_AK102_AK103
Date Acquired 07/30/97 12:13:20 PM
Processing Method SCR_AK102_AK103S_0122

SampleNameR CCVB 12500
Analysis_Lot_R SCR01220730
Prep_Lot_R 0730EB01
Surr_3_R 0.0000
Surr_4_R 0.0000

Dilution_R 1.00000
SampleWeightR 1.00000
Initials WAA

DRO and RRO Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	TRUE_RRO_R	True_Diesel_R
1	SURROGATE AK102		15721	6.238	61.9878	12764.4108
2	SURROGATE AK103		1669	0.850	61.9878	12764.4108
3	Diesel	11.130	32184306	12770.649	61.9878	12764.4108
4	5 alpha Androst	15.957	15721	5.264	61.9878	12764.4108
5	RRO	18.257	123382	62.838	61.9878	12764.4108
6	C25	18.257	43674		61.9878	12764.4108
7	DTC	20.350	1669	0.664	61.9878	12764.4108
8	C36	22.763	78039		61.9878	12764.4108



Channel Descr. Rear_FID

Acq Meth Set SC_AK102_AK103

Date Acquired 07/30/97 02:04:41 PM

Processing Method SCR_AK102_AK103S_0122

SampleNameR CCVR 10000

Analysis_Lot_R SCR01220730

Prep_Lot_R 0730EB01

Surr_3_R 0.0000

Surr_4_R 0.0000

Dilution_R 1.00000

SampleWeightR 1.00000

Initials WAA

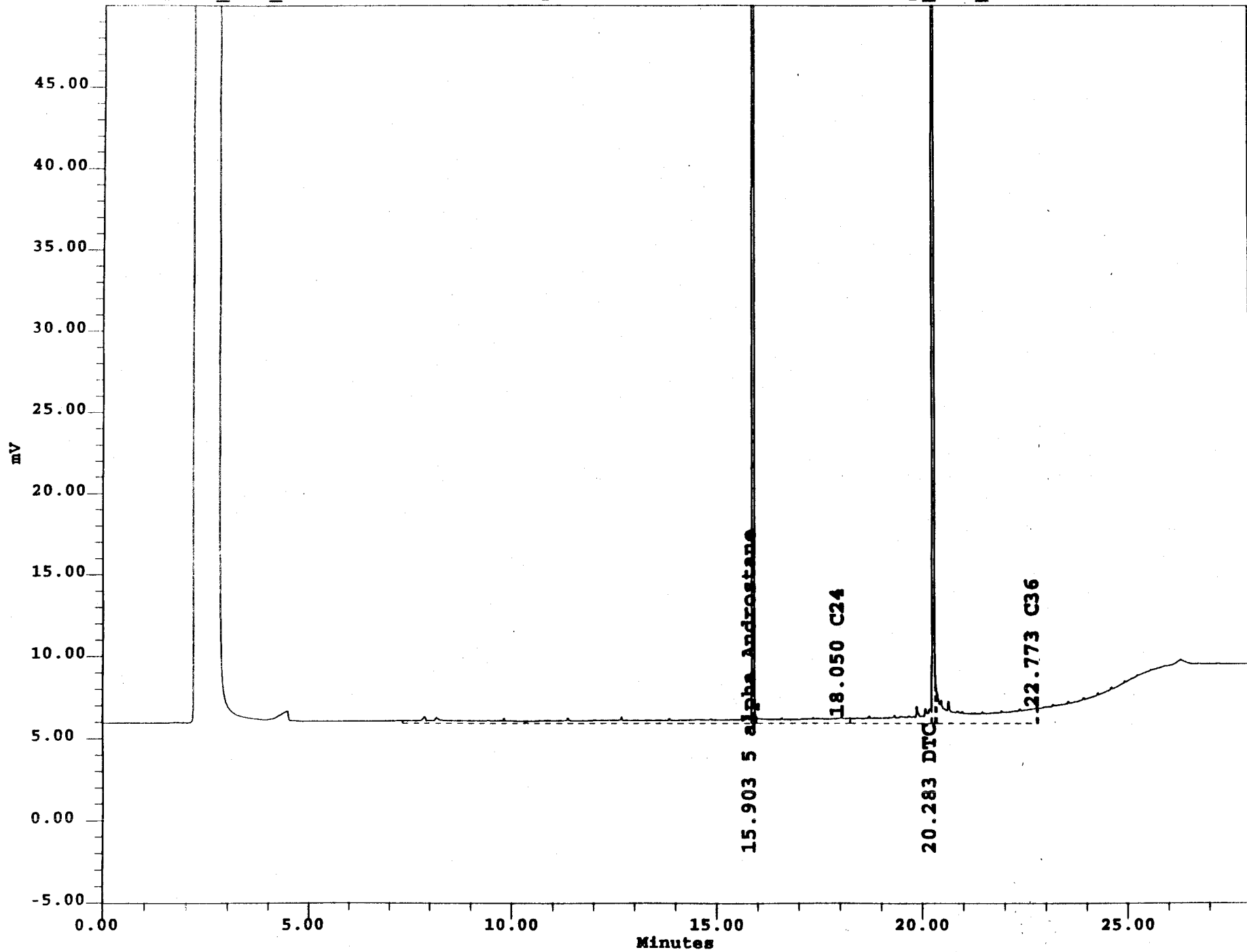
DRO and RRO Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	TRUE_RRO_R	True_Diesel_R
1	SURROGATE AK102		10039	3.983	10634.9484	1692.3005
2	SURROGATE AK103		429413	218.698	10634.9484	1692.3005
3	Diesel	15.810	4274937	1696.284	10634.9484	1692.3005
4	5 alpha Androst	15.967	10039	3.361	10634.9484	1692.3005
5	C25	18.220	3354249		10634.9484	1692.3005
6	RRO	20.217	21311123	10853.646	10634.9484	1692.3005
7	DTC	20.337	429413	170.995	10634.9484	1692.3005
8	C36	22.790	121594		10634.9484	1692.3005

analysis_Lot_R: SCR01220730

SampleName: JFIB 100/100

Prep_Lot_R: 0730EB01



Channel Descr. Rear_FID

Acq Meth Set SC_AK102_AK103

Date Acquired 07/30/97 12:50:37 PM

Processing Method SCR_AK102_AK103S_0122

SampleNameR SFIB 100/100

Analysis_Lot_R SCR01220730

Prep_Lot_R 0730EB01

Surr_3_R 100.0000

Surr_4_R 100.0000

Dilution_R 1.00000

SampleWeightR 1.00000

Initials WAA

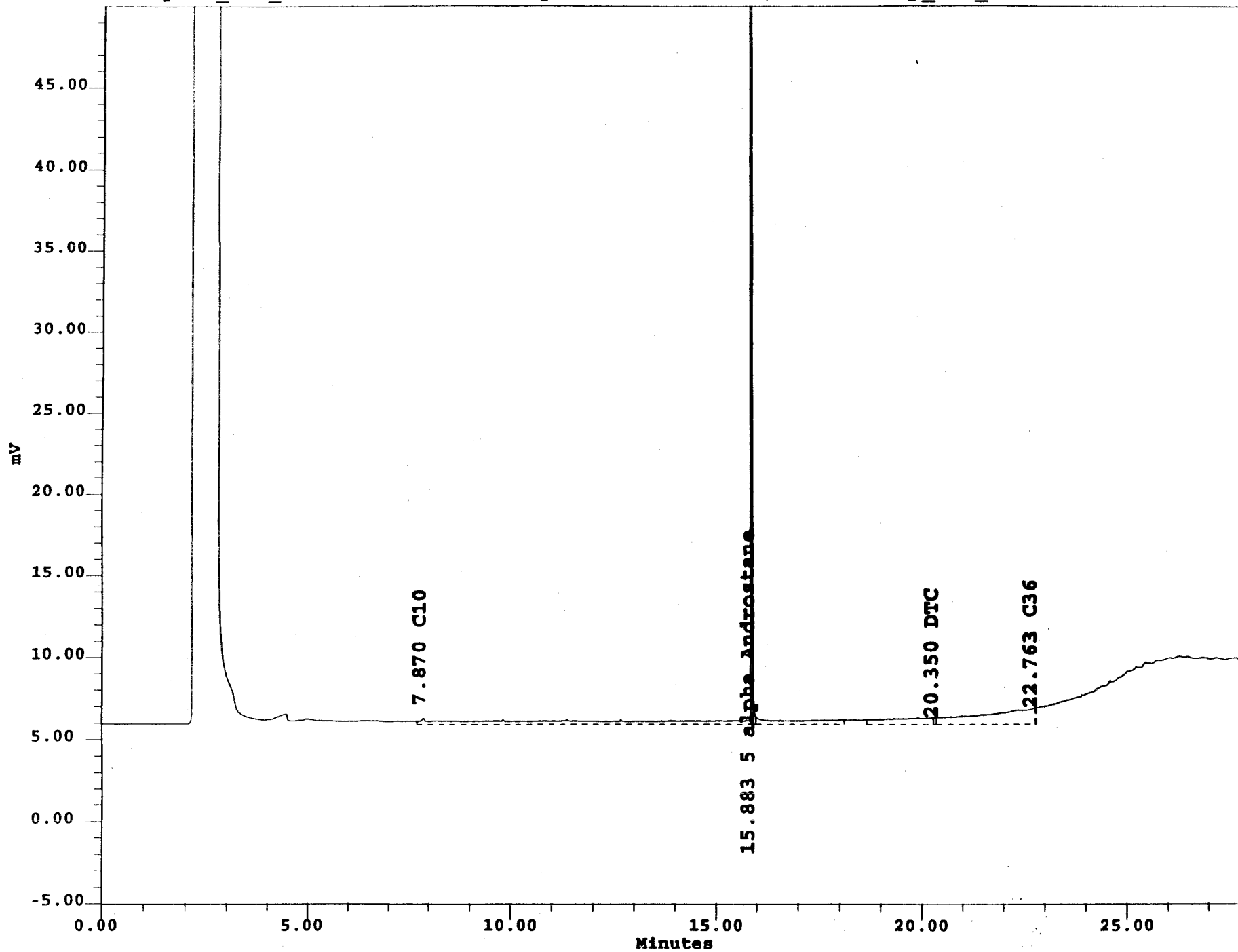
DRO and RRO Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Surr_Rec_3 (%)	Surr_Rec_4 (%)	TRUE_RRO_R	True_Diesel_R
1	SURROGATE AK102		517453	205.324			79.1096	46.7975
2	SURROGATE AK103		458418	233.470			79.1096	46.7975
3	Diesel	15.853	635391	252.122			79.1096	46.7975
4	5 alpha Androst	15.903	517453	173.243	173.243		79.1096	46.7975
5	C24	18.050	33469				79.1096	46.7975
6	RRO	20.233	613749	312.579			79.1096	46.7975
7	DTC	20.283	458418	182.545		182.545	79.1096	46.7975
8	C36	22.773	2080				79.1096	46.7975

Analysis_Lot_R: SCR01220730

SampleName: AB 3028/3029

Prep_Lot_R: 0730EB01



Channel Descr. Rear_FID
 Acq Meth Set SC_AK102_AK103
 Date Acquired 07/30/97 03:18:53 PM
 Processing Method SCR_AK102_AK103S_0122

SampleNameR MB 3028/3029
 Analysis_Lot_R SCR01220730
 Prep_Lot_R 0730EB01
 Surr_3_R 100.0000
 Surr_4_R 0.0000

Dilution_R 1.00000
 SampleWeightR 1.00000
 Initials WAA

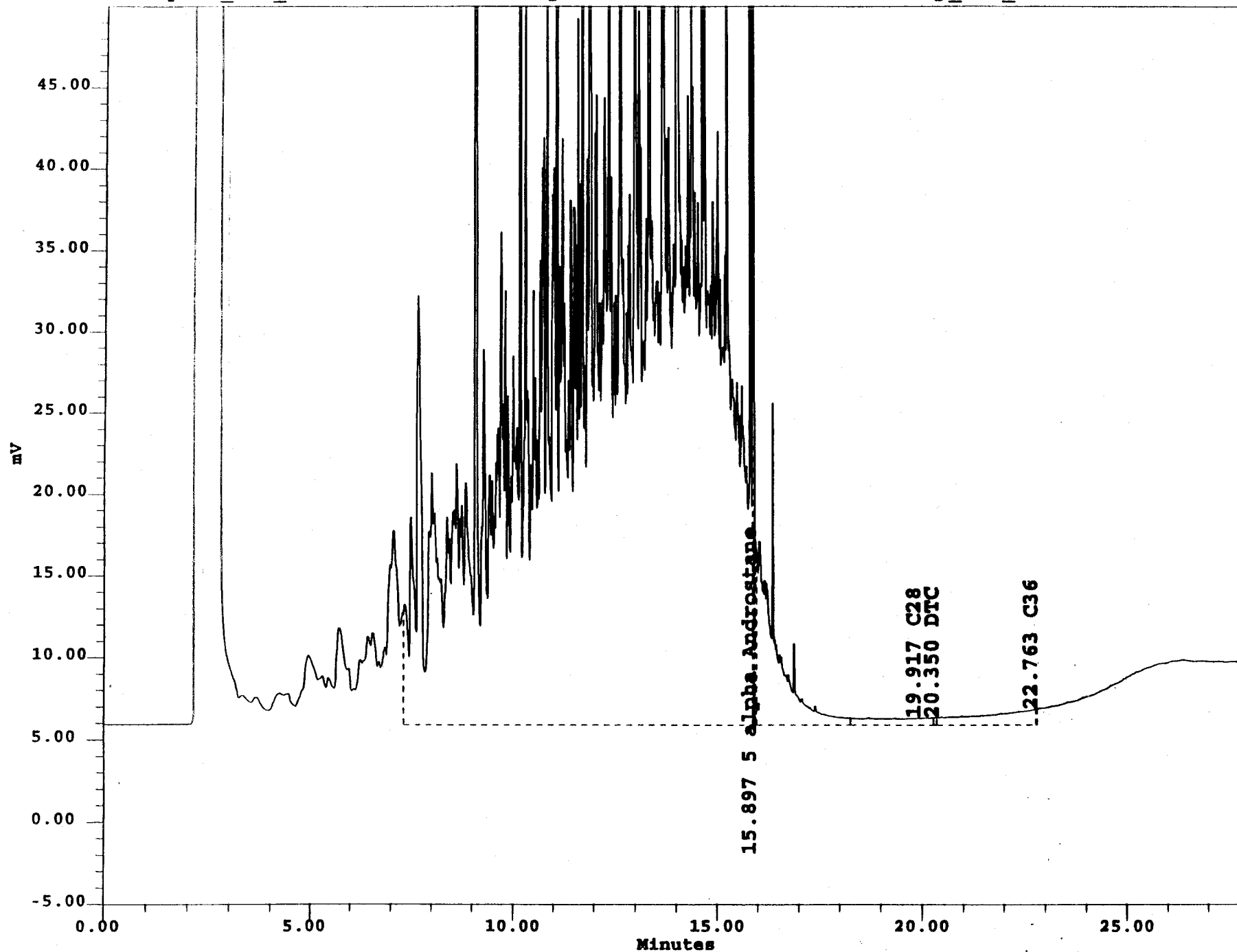
DRO and RRO Results

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Surr_Rec_3 (%)	TRUE_RRO_R	True_Diesel_R
1	SURROGATE AK102		163007	64.681		61.0392	46.9918
2	SURROGATE AK103		1811	0.923		61.0392	46.9918
3	C10	7.870	87198			61.0392	46.9918
4	Diesel	7.870	281434	111.672		61.0392	46.9918
5	5 alpha Androst	15.883	163007	54.575	54.575	61.0392	46.9918
6	RRO	20.237	121662	61.962		61.0392	46.9918
7	DTC	20.350	1811	0.721		61.0392	46.9918
8	C36	22.763	88215			61.0392	46.9918

analysis Lot_R: SCR01220730

SampleNameR: .CS 3028/3029

Prep_Lot_R: 0730EB01



Channel Descr. Rear_FID

SampleNameR LCS 3028/3029

Dilution_R 1.000000

Acq Meth Set SC_AK102_AK103

Analysis_Lot_R SCR01220730

SampleWeightR 1.00000

Date Acquired 07/30/97 03:56:04 PM

Prep_Lot_R 0730EB01

Initials WAA

Processing Method SCR_AK102_AK103S_0122_R6 Surr_3_R 100.0

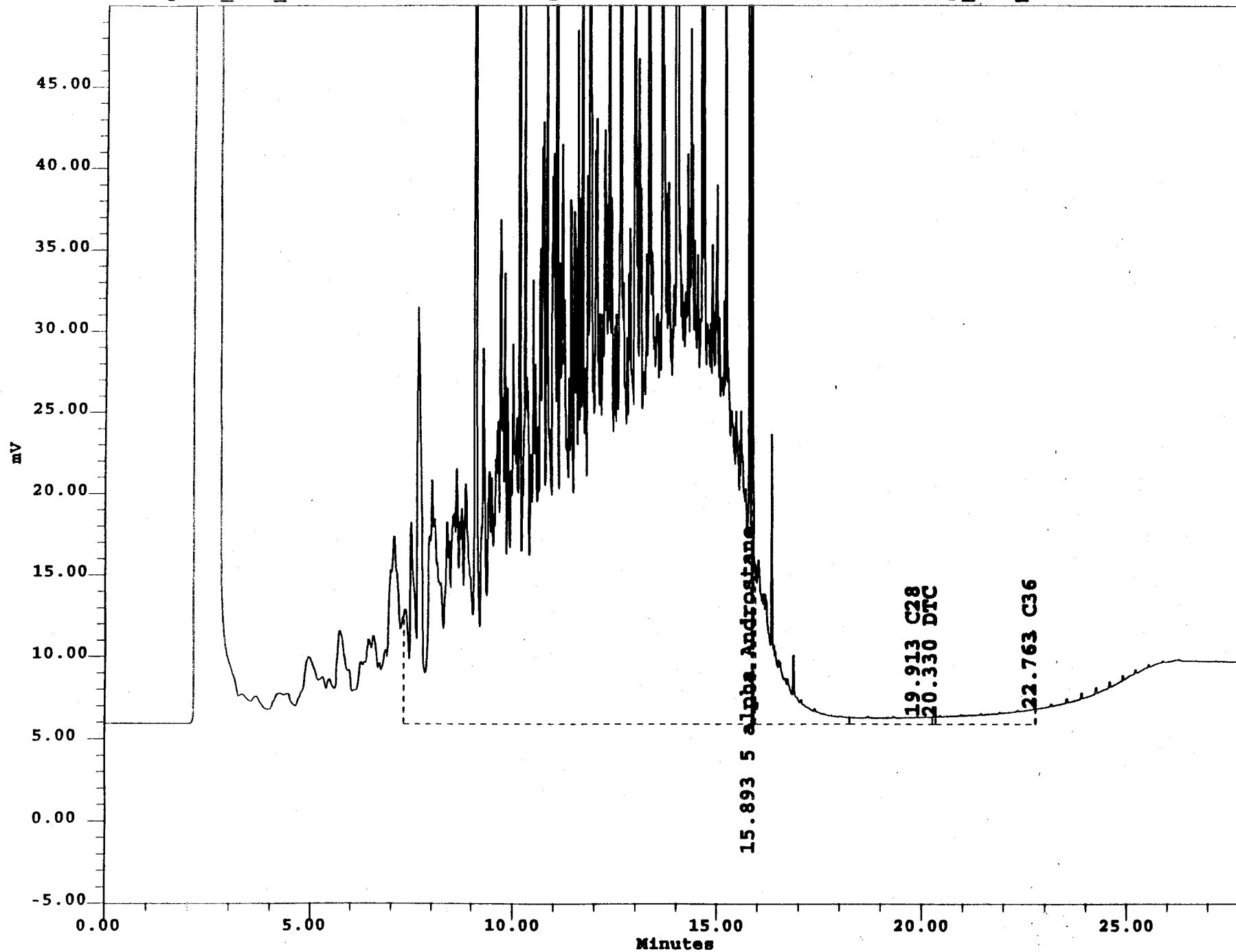
DRO Rear

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Surr_Rec_3 (%)	True_Diesel_R
1	SURROGATE AK102		273096	108.364		5122.4780
2	SURROGATE AK103		1891	0.963		5122.4780
3	Diesel	11.920	13182651	5230.842		5122.4780
4	5 alpha Androst	15.897	273096	91.432	91.4	5122.4780
5	C28	19.917	44567			5122.4780
6	RRO	19.917	132171	67.314		5122.4780
7	DTC	20.350	1891	0.753		5122.4780
8	C36	22.763	85713			5122.4780

analysis_Lot_R: SCR01220730

SampleNameR: LCSD 3028/3029

Prep_Lot_R: 0730EB01



Channel Descr. Rear_FID

SampleNameR LCSD 3028/3029

Dilution_R 1.000000

Acq Meth Set SC_AK102_AK103

Analysis_Lot_R SCR01220730

SampleWeightR 1.00000

Date Acquired 07/30/97 04:33:05 PM

Prep_Lot_R 0730EB01

Initials WAA

Processing Method SCR_AK102_AK103S_0122_R6 Surr_3_R 100.0

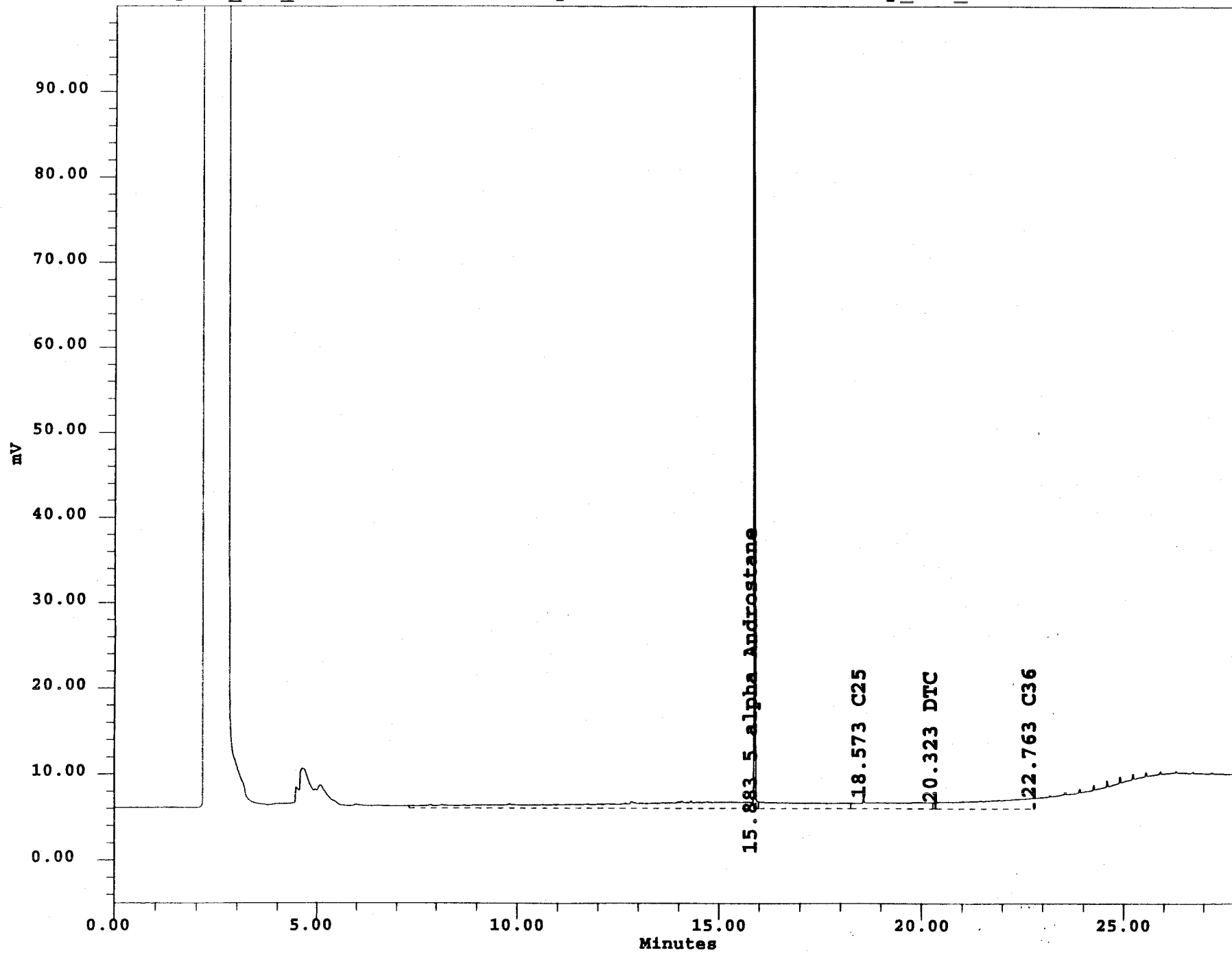
DRO Rear

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Surr_Rec_3 (%)	True_Diesel_R
1	SURROGATE AK102		235393	93.403		4894.0436
2	SURROGATE AK103		1902	0.969		4894.0436
3	Diesel	11.107	12569253	4987.447		4894.0436
4	5 alpha Androst	15.893	235393	78.810	78.8	4894.0436
5	C28	19.913	45025			4894.0436
6	RRO	19.913	132961	67.716		4894.0436
7	DTC	20.330	1902	0.758		4894.0436
8	C36	22.763	86034			4894.0436

Analysis_Lot_R: SCR01220730

SampleName.. 974076001

Prep_Lot_R: 0730EB01



Channel Descr. Rear_FID

SampleNameR 974076001

Dilution_R 1.000000

Acq Meth Set SC_AK102_AK103

Analysis_Lot_R SCR01220730

SampleWeightR 1.00000

Date Acquired 07/30/97 10:09:34 PM

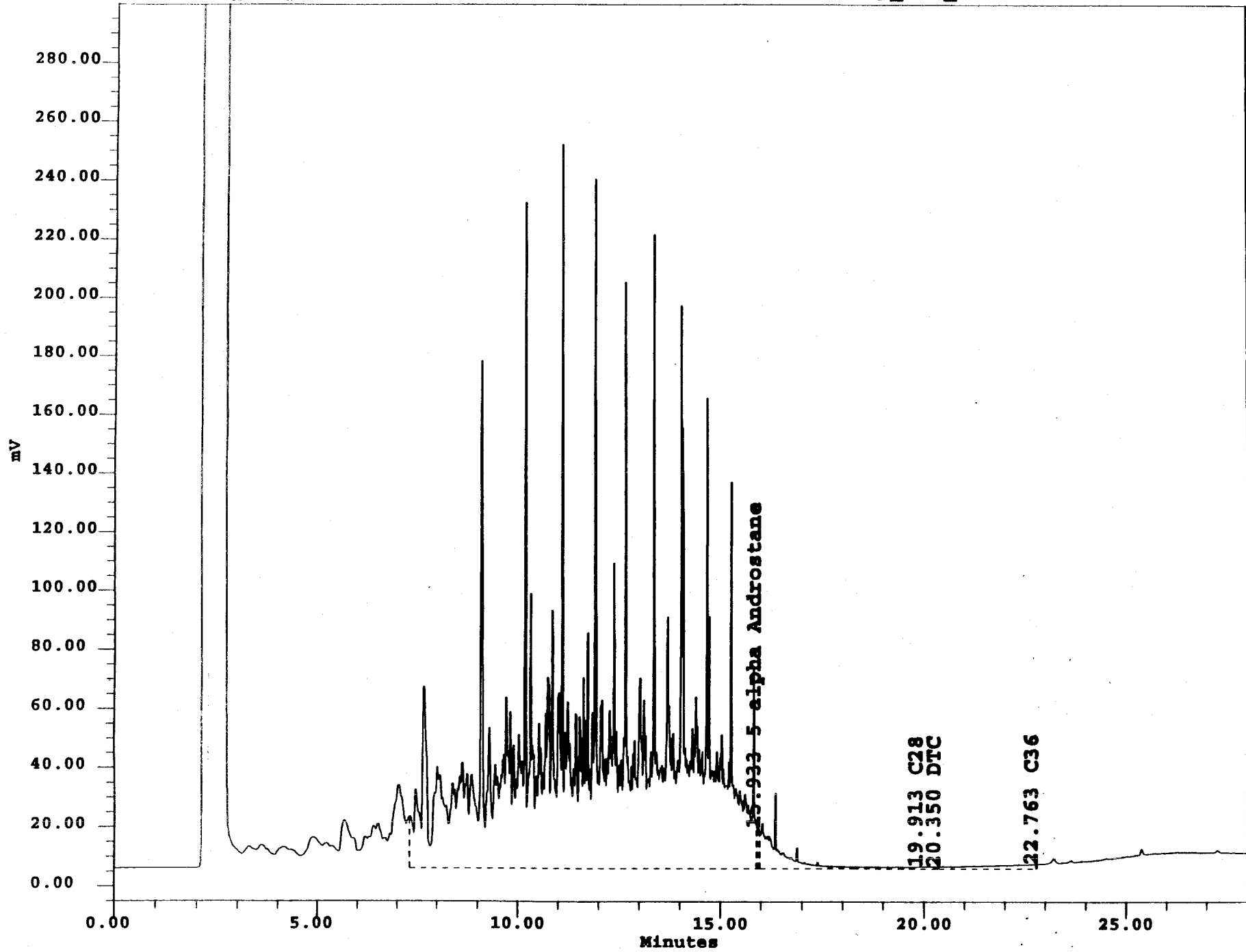
Prep_Lot_R 0730EB01

Initials WAA

Processing Method SCR_AK102_AK103S_0122_R6 Surr_3_R 100.0

DRO Rear

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	Surr_Rec_3 (%)	True_Diesel_R
1	SURROGATE AK102		230231	91.355		122.7737
2	SURROGATE AK103		2331	1.187		122.7737
3	Diesel	15.850	539643	214.129		122.7737
4	5 alpha Androst	15.883	230231	77.081	77.1	122.7737
5	C25	18.573	76632			122.7737
6	RRO	18.573	206654	105.248		122.7737
7	DTC	20.323	2331	0.928		122.7737
8	C36	22.763	126865			122.7737



Channel Descr. Rear_FID

SampleNameR LSB 8000

Dilution_R 1.000000

Acq Meth Set SC_AK102_AK103

Analysis_Lot_R SCR01220730

SampleWeightR 1.00000

Date Acquired 07/30/97 11:23:55 PM

Prep_Lot_R 0730EB01

Initials WAA

Processing Method SCR_AK102_AK103S_0122_R6 Surr_3_R 0.0

DRO Rear

#	Name	Ret Time (min)	Area (uV*sec)	Sln_Conc	True_Diesel_R
1	SURROGATE AK102		37649	14.939	7880.1679
2	SURROGATE AK103		1373	0.699	7880.1679
3	Diesel	11.110	19897073	7895.107	7880.1679
4	5 alpha Androst	15.933	37649	12.605	7880.1679
5	C28	19.913	70198		7880.1679
6	RRO	19.913	219328	111.703	7880.1679
7	DTC	20.350	1373	0.547	7880.1679
8	C36	22.763	145984		7880.1679

#	Vial	SampleNameR	Analysis_Lt_R	Date Acquired	Prp_Lt_R	Dilut_R	Additional_Comments
1	1	MECL2 BLK	SCR01220730	07/30/97 10:58:52 AM	0730EB01	1.00000	
2	2	C10-C44	SCR01220730	07/30/97 11:35:47 AM	0730EB01	1.00000	alkane standard, ret. time window
3	3	CCVB 12500	SCR01220730	07/30/97 12:13:20 PM	0730EB01	1.00000	CCV - middle distillate fuel blend
4	4	SFIB 100/100	SCR01220730	07/30/97 12:50:37 PM	0730EB01	1.00000	instrument blank
5	5	CCVR 10000	SCR01220730	07/30/97 01:27:31 PM	0730EB01	1.00000	
6	6	CCVR 10000	SCR01220730	07/30/97 02:04:41 PM	0730EB01	1.00000	
7	7	MECL2 BLK	SCR01220730	07/30/97 02:41:50 PM	0730EB01	1.00000	
8	8	MB 3028/3029	SCR01220730	07/30/97 03:18:53 PM	0730EB01	1.00000	
9	9	LCS 3028/3029	SCR01220730	07/30/97 03:56:04 PM	0730EB01	1.00000	
10	10	LCSD 3028/3029	SCR01220730	07/30/97 04:33:05 PM	0730EB01	1.00000	
11	11	974050001	SCR01220730	07/30/97 05:10:12 PM	0730EB01	1.00000	
12	12	974051001	SCR01220730	07/30/97 05:47:48 PM	0730EB01	1.00000	
13	13	974051002	SCR01220730	07/30/97 06:25:13 PM	0730EB01	1.00000	
14	14	974051003	SCR01220730	07/30/97 07:02:40 PM	0730EB01	1.00000	
15	15	974051004	SCR01220730	07/30/97 07:40:21 PM	0730EB01	1.00000	
16	16	974051005	SCR01220730	07/30/97 08:17:22 PM	0730EB01	1.00000	
17	17	974051006	SCR01220730	07/30/97 08:54:25 PM	0730EB01	1.00000	
18	18	974051007	SCR01220730	07/30/97 09:32:02 PM	0730EB01	1.00000	
19	19	974076001	SCR01220730	07/30/97 10:09:34 PM	0730EB01	1.00000	
20	20	974082002	SCR01220730	07/30/97 10:47:03 PM	0730EB01	1.00000	
21	21	LSB 8000	SCR01220730	07/30/97 11:23:55 PM	0730EB01	1.00000	
22	22	974115001	SCR01220730	07/31/97 12:00:53 AM	0730EB01	1.00000	
23	23	MB 3030	SCR01220730	07/31/97 12:37:47 AM	0730EB01	1.00000	
24	24	LCS 3030	SCR01220730	07/31/97 01:15:18 AM	0730EB01	1.00000	
25	25	LCSD 3030	SCR01220730	07/31/97 01:52:01 AM	0730EB01	1.00000	
26	26	974079002	SCR01220730	07/31/97 02:29:26 AM	0730EB01	1.00000	
27	27	974079003	SCR01220730	07/31/97 03:06:52 AM	0730EB01	1.00000	
28	28	974079004	SCR01220730	07/31/97 03:44:10 AM	0730EB01	1.00000	
29	29	974079005	SCR01220730	07/31/97 04:21:29 AM	0730EB01	1.00000	
30	30	974079006	SCR01220730	07/31/97 04:58:41 AM	0730EB01	1.00000	
31	31	974079007	SCR01220730	07/31/97 05:35:50 AM	0730EB01	1.00000	
32	32	974079008	SCR01220730	07/31/97 06:13:17 AM	0730EB01	1.00000	
33	33	974080001	SCR01220730	07/31/97 06:50:28 AM	0730EB01	1.00000	
34	34	974080002	SCR01220730	07/31/97 07:27:13 AM	0730EB01	1.00000	
35	35	974080003	SCR01220730	07/31/97 08:04:33 AM	0730EB01	1.00000	
36	36	974080004	SCR01220730	07/31/97 08:41:58 AM	0730EB01	1.00000	
37	37	LSB 8000	SCR01220730	07/31/97 09:19:09 AM	0730EB01	1.00000	
38	38	MB 3030	SCR01220730	07/31/97 09:56:36 AM	0730EB01	1.00000	
39	38	MB 3023	SCR01220730	07/31/97 10:34:29 AM	0730EB01	1.00000	
40	39	LSB 8000	SCR01220730	07/31/97 11:12:46 AM	0730EB01	1.00000	

#	Val	SampleNameR	Analysis_Lt_R	Date Acquired	Prp_Lt_R	Dilut_R	Additional_Comments
41	40	LSR 5000	SCR01220730	07/31/97 11:50:34 AM	0730EB01	1.00000	

End of Analysis Lot SCR01220730

Error Summary Log

12/16/97

EDF 1.2aAll files present in deliverable.

Laboratory:	CT&E Environmental Services, Inc., Anchorage, AK
Lab Report Number:	974076
Project Name:	COE-Gambell-New Well
Work Order Number:	974076
Control Sheet Number:	NA

Npdl samp: Error Summary Log

12/16/97

Error type	Logcode	Projname	Npdlwo	Sampid	Matrix
There are no errors in this data file					

Npditest: Error Summary Log

12/16/97

Error type	Labsampid	Qccode	Anmcode	Exmcode	Anadate	Run number
There are no errors in this data file					//	0

Npdres: Error Summary Log

12/16/97

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	108621	LB1	WS	AK102	PR	07/30/97	1	ANDROSTANE5A
Warning: extra parameter	108622	BS1	WS	AK102	PR	07/30/97	1	ANDROSTANE5A
Warning: extra parameter	108623	BD1	WS	AK102	PR	07/30/97	1	ANDROSTANE5A
Warning: extra parameter	974076001	CS	WS	AK102	PR	07/30/97	1	ANDROSTANE5A

Npdq: Error Summary Log

12/16/97

Error type	Lablotcl	Anmcode	Parlabel	Qccode	Labqid
There are no errors in this data files					

Npdicl: Error Summary Log

12/16/97

Error type	Cirevdate	Anmcode	Exmcode	Parlabel	Cicode
There are no errors in this data file	//				