DRAFT FINAL REPORT

INSTALLATION RESTORATION PROGRAM

PRELIMINARY ASSESSMENT / SITE INSPECTION

VOLUME II APPENDICES

220th ENGINEERING INSTALLATION SQUADRON
ZANESVILLE AIR NATIONAL GUARD STATION
OHIO AIR NATIONAL GUARD
ZANESVILLE, OHIO

NOVEMBER 1994

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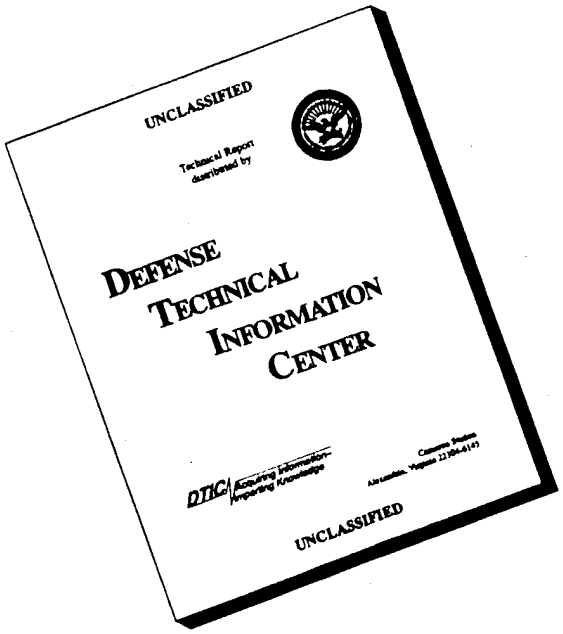

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VOLUME II

220th ENGINEERING INSTALLATION SQUADRON
ZANESVILLE AIR NATIONAL GUARD STATION
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ZANESVILLE, OHIO

MARCH 1995

Prepared For

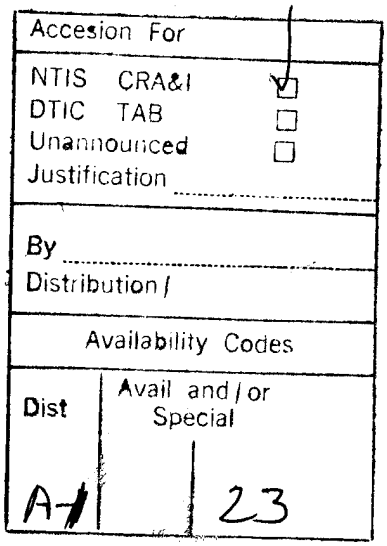
AIR NATIONAL GUARD READINESS CENTER
ANDREWS AFB, MARYLAND

Prepared By

Operational Technologies Corporation
4100 N.W. Loop 410, Suite 230
San Antonio, Texas 78229-4253
(210) 731-0000

APPENDIX A

HAZARD RANKING SYSTEM (HRS) "DATA REQUIREMENTS FOR FEDERAL FACILITY DOCKET SITES" PACKAGE



PA/SI DATA REQUIREMENTS FOR FEDERAL FACILITY DOCKET SITES

Zanesville ANGS. Zanesville, Ohio

1. **Supply copies of all sampling data. on-site and off-site, including location map, detection limits (see definitions below), raw data sheets, QA/QC documents, date(s) sampled, analytical method(s) used, well or boring logs, and sampling technique(s).**

   All field screening results are presented in Appendix C. All laboratory analytical reports are presented in Appendix E.

2. **Locate and identify on a map all known or suspected sources (see definition below). Supply all information about source(s) such as: dates of operation, use, or spillage; amounts of material deposited, stores, or spilled; dimensions of source(s); known or suspected hazardous substances (see definition below), etc.**

   This information can be found in Section 4.2 of the PA/SI Report.

3. **Provide a description of all aquifers beneath the site, including description of overlying materials, depth first encountered thickness, and composition.**

   This information can be found in Section 3.5 of the PA/SI Report.

4. **For each source, choose one description from Table 1 that describes the groundwater contaminant. Provide complete documentation (i.e., engineering diagrams, photographs (originals) as to why the source meets that description and not any other in the Table.**

   A groundwater investigation has not been conducted because groundwater was not encountered above bedrock. Therefore. the status on groundwater contaminant has not been determined.

5. **Provide the location of all drinking water wells in all aquifers beneath the site in 4-mile radius from the site (property boundary) by HRS distance ring and locate the wells within a one-mile radius on a 7.5 minute topographic map. Provide**

information on depth of well(s), screening interval(s), depth of aquifer(s) encountered, population served for multiple wells (i.e., municipal system), provide the number of wells, location of all wells (regardless of 4-mile limit), average annual pumpage of each well (regardless of 4-mile limit), and total population served by system. Include information on all standby wells.

This question does not apply since there are no public wells within a 4-mile radius of the site. (Source: Zanesville Health Department)

6. **Provide information and location (on 7.5 minute topographic map) of wells within 4 miles that are used to irrigate five or more acres of commercial food or forage crops, or watering of commercial livestock, or ingredient in commercial food preparation, or supply for aquaculture, or supply for a major or designated water recreation area, excluding drinking water use.**

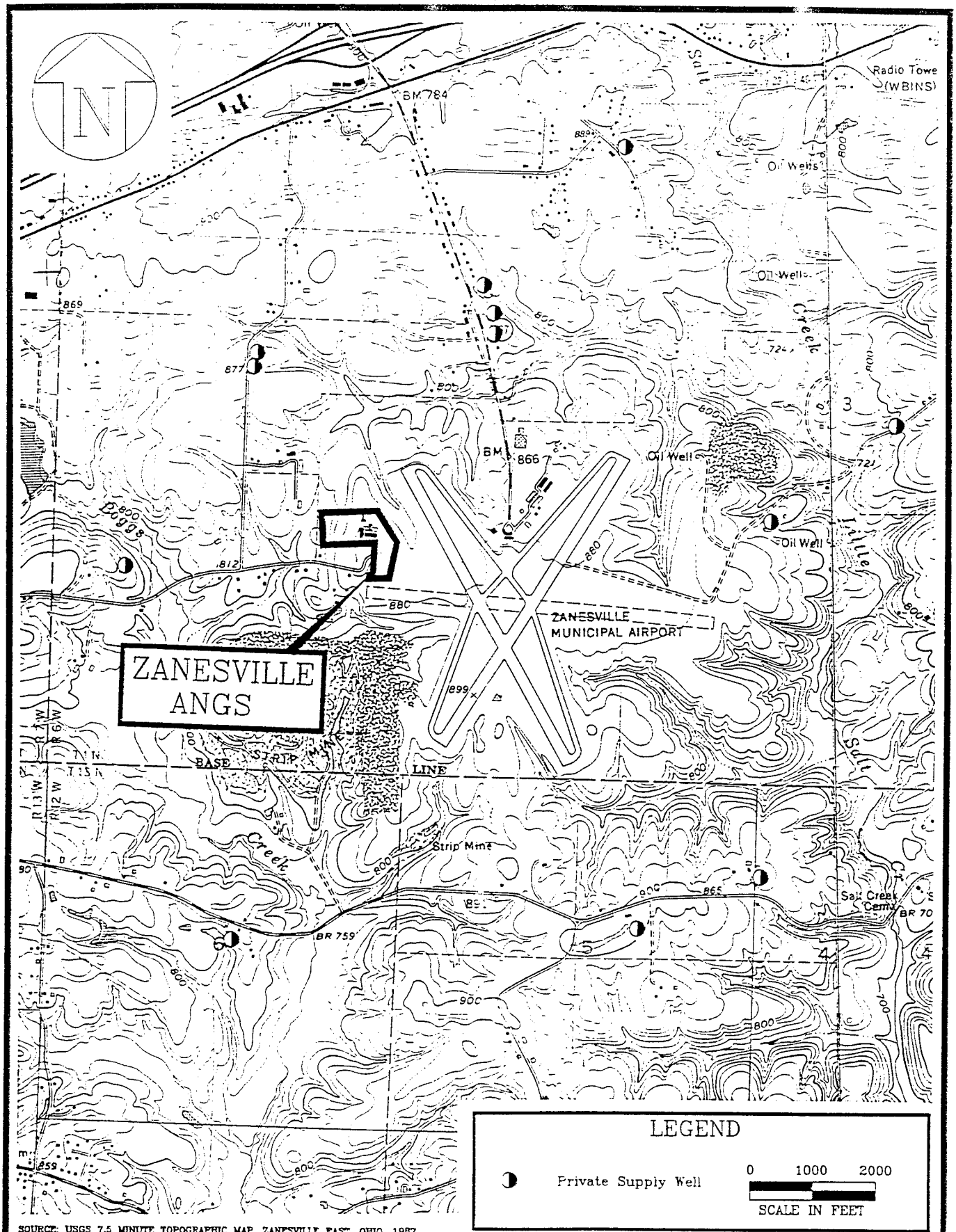
Approximately 15 private wells exist within a 1-mile radius (Figure A.1) and approximately 19 private wells exist within a 4-mile radius. Copies of the well logs have been provided. (Source: Ohio Department of Natural Resources, Division of Water)

7. **Provide average number of persons per residence for county (or counties) that site is located in per the U. S. Census Bureau.**

The average number of persons per residence for Muskingum County is 2.61. (Source: 1990 Census; State Library of Ohio)

8. **Identify and locate all surface water bodies within two miles of the site marking off the drainage routes (shown on 7.5 minute topographic map) from each source to applicable surface water bodies. Provide the average annual cubic feet per second flow for each surface water body within 15 miles downriver or radius from the point of probably entry into surface water. For lakes, provide information on inflow and outflow.**

The surface water bodies that are located within two miles of the site are Boggs Creek and Little Salt Creek. Several attempts were made to obtain information on the average annual cubic feet per second flow but none of the agencies contacted (Zanesville Water Division, Agriculture Division, and the Soil Conservation Service) could provide the information or tell us where to find it. Figure A.2 shows the drainage route from the site.



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, ZANESVILLE EAST, OHIO, 1987

DRAFT
FIGURE A.1

P\ZANES\PRVWEL

PRIVATE WATER WELLS
WITHIN 1 MILE RADIUS OF ANGS

220th EIS, Zanesville ANGS
Zanesville, Ohio

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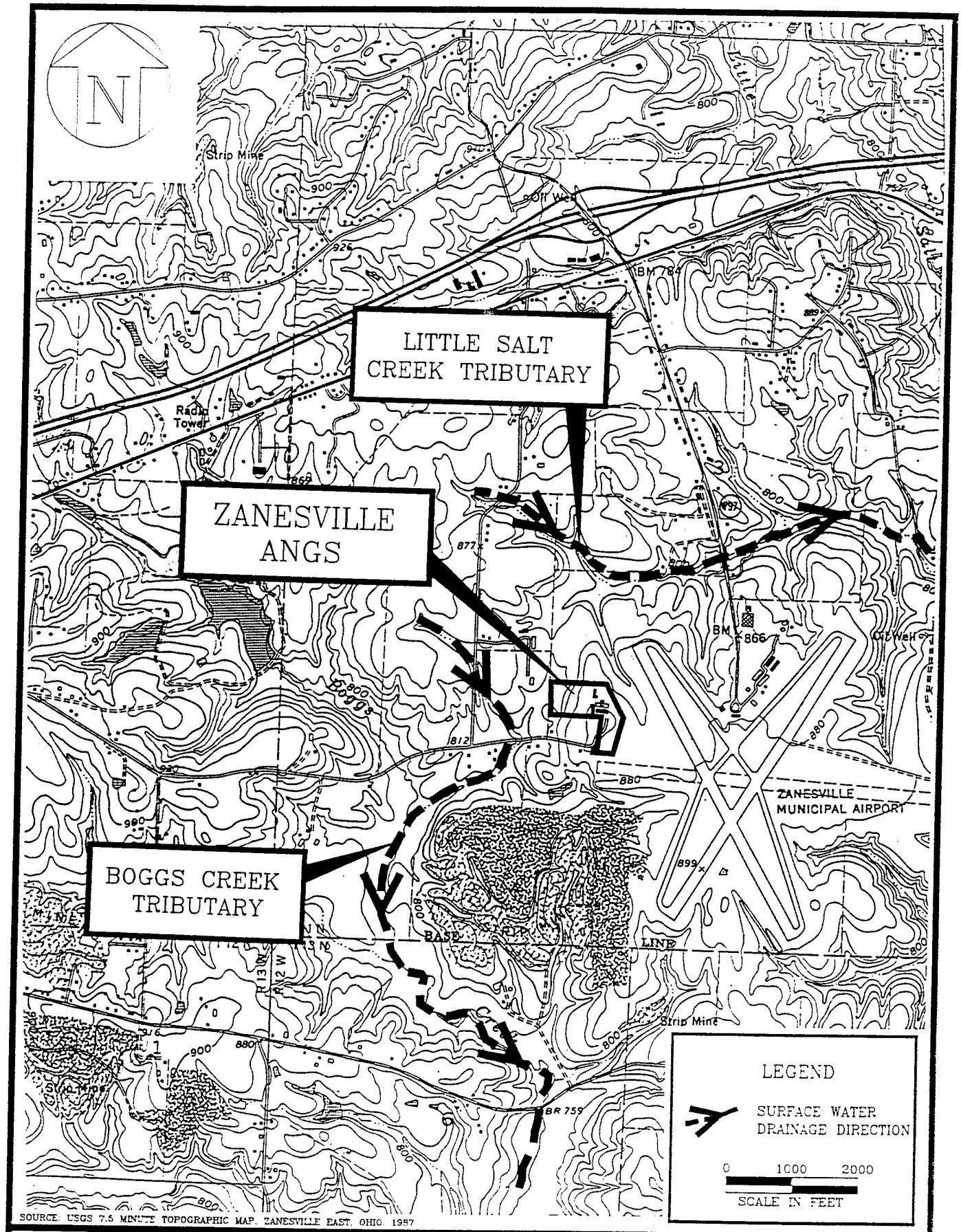

DRAFT
FIGURE A.2

P:\ZANES\SURFDRAN

SURFACE WATER DRAINAGE
FROM ANGS LOCATION
220th EIS, Zanesville ANGS
Zanesville, Ohio

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JULY 1994

9. **For each source, choose one description from Table 2 that describes the surface water containment. Provide complete documentation (i.e., engineering diagrams, photographs [originals]) as to why the source meets that description and not any other in the Table.**

All sources: no evidence of hazardous substance migration from source areas and no maintained engineered cover or run-on control or runoff management system.

10. **Provide the number of acres in each drainage basin.**

The total number of acres in the Little Salt Creek drainage basin is 76. (Source: Ohio Department of Natural Resources)

11. **From Table 3, choose the predominant soil group (surface soil) which comprises the largest total area within each drainage area.**

The best soil description for this site is: Moderately fine-textured soils with low infiltration rates consisting mostly of silty loams.

12. **Provide the two year, 24-hour rainfall.**

The two year, 24-hour rainfall is 2.25". (Source: National Climatic Center)

13. **From Table 4, choose the floodplain category or each source (supply Federal Emergency Management Agency floodplain map) and determine if each source meets the criteria from Table 5 (engineer's certification).**

The floodplain category that best describes this area is: None of the above. This site is located outside the 500-year floodplain. (Source: Federal Emergency Management Agency Map)

14. **Provide the location of all drinking water intakes with 15 downstream miles (rivers) or 15-mile radius (lakes, bays, etc.). Provide information on population served. For multiple intakes (i.e., municipal system), provide information on the number of intakes, location of all intakes (regardless of 15-mile limit), and total population served by system. Include information on all standby intakes.**

This question does not apply since surface water is not used for the above purpose. (Source: Zanesville Water Division)

15. **Provide information and location of intakes within 15 miles downriver (radius in lake or bay) that are used to irrigate five or more acres of commercial food or forage crops, or watering of commercial livestock, or ingredient in commercial food preparation, or supply for aquaculture, or supply for a major or designated water recreation area, excluding drinking water use.**

This question does not apply since surface water is not used for the above purpose. (Source: Zanesville Water Division)

16. **Provide any surface water body 15 miles downriver (radius in lakes or bay) used for drinking water.**

Surface water is not used for drinking water purposes. (Source: Zanesville Water Division)

17. **Provide the average human food chain production (pounds per year) for each surface water body 15 miles downriver of 15-mile radius in lake.**

This information is not available. (Source: Zanesville Water Division)

18. **Within a 4-mile radius from the site and 15 miles downriver, or radius in lake, identify all sensitive environments that exists. Provide original documentation (USF&W, Natural Heritage Database, State agencies, NOAA, etc.), multiple sensitive environments within a sensitive environment.**

According to the Ohio Department of Natural Resources, they have two records from within the four-mile radius and several records from the Muskingum River.

To the northeast of the airport and on the Norwich Quad, they have a record for the Hellbender, a type of salamander which is Endangered in Ohio and a candidate for the Federal list (Federal Category 2). It was found in salt Creek at the U.S. Route 40 bridge. To the southwest of the airport and on the Zanesville east Quad is a record for the State Champion Big White Oak Tree. It is located on County Route 192 for which they do not

have an exact address. The tree measures 21 feet and 6 inches in circumference, 78 feet tall and has an 84 foot crown spread.

There are several fish and mollusk records from the Muskingum River, as well as one turtle record. The fifteen mile stretch is from the I-70 bridge in Zanesville downstream to the Muskingum-Morgan county line. This stretch is located on the Zanesville West, Zanesville East and Philo Quads.

On the Zanesville West Quad, the Eastern Sand Darter was collected at four sites. Four other species of fish were also collected, two of which are State Endangered. The Sand Darter was collected again near the mouth of Brush Creek. This location is on Zanesville East Quad.

There are five collection points on the Philo Quad where several species of fish and mollusks were taken. Also, a smooth softshell turtle was reported from collection site #2 below the dam at Duncan Falls.(Source: Ohio Department of Natural Resources)

19. **What is the linear frontage of all wetlands 15 miles downriver or 15-mile radius in lake?**

The linear frontage for all wetlands 5 miles downriver is approximately 7.76 miles. (Source: National Wetlands Inventory Map, Department of the Interior)

20. **Provide the location and number of persons residing, working, attending school, or day care within 200 feet. This includes both the Air and Army Guard.**

The Zanesville ANGS has a weekday work population of 17 people; during training weekends, the population rises to 180. (Source: PA/SI Reports)

21. **Identify all terrestrial sensitive environments that exist on-site. Provide original documentation (USF&W, natural Heritage Database, State Agencies, NOAA, etc.) and locate each on a 7.5 minute topographic map. Note that there could be multiple sensitive environments within a sensitive environment.**

According to the Ohio Department of Natural Resources, no records of rare plants or animals at the airport site exist at the present time. A lack of records for any particular

area is not a statement that rare species or unique features are absent from the area. (Source: Ohio Department of Natural Resources)

22. **For each source, choose one description from Table 8 that describes the accessibility to a human population. Provide complete documentation (i.e., engineering diagrams, photographs [originals]) as to why the source meets that description and not any other in the Table.**

The best description for this site is: surrounded by maintained fence.

23. **Provide the total number of people in following distance rings from source(s)?**

- **0-1/4 mile**: No observation
- **1/4-1/2 mile**: 387
- **1/2-1 mile**: 451
- **1-2 miles**: 1891
- **2-3 miles**: 4109
- **3-4 miles**: 6638

Use 1990 Census data and/or actual house counts. Document how calculated.

Source: Census of Population and Housing, 1990: Public Law (P.L.) 94-171 Data (Ohio) (Machine- Readable Data File)/ Prepared by the Bureau of the Census.-- Washington: The Bureau (Production and Distribution), 1991.

Prepared By: Ohio Data Users Center, Ohio Dept. of Development, P.O. Box 1001, Columbus, OH. 43266-0101. Telephone 800/848-1300, Extension 2115, or 614/466-2115. (DL--11/93)

24. **For each source, choose one description from Table 9 that describes the gaseous containment. Provide complete documentation (i.e., engineering diagrams, photographs [originals]), as to why the source meets that description and not any other in the Table. From Table 10, choose the appropriate description of each source type. For each source, choose one description from Table 11 that describes that particulate containment. Provide complete documentation (i.e., engineering diagrams, photographs [originals]) as to why the source meets the description and not any other in the Table.**

Table 9: All situations except those specifically listed below.
Table 10: Contaminated soil (excluding land treatment).
Table 11: All situations except those specifically listed below.

25. **Provide the location and area (in acres) of all wetlands within 4 miles of the site.**

There are approximately 194 acres of wetlands within a 4-mile radius of the site. (Source: National Wetlands Inventory Map, Department of the Interior)

26. **Contact EPA Regional Office immediately if any radionuclides are present or suspected at the site and supply all radiological information known to date.**

No radionuclides are present or suspected at the site.

27. **For all of the above information, use primary data source and supply two copies or specify where copies may be obtained.**

28. **Provide any removals or remedial actions taken place at the site.**

No removals or remedial actions have taken place at the site.

29. **If information relevant to a question already has been provided to the EPA, your answer may precisely cite the previous submittal by title, date, page, and paragraph number rather than resubmitting the information.**

DEFINITIONS

Detection Limit (DL)

Lowest amount that can be distinguished from the normal random "noise" of an analytical instrument or method. For this submission, the detection limit used is the method detection limit (MDL), or, for real-time instruments, the detection limit of the instrument as used in the field.

Hazardous Substance

CERCLA hazardous substances, pollutants, and contaminant as defined in CERCLA sections 101(14) and 101(33).

Method Detection Limit (MDL)

Lowest concentration of an analyte that a method can detect reliably in either a sample or blank.

Sample Quantitation Limit (SQL)

Quantity of a substance that can reasonably be quantified given the methods of analysis and sample characteristics that may affect quantification (for example, dilution, concentration).

Site: Area(s) where a hazardous substance has been deposited, stored, disposed, or placed, or has otherwise come to be located. Such areas may include multiple sources and may include areas between sources.

Source: Any area where a hazardous substance has been deposited, stored, disposed, or placed, plus those soils that have become contaminated from migration of a hazardous substance. Sources do not include those volumes of air, groundwater, surface water, or surface water sediments that have become contaminated by migration, except: in the case of either a groundwater plume with no identified source, or contaminated surface water sediments with no identified source, the plume may be considered a source.

Table 1

All Sources (Except Surface Impoundments, Land Treatment, Containers, and Tanks)

Evidence of hazardous substance migration from source area (i.e., source area includes source and any associated containment structures).

No liner.

No evidence of hazardous substance migration from source area, a liner, and:

(a) None of the following present: (1) maintained engineered cover, (2) functioning and maintained run-on control system and runoff management system, or (3) functioning leachate collection and removal system immediately above liner.

(b) Any one of the three items in (a) present.

(c) Any two of the items in (a) present.

(d) All three items in (a) present plus a functioning groundwater monitoring system.

(e) All items in (d) present plus no bulk or non-containerized liquids nor materials containing free liquids deposited in source area.

No evidence of hazardous substance migration from source area, double liner with functioning leachate collection and removal system above and between liners, functioning groundwater monitoring system, and:

(f) Only one of the following deficiencies present in containment: (1) bulk or noncontainerized liquids or materials containing free liquids deposited in source area, or (2) no or nonfunctioning or nonmaintained run-on control system and runoff management system, or (3) no or nonmaintained engineered cover.

(g) None of the deficiencies in (f) present.

Source area inside or under maintained intact structure that provides protection from precipitation so that neither runoff nor leachate is generated, liquid or materials containing free liquids not deposited in source area, and functioning and maintained run-on control present.

Surface Impoundment

Evidence of hazardous substance migration from surface impoundment.

No liner.

Free liquids present with either no diking, unsound diking, or diking that is not regularly inspected and maintained.

No evidence of hazardous substance migration from surface impoundment, free liquids present, sound diking that is regularly inspected and maintained, adequate freeboard, and:

(a) Liner.

(b) Liner with functioning leachate collection and removal system below liner, and functioning groundwater monitoring system.

(c) Double liner with functioning leachate collection and removal system between liners, and functioning groundwater monitoring system.

No evidence of hazardous substance migration from surface impoundment and all free liquids eliminated at closure (either by removal of liquids or solidification of remaining wastes and waste residues).

Land Treatment

Evidence of hazardous substance migration from land treatment zone.

No functioning, maintained, run-on control and runoff management system.

No evidence of hazardous substance migration from land treatment zone and:

(a) Functioning and maintained run-on control and runoff management system.

(b) Functioning and maintained run-on control and runoff management system, and vegetative cover established over entire land treatment area.

(c) Land treatment area maintained in compliance with 40 CFR 264.280.

Containers

All containers buried.
Evidence of hazardous substance migration from container area (i.e., container area includes containers and any associated containment structures).
No liner (or no essentially impervious base) under container area.
No diking (or no similar structure) surrounding container area.
Diking surrounding container area unsound or not regularly inspected and maintained.
No evidence of hazardous substance migration from container area, container area surrounded by sound diking that is regularly inspected and maintained, and:

(a) Liner (or essentially impervious base) under container area.
(b) Essentially impervious base under container area with liquids collection and removal system.
(c) Containment system includes essentially impervious base, liquids collection system, sufficient contain 10 percent of volume of all containers, and functioning and maintained run-on control; plus functioning groundwater monitoring system, and spilled or leaked hazardous substances and accumulated precipitation removed in timely manner to prevent overflow of collection system, at least weekly inspection of containers, hazardous substances in leaking or deteriorating containers transferred to containers in good condition, and containers sealed except when waste is added or removed.
(d) Free liquids present containment system has sufficient capacity to hold total volume of all containers and to provide adequate freeboard, single liner under container area with functioning leachate collection and removal system below liner, and functioning groundwater monitoring system.
(e) Same as (d) except: double liner under container area with functioning leachate collection and removal system between liners.

Containers inside or under maintained intact structure that provides protection from precipitation so that neither runoff nor leachate would be generated from any unsealed or ruptured containers, liquids or materials containing free liquids not deposited in any container, and functioning and maintained runoff control present.
No evidence of hazardous substance migration from container area, containers leaking, and all free liquids eliminated at closure (either by removal of liquid or solidification of remaining wastes and waste residues).

Tank

Belowground tank.
Evidence of hazardous substance migration from tank area (i.e., tank area includes tank, ancillary equipment such as piping, and any associated containment structures).
Tank and ancillary equipment not provided with secondary containment, (e.g., liner under tank area, vault system, double wall).
No diking (or no similar structure) surrounding tank and ancillary equipment
Diking surrounding tank and ancillary equipment unsound or not regularly inspected and maintained.
No evidence of hazardous substance migration from tank area, tank and ancillary equipment surrounded by sound diking that is regularly inspected and maintained. and:

(a) Tank and ancillary equipment provided with secondary containment.
(b) Tank and ancillary equipment provided with secondary containment with leak detection and collection system.
(c) Tank and ancillary equipment provided with secondary containment system that detects and collects spilled or leaked hazardous substances and accumulated precipitation and has sufficient capacity to contain 110 percent of volume of largest tank within containment area, spilled or leaked hazardous substances and accumulated precipitation removed in timely manner, at least weekly inspection of tank and secondary containment system, all leaking or unfit-for-use tank systems promptly responded to. and functioning groundwater monitoring system.
(d) Containment system has sufficient capacity to hold volume of all tanks within tank containment area and to provide adequate freeboard, single liner under that containment area with functioning

leachate collection and removal system below liner, and functioning groundwater monitoring system.

(e) Same as (d) except double liner under tank containment area with functioning leachate collection and removal system between liners.

Tank is aboveground, and inside or under maintained intact structure that provides protection from precipitation so that neither runoff nor leachate would be generated from any material released from tank, liquids or materials containing free liquids not deposited in any tank, and functioning and maintained run-on control present.

Table 2

All Sources (Except Surface Impoundments, Land Treatment, Containers, and Tanks)

Evidence of hazardous substance migration from source area (i.e., source area includes source and any associated containment structures).

No evidence of hazardous substance migration from source areas and:

(a) Neither of the following present: (1) maintained engineered cover, or (2) functioning and maintained run-on control system and runoff management system.

(b) Any one of the two items in (a) present.

(c) Any two of the following present: (1) maintained engineered cover, or (2) functioning and maintained run-on control system and runoff management system, or (3) liner with functioning leachate collection and removal system immediately above liner.

(d) All items in (c) present.

(e) All items in (c) present, plus no bulk or non-containerized liquids nor materials containing free liquids deposited in source area.

No evidence of hazardous substance migration from source area, double liner with functioning leachate collection and removal system above and between liners, and:

(f) Only one of the following deficiencies present in containment: (1) bulk or noncontainerized liquids or materials containing free liquids deposited in source area, or (2) no or nonfunctioning or nonmaintained run-on control system and runoff management system, or (3) no or nonmaintained engineered cover.

(g) None of the deficiencies in (f) present.

Source area inside or under maintained intact structure that provides protection from precipitation so that neither runoff nor leachate is generated, liquids or materials containing free liquids not deposited in source area, and functioning and maintained run-on control present.

Surface Impoundment

Evidence of hazardous substance migration from surface impoundment.

Free liquids present with either no diking, unsound diking, or diking that is not regularly inspected and maintained.

No evidence of hazardous substance migration from surface impoundment, free liquids present, sound diking that is regularly inspected and maintained, adequate freeboard, and:

(a) No liner.

(b) Liner.

(c) Liner with functioning leachate collection and removal system below liner.

(d) Double liner with functioning leachate collection and removal system between liners.

No evidence of hazardous substance migration from surface impoundment and all free liquids eliminated at closure (either by removal of liquids or solidification of remaining wastes and waste residues).

Land Treatment

Evidence of hazardous substance migration from land treatment zone.

No functioning and maintained run-on control and runoff management system.

No evidence of hazardous substance migration from land treatment zone and:

(a) Functioning and maintained and maintained run-on control and runoff management system.
(b) Functioning and maintained run-on control and runoff management system, and vegetative cover established over entire land treatment area.
(c) Land treatment area maintained in compliance with 40 CFR 264.280.

Containers

All containers buried.
Evidence of hazardous substance migration from container area (i.e., container area includes containers and any associated containment structures).
No diking (or no similar structure) surrounding container area.
Diking surrounding container area unsound or not regularly inspected and maintained.
No evidence of hazardous substance migration from container area and container area surrounded by sound diking that is regularly inspected and maintained.
No evidence of hazardous substance migration from container area, container area surrounded by sound diking that is regularly inspected and maintained, and:

(a) Essentially impervious base under container area with liquids collection and removal system.
(b) Containment system includes essentially impervious base, liquids collection system, sufficient capacity to contain 10 percent of volume of all containers, and functioning and maintained run-on control; and spilled or leaked hazardous substances and accumulated precipitation removed in timely manner to prevent overflow of collection system, at least weekly inspection of containers, hazardous substances in leaking or deteriorating containers transferred to containers in good condition, and containers sealed except when waste is added or removed.
(c) Free liquids present containment system has sufficient capacity to hold total volume of all containers and to provide adequate freeboard, and single liner under container area with functioning leachate collection and removal system below liner.
(d) Same as (c) except: double liner under container area with functioning leachate collection and removal system between liners. Containers inside or under maintained intact structure that provides protection from precipitation so that neither runoff nor leachate would be generated from any unsealed or ruptured containers, liquids or materials containing free liquids not deposited in any container, and functioning and maintained run-on control present.

No evidence of hazardous substance migration from container area, containers leaking, and all free liquids eliminated at closure (either by removal of liquids or solidification of remaining wastes and waste residues).

Tank

Belowground tank.
Evidence of hazardous substance migration from tank area (i.e., tank area includes tank, ancillary equipment such as piping, and any associated containment structures).
No diking (or no similar structure) surrounding tank and ancillary equipment.
Diking surrounding tank and ancillary equipment unsound or not regularly inspected and maintained.
No evidence of hazardous substance migration from tank area and tank and ancillary equipment surrounded by sound diking that is regularly inspected and maintained.
No evidence of hazardous substance migration from tank area, tank and ancillary equipment surrounded by sound diking that is regularly inspected and maintained, and:

(a) Tank and ancillary equipment provided with secondary containment (e.g., liner under tank area, vault system, double wall) with leak detection and collection system.
(b) Tank and ancillary equipment provided with secondary containment system that detects and collects spiked or leaked hazardous substances and accumulated precipitation and has sufficient capacity to contain 110 percent of volume of largest tank within containment area, spilled or leaked hazardous substances and accumulated precipitation removed in a timely manner, at least weekly inspection of tank and secondary containment system, and all leaking or unfit-for-use tank systems promptly responded to.

(c) Containment system has sufficient capacity to hold total volume of all tanks within the tank containment area and to provide adequate freeboard, and single liner under tank containment area with functioning leachate collection and removal system below liner.

(d) Same as (c) except double liner under tank containment area with functioning leachate collection and removal system between liners.

Tank is aboveground, and inside or under maintained intact structure that provides protection from precipitation so that neither runoff nor leachate would be generated from any material released from tank, liquids or materials containing free liquids not deposited in any tank, and functioning and maintained run-on control present.

Table 3
Surface Soil Description

Coarse-textured soils with high infiltration rates (for example, sands, loamy sands).
Medium-textured soils with moderate infiltration rates (for example, sandy loams, loams).
Moderately fine-textured soils with low infiltration rates (for example, silty loams, silts, sandy clay loams).
Fine-textured soils with very low infiltration rates (for example, clays, sandy clays, silty clay loams, clay loams, silty clays); or impermeable surfaces (for example, pavement).

Table 4
Floodplain Categories

Source floods annually.
Source in 10-year floodplain.
Source in 100-year floodplain.
Source in 500-year floodplain.
None of the above.

Table 5
Flood Containment

Documentation that containment at the source is designed, constructed, operated, and maintained to prevent a washout of hazardous substances by the flood being evaluated (see floodplain category).

Table 6
Sensitive Environments

Critical habitat[a] for Federal designated endangered or threatened species.
Marine Sanctuary.
National Park.
Designated Federal Wilderness Area.
Areas identified under Coastal Zone Management Act[b].
Sensitive areas identified under National Estuary Program[c] or Near Coastal Waters Program[d].
Critical areas identified under the Clean Lakes Program[e].
National Monument[f].
National Seashore Recreational Area.
National Lakeshore Recreational Area.
Habitat known to be used by Federal designated or proposed endangered or threatened species.
National Preserve.
National or State Wildlife Refuge.
Unit of Coastal Barrier Resources System.
Coastal Barrier (undeveloped).

Federal land designated for protection of natural ecosystems.
Administratively Proposed Federal Wilderness Area.
Spawning areas critical[g] for the maintenance of fish/shellfish species within river, lake, or coastal tidal waters.
Migratory pathways and feeding areas critical for maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which the fish spend extended periods of time.
Terrestrial areas utilized for breeding by large or dense aggregations of animals[h].
National river reach designated as Recreational.
Habitat known to be used by State designated endangered or threatened species.
Habitat known to be used by species under review as to its Federal endangered or threatened status.
Coastal Barrier (partially developed).
Federal designated Scenic or Wild River.
State land designated for wildlife or game management.
State designated Scenic or Wild River.
State designated Natural Areas.
Particular areas, relatively small in size, important to maintenance of unique biotic communities.
State designated areas for projection or maintenance of aquatic life[i].

[a]Critical habitat as defined in 50 CFR 424.02.
[b]Areas identified in State Coastal Zone Management plans as requiring protection because of ecological value.
[c]National Estuary Program study areas (Subareas within subareas) identified in Comprehensive Conservation and Management Plans as requiring protection because they support critical life stages of key estuarine species (Section 320 of Clean Water Act, as amended).
[d]Near Coastal Waters as defined in Sections 104(b)(3), 304(1), 319, and 320 of Clean Water Act, as amended.
[e]Clean Lakes Program critical areas (subareas within lakes, or in some cases entire small lakes) identified by State Clean Lake Plans as critical habitats (Section 314 of Clean Water Act, as amended).
[f]Use only for air migration pathway.
[g]Limit to areas described as being used for intense or concentrated spawning by a given species.
[h]For the air migration pathway, limit to terrestrial vertebrate species. For the surface water migration pathway, limit to terrestrial vertebrate species aquatic or semiaquatic foraging habits.
[i]Areas designated under Section 305(a) of Clean Water Act, as amended.

Table 7
Terrestrial Sensitive Environments

Terrestrial critical habitat[a] for Federal designated endangered or threatened species.
National Park.
Designated Federal Wilderness Area.
National Monument.
Terrestrial habitat known to be used by Federal designated or proposed threatened or endangered species.
National Preserve (terrestrial).
National or State Terrestrial Wildlife Refuge.
Federal land designated for protection of natural ecosystems.
Administratively proposed Federal Wilderness Area.
Terrestrial areas utilized for breeding by large or dense aggregations of animals[b].
Terrestrial habitat known to be used by State designated endangered or threatened species.
Terrestrial habitat known to be used by species under review as to its Federal designated endangered or threatened status.
State lands designated for wildlife or game management.
State designated Natural Areas.
Particular area, relatively small in size, important to maintenance of unique biotic communities.

[a]Critical habitat as defined in 50 CFR 42.
[b]Limit to vertebrate species.

Table 8
Area of Observed Contamination

Designated recreational area.
Regularly used for public recreation (for example, fishing, hiking, softball).
Accessible and unique recreational area (for example, vacant lots in urban area).
Moderately accessible (may have some access improvements – for example, gravel road), with some public recreation use.
Slightly accessible (for example, extremely rural area with no road improvement), with some public recreation use.
Accessible, with no public recreation use.
Surrounded by maintained fence or combination of maintained fence and natural barriers.
Physically inaccessible to public, with no evidence of public recreation use.

Table 9
Gas Containment Description

All situations except those specifically listed below.
Evidence of biogas release.
Active fire within source.
Gas collection/treatment system functioning, regularly inspected, maintained, and completely covering source.
Source substantially surrounded by engineering windbreak and no other containment specifically described in this table applies.
Source covered with essentially impermeable, regularly inspected, maintained cover.
Uncontaminated soil cover >3 feet:
    Source substantially vegetated with little exposed soil.
    Source lightly vegetated with much exposed soil.
    Source substantially devoid of vegetation.
Uncontaminated soil cover ≥ 1 foot and ≤3 feet:
    Source heavily vegetated with essentially no exposed soil.
    Cover soil resistant to gas migration[a].
    Cover soil type not resistant to gas migration[a] or unknown.
    Source substantially vegetated with little exposed soil and cover soil type resistant to gas migration[a].
    Other.
Uncontaminated soil cover <1 foot:
    Source heavily vegetated with essentially no exposed soil and cover soil type resistant to gas migration[a].
    Other.
Totally or partially enclosed within structurally intact building and no other containment specifically described in this table applies.
Source consists solely of intact, sealed containers:
    Totally protected from weather by regularly inspected, maintained cover.
    Other.

[a]Consider moist fine-grained and saturated coarse-grained soils resistant to gas migration; consider all other soils nonresistant.

Table 10
Source Type

Active fire area.
Burn pit.
Containers or tanks (buried/belowground):
    Evidence of biogas release.
    No evidence of biogas release.
Containers or tanks, not elsewhere specified.

Contaminated soil (excluding land treatment).
Landfarm/land treatment.
Landfill:
    Evidence of biogas release.
    No evidence of biogas release.
Pile:
    Tailings pile.
    Scrap metal or junk pile.
    Trash pile.
    Chemical waste pile.
    Other waste piles.
Surface impoundments (buried/backfilled):
    Evidence of biogas release.
    No evidence of biogas release.
Surface impoundment (not buried/backfilled):
    Dry.
    Other.
Other types of sources, not elsewhere specified.

Table 11
Particulate Containment Description

All situations except those specifically listed below.
Source contains only particulate hazardous substances totally covered by liquids.
Source substantially surrounded by engineered windbreak and no other containment specifically described in this table applies.
Source covered with essentially impermeable, regularly inspected, maintained cover.
Uncontaminated soil cover >3 feet:
    Source substantially vegetated with little or no exposed soil.
    Source lightly vegetated with much exposed soil.
    Source substantially devoid of vegetation.
Uncontaminated soil cover ≥1 foot and ≤3 feet:
    Source heavily vegetated with essentially no exposed soil:
        Cover soil type resistant to gas migration[a].
        Cover soil type not resistant to gas migration[a].
    Source substantially vegetated with little exposed soil and cover soil type resistant to gas migration[a].
    Other.
Uncontaminated soil cover <1 foot:
    Source heavily vegetated with essentially no exposed soil and cover soil type resistant to gas migration[a].
    Other.
Totally or partially enclosed within structurally intact building and no other containment specifically described in this table applies.
Source consists solely of containers:
    All containers contain only liquids.
    All containers intact, sealed, and totally protected from weather by regularly inspected, maintained cover.
    All containers intact and sealed.
    Other.

[a]Consider moist fine-grained and saturated coarse-grained soils resistant to gas migration; consider all other soils nonresistant.

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF NATURAL AREAS AND PRESERVES

September 7, 1993

Zanesville Air National Guard Base

FOUR-MILE RADIUS

NORWICH QUAD
A. Cryptobranchus alleganiensis - Hellbender (salamander), State Endangered, Federal Category 2

ZANESVILLE EAST QUAD
B. White Oak Champion Big Tree

MUSKINGUM RIVER

ZANESVILLE WEST QUAD
1. Ammocrypta pellucida - Eastern Sand Darter, Special Interest, Federal Category 2, (4 sites)
2. Notropis buchanani - Ghost Shiner
   Noturus eleutherus - Mountain Madtom, State Endangered
   Noturus stigmosus - Northern Madtom, State Endangered
   Percina phoxocephala - Slenderhead Darter, Special Interest

ZANESVILLE EAST QUAD
1. Ammocrypta pellucida - Eastern Sand Darter, Special Interest, Federal Category 2

PHILO QUAD
1. Notropis buchanani - Ghost Shiner
   Noturus eleutherus - Mountain Madtom, State Endangered
   Noturus stigmosus - Northern Madtom, State Endangered
   Percina phoxocephala - Slenderhead Darter, Special Interest
   Ammocrypta pellucida - Eastern Sand Darter, Special Interest, Federal Category 2
2. Apalone mutica - Smooth Softshell (turtle)
   Truncilla donaciformis - Fawnsfoot (mollusk), Threatened
   Potamilus ohiensis - Pink Papershell (mollusk)
3. Truncilla donaciformis - Fawnsfoot (mollusk), Threatened
4. Percina phoxocephala - Slenderhead Darter, Special Interest
   Potamilus ohiensis - Pink Papershell (mollusk)
   Obliquaria reflexa - Threehorn Wartyback (mollusk), Threatened
   Truncilla donaciformis - Fawnsfoot (mollusk), Threatened
5. Obliquaria reflexa - Threehorn Wartyback (mollusk), Threatened
   Percina phoxocephala - Slenderhead Darter, Special Interest
   Ammocrypta pellucida - Eastern Sand Darter, Special Interest, Federal Category 2

WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL OR TYPEWRITER

DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

No 371374

County Muskingum Township Salt Creek Section of Township

Owner Bohdan Bednarczuk Address Rt. 1, Chandlersville, Ohio

Location of property On Muskingum County Road # 5 5680 Clay Pike

CONSTRUCTION DETAILS

Casing diameter 7" Length of casing 65'

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion Nov. 20, 1967

BAILING OR PUMPING TEST

Pumping Rate 20 G.P.M. Duration of test hrs.

Drawdown 63 ft. Date

Static level-depth to water 25 ft.

Quality (clear, cloudy, taste, odor) Clear

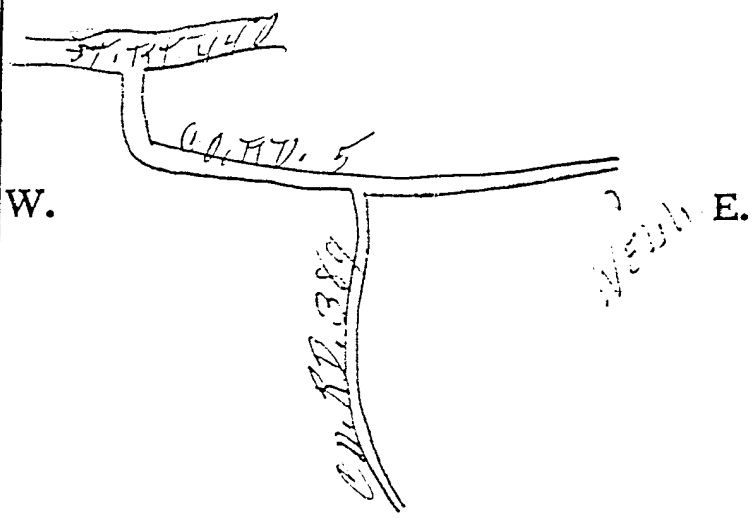
Pump installed by

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Top	0 Feet	8 Ft.
Clay	8	18
Soft Gray Shale	18	37
Gray Shale	37	63
Water @ 40 Ft.		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Suburban Drilling Co. Date Nov. 21, 1967

Address 1950 E. Pike, Zanesville, Ohio Signed B. H. White

*If additional space is needed to complete well log, use next consecutive numbered form.

WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL OR TYPEWRITER DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus 12, Ohio

No 299456

County MUSKINGUM Township SALT CREEK Section of Township 4

Owner John I. Roll Address RT #1 Dresdenville, Ohio

Location of property CLAY PIKE (County Rd. 5) 5905 ½ mi E. of Junction of 5 & Twp 389

CONSTRUCTION DETAILS

Casing diameter 8" I.D. Length of casing 26'
Type of screen NONE Length of screen
Type of pump (JET) DEEP WELL
Capacity of pump 220 G.P.H.
Depth of pump setting 125 FT.
Date of completion 3-23-64

BAILING OR PUMPING TEST

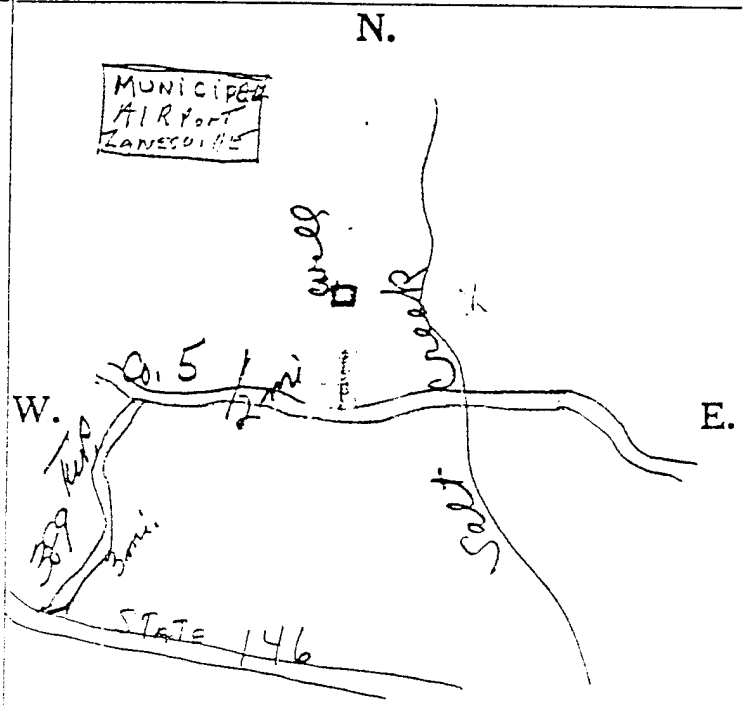
Pumping Rate 1.5 G.P.M. Duration of test 12 hrs.
Drawdown ALL THE WAY (125) Date 3-31-22
Static level-depth to water 35 ft.
Quality (clear, cloudy, taste, odor) CLEAR, NO ODOR
Pump installed by RUSS MYERS

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
CLAY (YELLOW)	0 Feet	6 Ft.
CLAY + SHALE (YELLOW)	6	8
CLAY + SHALE (GRAY)	8	16
CLAY (BLACK)	16	21
CLAY + SHALE (BLACK)	21	28
SANDROCK COURSE (GRAY)	28	41
SANDROCK FINE (GRAY)	41	55
CLAY (LIGHT GRAY)	55	56
CLAY GRAY + YELLOW	56	62
LIME STONE SHALE	62	64
CLAY LIGHT GRAY	64	66
CLAY, SHALE + SAND	66	80
CLAY + SHALE	80	88
SHALE (GRAY)	88	91
CLAY, SHALE AND SAND	91	102
WHITE SAND ROCK	102	115
SHALE (DARK GRAY)	115	127
WATER AT 44 FT.		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions 2

Drilling Firm RUSS MYERS Date 3-23-64

Address 2 EASTWOOD DRIVE ZANESVILLE OHIO Signed Russell E. Myers

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER NECESSARY – SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Geological Survey
Fountain Square
Columbus, Ohio 43224 Phone (614) 466-5344

496070

COUNTY MUSKINGUM TOWNSHIP WAYNE SECTION OF TOWNSHIP OR LOT NUMBER 6

OWNER GARY TYSINGER ADDRESS 312 NORTH ST DUNCAN FALLS, O

LOCATION OF PROPERTY ON SOUTH SIDE OF CLAY PIKE APP ½ MI EAST MILLER'S LANE

CONSTRUCTION DETAILS

Casing diameter 2" O.D. PLASTIC Length of casing 100

Type of screen ½" HOLE Length of screen 65 FT

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 36 GPH ~~or~~ Duration of test 2" hrs

Drawdown 80' ft Date

Static level (depth to water) 20 ft

Quality (clear, cloudy, taste, odor) clear no odor

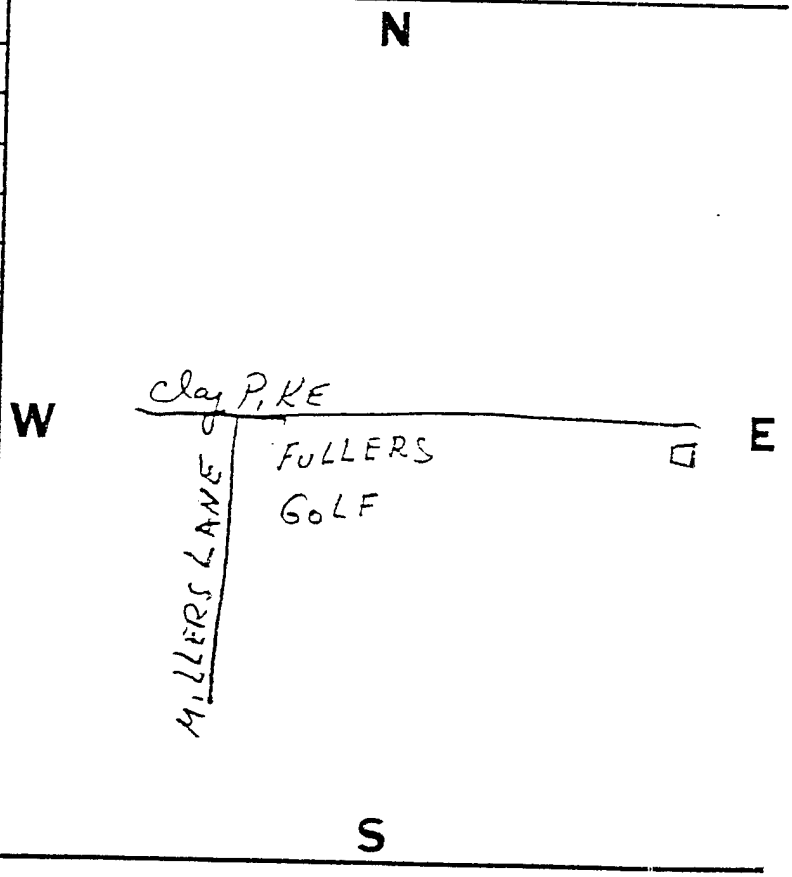
Pump installed by

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
FILLY LOAM	0 ft	3 ft
SHALE	3	32
SANDY SHALE	32	45
GRAY CLAY	45	51
SHALE	51	71
DARK SHALE	71	78
SAND ROCK	78	83
SANDY SHALE	83	100'
WATER 34' & 78'		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM R.C. Ramsey

ADDRESS 2945 Chandlersville Rd. Zanesville, Ohio 43701

DATE 4-16-76

SIGNED R.C. Ramsey

*If additional space is needed to complete well log, use next consecutive numbered form.

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WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER NECESSARY— SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

No. 414434

County MUSKINGUM Township PERRY Section of Township

Owner EDDIE ALLARD Address RT. 4 ZANESVILLE OHIO

Location of property ½mi SOUTH OF US 40 ON ST RT 797

CONSTRUCTION DETAILS

Casing diameter 7" Length of casing 23'
Type of screen NONE Length of screen
Type of pump SUBM.
Capacity of pump 10 GPM
Depth of pump setting 68'
Date of completion 3-29-71

BAILING OR PUMPING TEST
(Specify one by circling)

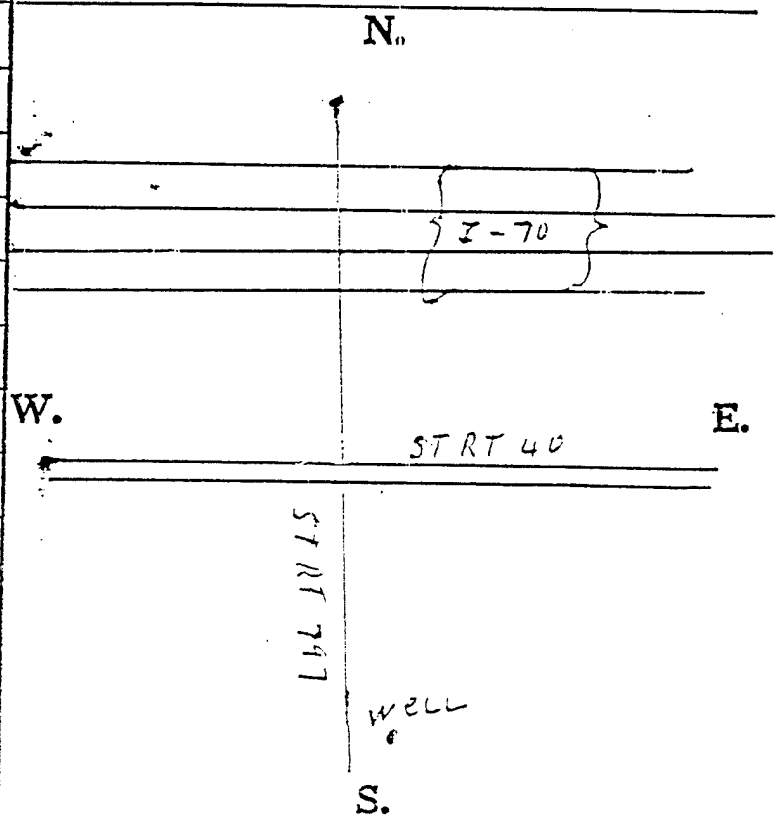
Test Rate 15 G.P.M. Duration of test 1 hrs.
Drawdown 78 ft. Date 3-29-71
Static level-depth to water 24 ft.
Quality (clear, cloudy, taste, odor) CLEAR
Pump installed by JERRY & BILL P.

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
CLAY	0 Feet	12 Ft.
SAND	12	15
SAND ROCK	15	40
GRAY SHALE	40	43
GRAY SANDY SHALE	43	44
BLACK SHALE	44	47
GRAY SHALE	47	65
SOFT GRAY SHALE	65	70
GRAY SANDY SHALE	70	78 TD
WATER AT 29' & 40'		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



Drilling Firm SUBURBAN DRILLING CO. Date 3-31-71

Address 1950 EAST PIKE ZANESVILLE OHIO Signed Bill Whitt

*If additional space is needed to complete well log, use next consecutive numbered form.

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WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER NECESSARY— SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

No. 381820

County Muskingum Township Perry Section of Township

Owner R. E. Hicks Address Rt. 4, Zanesville, Ohio

Location of property Air Port Road- South of Rt. 440

CONSTRUCTION DETAILS

Casing diameter 7" Length of casing

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting 118'

Date of completion 9-26-68

BAILING OR PUMPING TEST
(Specify one by circling)

Test Rate 5 G.P.M. Duration of test 1 hrs.

Drawdown 100 ft. Date 9-25-68

Static level-depth to water 35 ft.

Quality (clear, cloudy, taste, odor) Clear

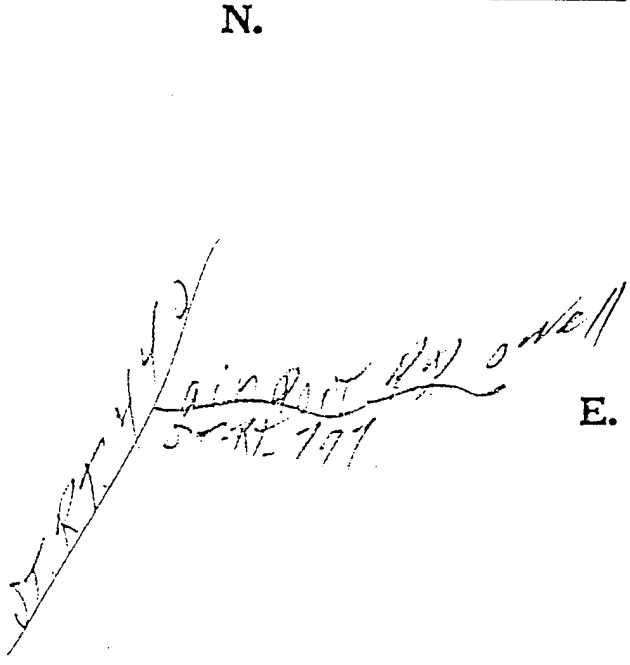
Pump installed by

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Pulled Pump & Pipe out ~~of well & Drilled~~ Deeper:	0 Feet	Ft.
1½ G.P.M. at start	56	60
Dark Gray Shale	60	71
Dark Gray Sandy Shale	71	93
Dark Gray Shale	93	98
Dark Gray Sandy Shale	98	125 T.D.
Picked up 3½ Gal More Water @ 93 Ft.		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



Drilling Firm Suburban Drilling Co. Date Sept. 30, 1968

Address 1950 E. Pike, Zanesville, Ohio Signed E. H. White E. H. White

*If additional space is needed to complete well log, use next consecutive numbered form.

63

WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL OR TYPEWRITER

DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

No 360638

County Muskingum Township Perry Section of Township

Owner Robert Ford Address E. Pike, Zanesville, O.

Location of property Airport Road, Zanesville, O.

CONSTRUCTION DETAILS

Casing diameter 6 5/8 Length of casing 121.7"

Type of screen Length of screen

Type of pump SUB.

Capacity of pump 10 G.P.M.

Depth of pump setting 135

Date of completion 8/24/67.

BAILING OR PUMPING TEST

Pumping Rate 2 G.P.M. Duration of test hrs.

Drawdown 140 ft. Date

Static level-depth to water 50 ft.

Quality (clear, cloudy, taste, odor) clear

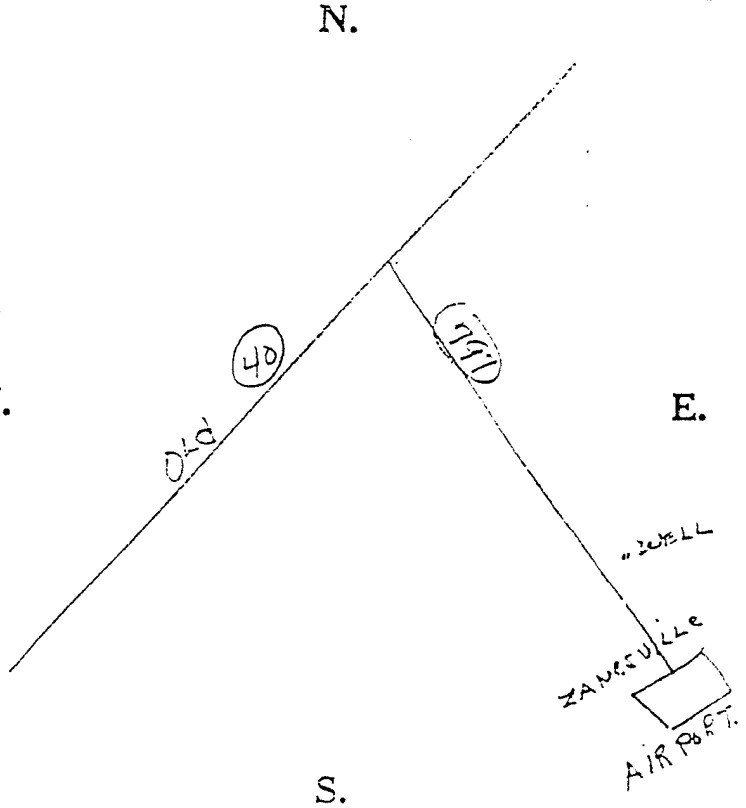
Pump installed by Swingle

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Surface	0 Feet	5 Ft.
Sandstone	5	70
Coal	70	71
Shale	71	83
Sandstone	83	105
Shale	105	135
Coal	135	139
Shale	139	140
Water 104 ft.		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Swingle Water Well Drilling Date 8/24/67

Address Rt.7, Zanesville, Ohio Signed Joseph L Swingle Jr

*If additional space is needed to complete well log, use next consecutive numbered form.

WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL OR TYPEWRITER

DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

No 360629

County [illegible] Township Perry Section of Township

Owner Robert Crandall Address [illegible] Zanesville, O

Location of property 1/2 mile east of Zanesville Fairmont on Rt. road 366.

CONSTRUCTION DETAILS

Casing diameter 6 5/8" Length of casing 32

Type of screen Length of screen

Type of pump SUB

Capacity of pump 10 G.P.M.

Depth of pump setting 160

Date of completion 9/15/67

BAILING OR PUMPING TEST

Pumping Rate 3 G.P.M. Duration of test hrs.

Drawdown ft. Date

Static level-depth to water 80 ft.

Quality (clear, cloudy, taste, odor) clear

no odor

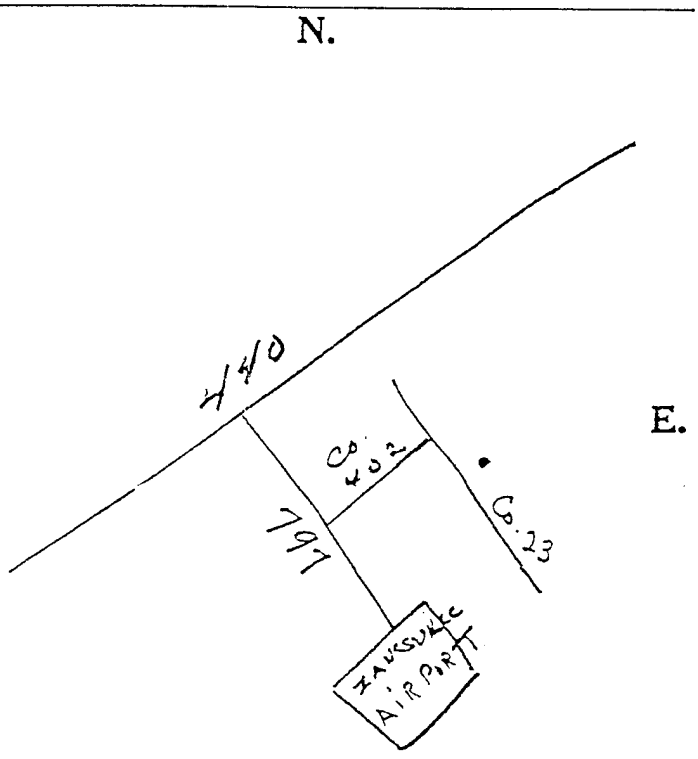
Pump installed by Swingle

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Surface	0 Feet	3 Ft.
Clay & Shale	3	15
Sandstone	15	45
Slate--blue	45	75
Sandstone	75	108
Lime	108	130
Sandstone	130	140
Slate--blue	140	165
Water 108 ft.		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Swingle Water Well Drilling Date 9/15/67

Address Rt. 7, Zanesville, Ohio Signed [signature]

*If additional space is needed to complete well log, use next consecutive numbered form.

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WELL LOG AND DRILLING REPORT

NO CARBON PAPER NECESSARY - SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

592569

COUNTY Muskingum TOWNSHIP Perry SECTION OF TOWNSHIP

OWNER Ron Lafferty ADDRESS 6100 Park Lane

LOCATION OF PROPERTY 6100 Park Lane Norwich

CONSTRUCTION DETAILS

Casing diameter 6 5/8 OD Length of casing 23

Type of screen perforated casing Length of screen 100

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 1 gpm Duration of test hrs

Drawdown 134 ft Date Oct 16 81

Static level (depth to water) 57 ft

Quality (clear, cloudy, taste, odor) Clear

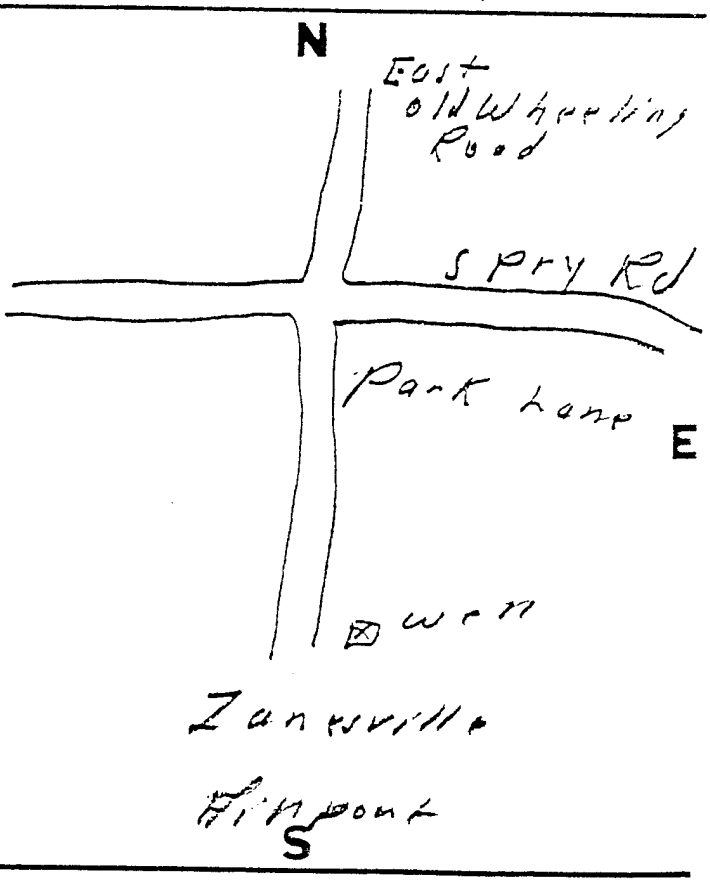
Pump installed by

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Brown Shale	0 ft	14 ft
Brown Sand Rock	14	34
White Sand Rock	34	51
Gray Shale	51	61
Coal	61	63
White Sand Rock	63	97
Gray Shale	97	101
Coal	101	103
White Sand Rock	103	119
Gray Soft Shale	119	134
Water at 73		
Total Depth	134	

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Anderson Drilling DATE Oct 16, 1981

ADDRESS 113 So Willow Dr SIGNED Robert Anderson

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

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WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER NECESSARY– SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

520870

COUNTY Muskingum TOWNSHIP Perry SECTION OF TOWNSHIP 3 or 23

OWNER Tom & Kathy Richey ADDRESS Southern Rd, Norwich, Ohio

LOCATION OF PROPERTY on north side of Park Lane app ½ mi west of Spry Rd

CONSTRUCTION DETAILS

Casing diameter 7" Plastic Length of casing 25

Type of screen _____ Length of screen _____

Type of pump _____

Capacity of pump _____

Depth of pump setting _____

Date of completion _____

BAILING OR PUMPING TEST

(specify one by circling)

Test rate 15 gpm Duration of test _____ hrs

Drawdown 32 ft Date _____

Static level (depth to water) 18 ft

Quality (clear, cloudy, taste, odor) clear

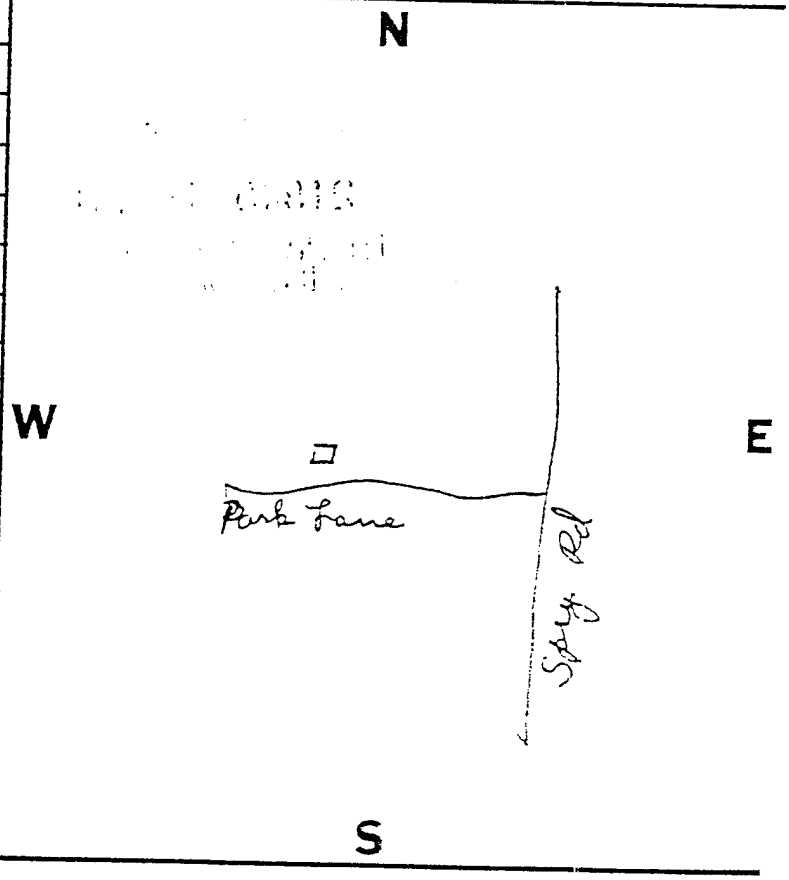
Pump installed by —

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Loam & Fill	0 ft	2 ft
Broken sandstone	2	8
Sandstone	8	34
shale	34	50
water @ 40'		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM R.C. Ramsey

ADDRESS 2945 Chandlersville Rd. Zanesville, Ohio 43701

DATE 9-17-78

SIGNED RC Ramsey

*If additional space is needed to complete well log, use next consecutive numbered form..

67

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER NECESSARY– SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Geological Survey
Fountain Square
Columbus, Ohio 43224 Phone (614) 466-5344

480001

COUNTY Wash TOWNSHIP Lawrence SECTION OF TOWNSHIP OR LOT NUMBER Hicks Rd

OWNER Bob Kinnamon ADDRESS 445 Hicks Rd

LOCATION OF PROPERTY 442 Hicks Rd

CONSTRUCTION DETAILS

Casing diameter 7" & 10 Length of casing 21'

Type of screen slots Length of screen 120'

Type of pump –

Capacity of pump –

Depth of pump setting –

Date of completion –

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 55 gpm Duration of test ½ hrs

Drawdown 100 ft Date Oct. 1974

Static level (depth to water) 35 ft

Quality (clear, cloudy, taste, odor) clear

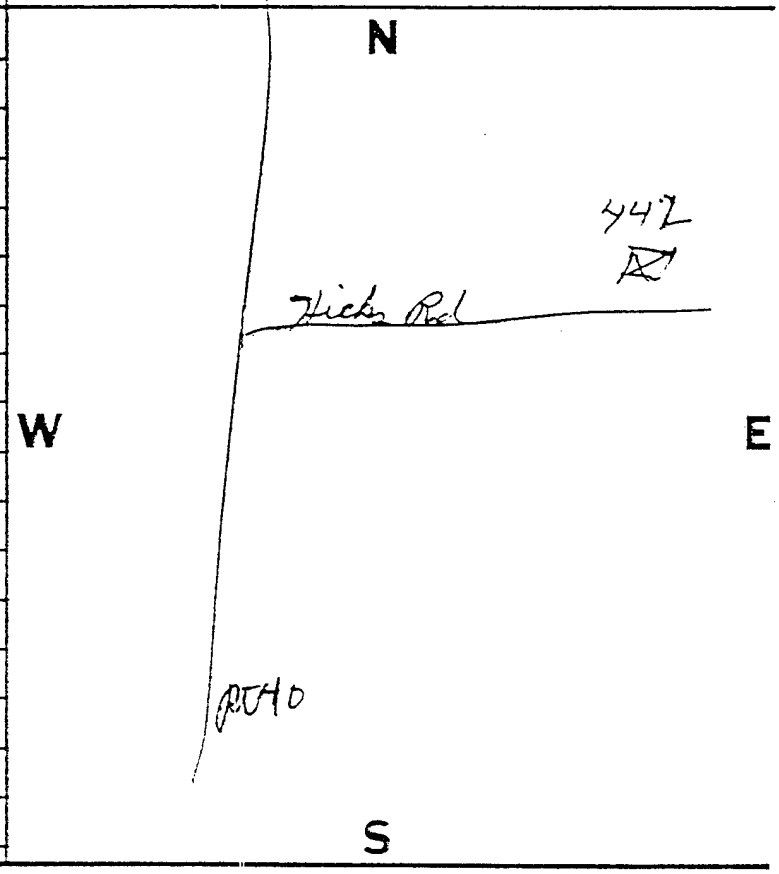
Pump installed by Mercer (Gish Plumbing)

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
loam	0 ft	10 ft
sandstone	10	38
gray shale	38	48
Big Lime shale	48	122
Big Injun	122	140
Water at 20'	1/4 G.P.M.	
" " 48'		
" " 122'	4 G.P.M.	

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM [illegible]

ADDRESS [illegible]

DATE Oct 1974

SIGNED [illegible]

58

*If additional space is needed to complete well log, use next consecutive numbered form.

WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL OR TYPEWRITER. DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio

No. 253161

County Musk. Township Peery Section of Township U.S.Military Land

Owner Tom Kussmaul Address Rt.#4 So.Sonora Road Zanesville

Location of property 1mile south of rt.40 on county road 52

CONSTRUCTION DETAILS

Casing diameter 5½" Length of casing 64'

Type of screen ¼" slots Length of screen 1'each

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping rate 1½ G.P.M. Duration of test 5 hrs.

Drawdown 122' ft. Date 8/13/60

Developed capacity 1½ G.P.M.

Static level—depth to water 32' ft.

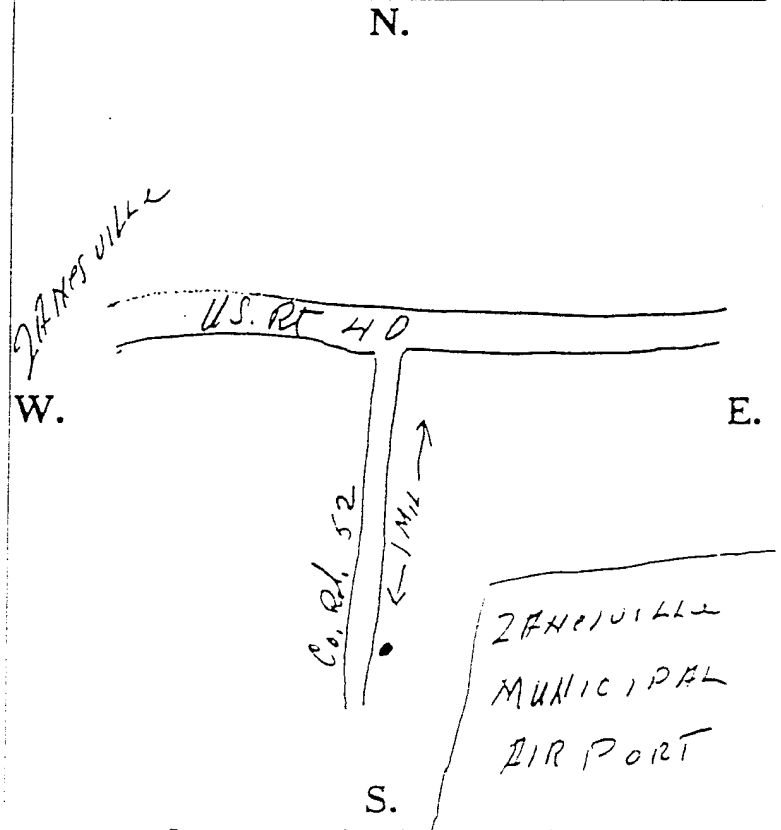
Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Top	0 Feet	2 Ft.
Clay	2	8
Sandy clay	8	12
Yellow sand rock	12	25
White sand rock	25	36
Gray shale	36	40
Coal	40	41
clay	41	46
Soft gray shale	46	58
Sand rock	58	59
Light sandy shale	59	62
Sand rock	62	78
Gray sandy shale	78	121
Gray sand rock	121	122
WATER AT 50'		
Well Gravel packed		
1' of perforations 1'from bottom and 10' from bottom		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm SUBURBAN DRILLING CO.

Address 118 PLEASANT GROVE ROAD ZANESVILLE, OHIO

Date 9/10/60

Signed B. N. Whitt

59

WELL LOG AND DRILLING REPORT

NO CARBON PAPER NECESSARY - SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

592917

COUNTY Muskingum TOWNSHIP Perry SECTION OF TOWNSHIP Wheeling Rd

OWNER Dale Matthews ADDRESS 270 Byer Drive

LOCATION OF PROPERTY Wheeling Rd

CONSTRUCTION DETAILS

Casing diameter 6 5/8 Length of casing 48'

Type of screen Slot Length of screen 100'

Type of pump Sub

Capacity of pump 10 G.P.M.

Depth of pump setting 185'

Date of completion Aug 1981

BAILING OR PUMPING TEST

(specify one by circling)

Test rate 1.83 gpm Duration of test 2 hrs

Drawdown 143 ft Date Aug 81

Static level (depth to water) 57' ft

Quality (clear, cloudy, taste, odor)

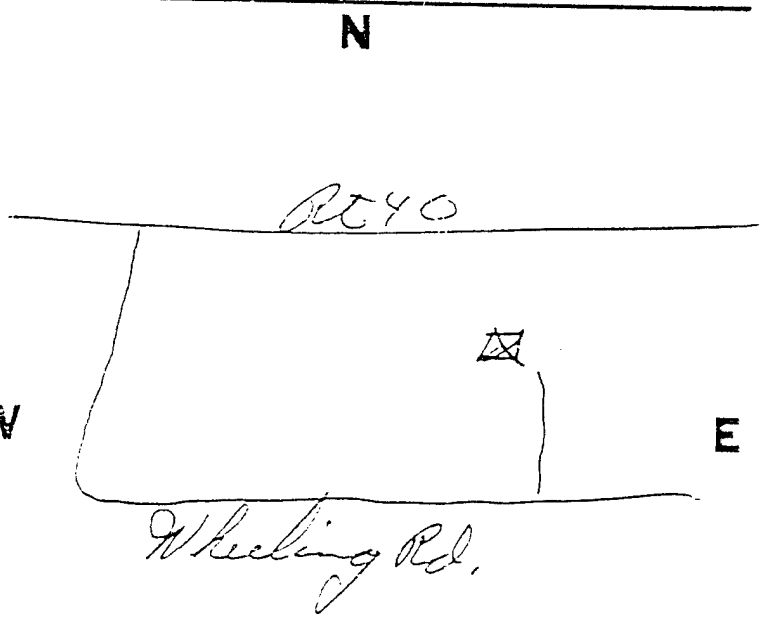
Pump installed by Clifton Drilling

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay,	From	To
Brown shale	0 ft	17 ft
" clay	17	40
Sandstone	40	45
Limestone	45	60
shale	60	100
Sandstone	100	120
shale	120	180
sandstone	180	200
Water - 55'		
" 90'		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Clifton Drilling

ADDRESS Box Butler, Ohio

DATE Aug 1981

SIGNED

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

60

NO CARBON PAPER
NECESSARY—
SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

592917

COUNTY _____ TOWNSHIP _____ SECTION OF TOWNSHIP _____

OWNER _____ ADDRESS _____

LOCATION OF PROPERTY _____ 4445

CONSTRUCTION DETAILS

Casing diameter _____ Length of casing _____

Type of screen _____ Length of screen _____

Type of pump _____

Capacity of pump _____

Depth of pump setting _____

Date of completion _____

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 1.82 gpm Duration of test _____ hrs

Drawdown _____ ft Date _____

Static level (depth to water) _____ ft

Quality (clear, cloudy, taste, odor) _____

Pump installed by _____

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
	0 ft	17 ft
	17	40
	40	
		70
	70	100
	100	120
	120	150
	150	200

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.

N

W E

S

DRILLING FIRM _____ DATE _____

ADDRESS _____ SIGNED _____

*If additional space is needed to complete well log, use next consecutive numbered form.

LOCAL HEALTH DEPT. COPY

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1939 Fountain Square Drive
Columbus, Ohio 43224

688825

TYPE OR USE PEN
SELF-TRANSCRIBING
PRESS HARD!

Permit Number [illegible]

COUNTY [illegible] TOWNSHIP Perry SECTION OF TOWNSHIP 3

OWNER [illegible] PROPERTY ADDRESS [illegible]

LOCATION OF PROPERTY [illegible]

CONSTRUCTION DETAILS

CASING
Casing Diameter [illegible] in. Length of Casing [illegible] ft.
Type: ☐ Steel ☐ Galv. ☐ PVC ☐ Other
Joints: ☐ Threaded ☐ Welded ☐ Solvent ☐ Other

SCREEN
Type (wire wrapped, louvered, etc.) [illegible] Material
Length [illegible] ft. Diameter [illegible] in.
Set between [illegible] ft. and [illegible] ft. Slot [illegible]

GROUT
Material [illegible] Volume used [illegible]
Method of installation [illegible]
Depth: placed from [illegible] ft. to [illegible] ft.
☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other

BAILING OR PUMPING TEST
(specify one by circling)

WELL TEST
Test rate [illegible] gpm Duration of test [illegible] hrs.
Drawdown (water level during pumping) [illegible] ft.
Measured from: ☐ top of casing ☐ ground level ☐ Other
Static Level (depth to water) [illegible] ft. Date: [illegible]
Quality (clear, cloudy, taste, odor) [illegible]

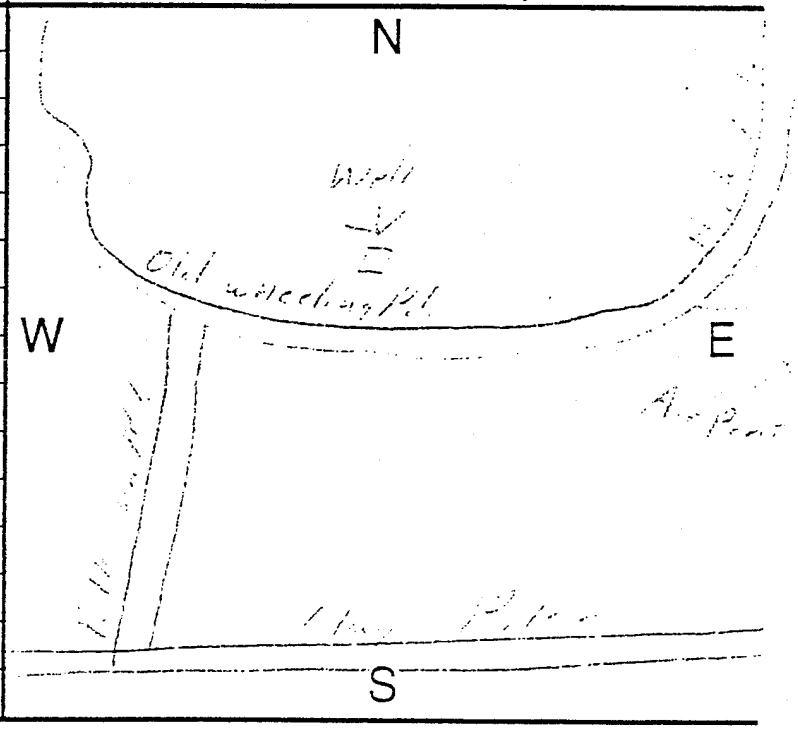
PUMP
Type of pump [illegible] Capacity [illegible] gpm
Pump set at [illegible] ft.
Pump installed by [illegible]
Pitless Device ☐ Adapter ☐ Preassembled unit
Use of Well [illegible]

WELL LOG*

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand	From	To
[illegible]	0 ft.	[illegible] ft.
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]		

SKETCH SHOWING LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



* If additional space is needed to complete well log, use next consecutively numbered form.

DNR 7802.88

DRILLING FIRM [illegible] SIGNED [illegible]
ADDRESS [illegible] DATE [illegible]
CITY, STATE, ZIP [illegible] ODH REGISTRATION NUMBER [illegible]

Completion of this form is required by 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

Blue - Customer's Copy Pink - Driller's Copy Green - Local Health Dept. Copy

TYPE OR USE PEN
SELF-TRANSCRIBING
PRESS HARD!

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1939 Fountain Square Drive
Columbus, Ohio 43224

688818

Permit Number _____

COUNTY Allen TOWNSHIP Perry SECTION OF TOWNSHIP _____

OWNER Charles Cook PROPERTY ADDRESS 563 Richmond Rd Zip

LOCATION OF PROPERTY Cache North side of Richmond Rd. 1/2 mile East of Rte

CONSTRUCTION DETAILS

CASING

Casing Diameter 10 3/4" in. Length of Casing 27 1/2' ft.

Type: ☐ Steel ☐ Galv. ☒ PVC ☐ Other _____

Joints: ☐ Threaded ☐ Welded ☒ Solvent ☐ Other _____

SCREEN

Type (wire wrapped, louvered, etc.) PVC Slotted Material PVC

Length 10' ft. Diameter _____ in.

Set between 20 ft. and 30 ft. Slot .500

GROUT

Material Bentonite Volume used 410 lbs

Method of installation Weight Method

Depth: placed from 25 ft. to Surface ft.

Rotary ☒ Cable ☐ Augered ☐ Driven ☐ Dug ☐ Other _____

BAILING OR PUMPING TEST
(specify one by circling)

WELL TEST

Test rate 3/4 gpm Duration of test 1 hrs.

Drawdown (water level during pumping) 55 ft.

Measured from: ☐ top of casing ☒ ground level ☐ Other _____

Static Level (depth to water) 25 ft. Date: 4-7-96

Quality (clear, cloudy, taste, odor) clear, no odor

PUMP

Type of pump S.S. Capacity 10 gpm

Pump set at 70' ft.

Pump installed by W. William B. Kramer

Pitless Device ☒ Adapter ☐ Preassembled unit

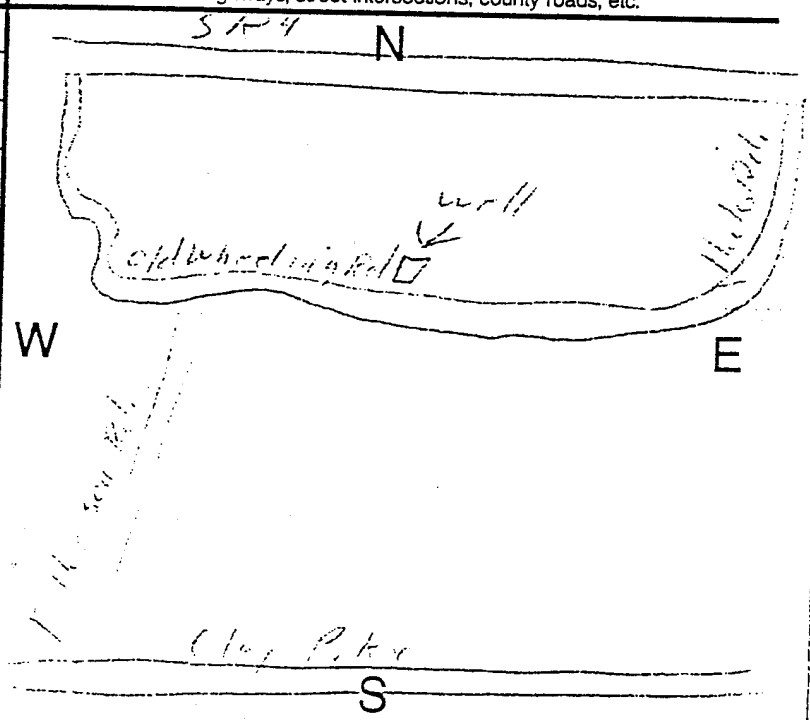
Use of Well Home Use

WELL LOG*

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand	From	To
Loam	0 ft.	4 ft.
Soft Brown Clay	4	10
Brown sandstone	10	27
Gray shale	27	75
Layer of coal	75	76
Soft Gray shale	76	90
Water at 27'		

SKETCH SHOWING LOCATION

Show distances well lies from numbered state highways, street intersections, county roads, etc.



If additional space is needed to complete well log, use next consecutively numbered form.

DNR 7802.88

DRILLING FIRM Ramey Drilling SIGNED William B. Kramer

ADDRESS 2445 Shauffertown Rd. DATE 4-17-96

CITY, STATE, ZIP Jamestown Ohio 45335 ODH REGISTRATION NUMBER 196

Completion of this form is required by 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224

Blue - Customer's Copy Pink - Driller's Copy Green - Local Health Dept. Copy

WELL LOG AND DRILLING REPORT

ORIGIN.

PLEASE USE PENCIL OR TYPEWRITER DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus 12, Ohio

No. 323546

County Muskingum Township Washington Section of Township

Owner Darrell Davis Address Old Wheeling Rd., Zanesville, O.

Location of property Old Wheeling Road

CONSTRUCTION DETAILS

Casing diameter 24' of 8" Casing - 45' of 7" Liner Length of casing

Type of screen Length of screen

Type of pump

Capacity of pump 1/3 H.P. Jacuzzi

Depth of pump setting

Date of completion March 16, 1965

BAILING OR PUMPING TEST

Pumping Rate 2 G.P.M. Duration of test hrs.

Drawdown 180 ft. Date

Static level-depth to water 25 ft.

Quality (clear, cloudy, taste, odor) Clear

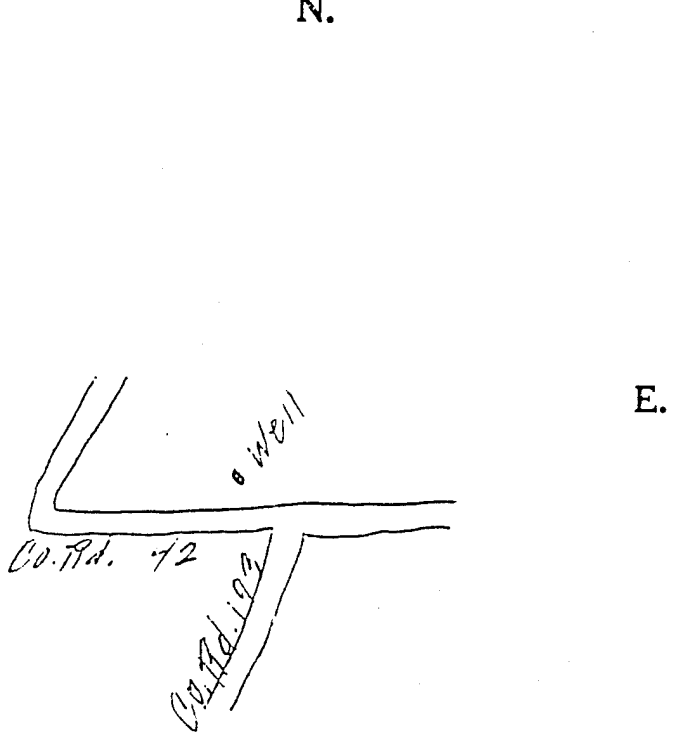
Pump installed by Suburban Drilling Co.

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Top	0 Feet	5 Ft.
Brown Clay	5	24
Brown Sandy Shale	24	35
Sand Rock	35	41
Gray Shale	41	45
Red Shale	45	49
Gray Shale	49	54
Sand Rock	54	59
Gray Sandy Shale	59	81
Coal	81	83
Clay	83	86
Gray Sandy Shale	86	88
Sand Rock	88	92
Gray Sandy Shale	92	127
Black Slate	127	128
Gray Sandy Shale	128	132
Lime	132	133
Gray Sandy Shale	133	141
Sand Rock	141	147
Gray Sandy Shale	147	180
(Water at 30')		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Suburban Drilling Co. Date May 21, 1965

Address 1950 East Pike, Zanesville, O. Signed B. H. White

242

WELL LOG AND DRILLING REPORT

NO CARBON PAPER NECESSARY – SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

592916

COUNTY Muskingum TOWNSHIP Muskingum SECTION OF TOWNSHIP Wheeling Rd
OWNER [illegible] ADDRESS Wheeling Rd
LOCATION OF PROPERTY Wheeling Rd

CONSTRUCTION DETAILS

Casing diameter 6 3/4 Length of casing 21'
Type of screen slot Length of screen 160'
Type of pump Submersible
Capacity of pump 10 gpm
Depth of pump setting 160'
Date of completion Aug 1981

BAILING OR PUMPING TEST
(specify one by circling)

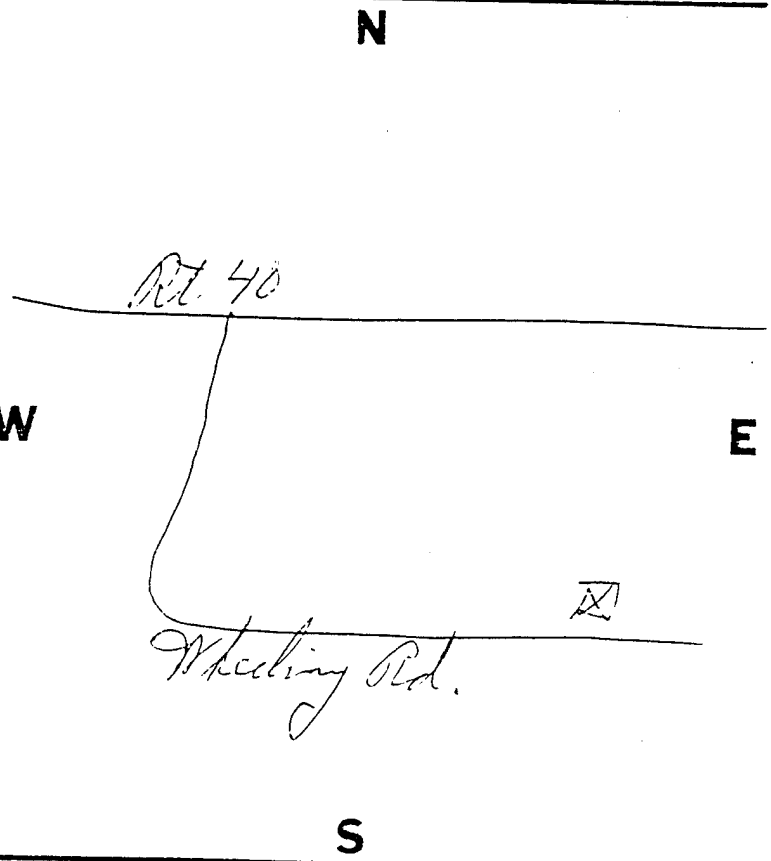
Test rate 1/2 gpm Duration of test 4 hrs
Drawdown 150 ft Date Aug-81
Static level (depth to water) 24' ft
Quality (clear, cloudy, taste, odor)
Pump installed by Bob Latham

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Clay	0 ft	12 ft
Limestone	12	38
Shale (gas)	38	40
Sandy shale	40	150
Red shale	150	60
Shale	60	80
Limestone	80	100
Shale	100	180
Water 80'		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Bob Latham Drilling Co.
ADDRESS P.O. Box [illegible]
DATE Aug 1981
SIGNED [illegible]

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

243

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER NECESSARY – SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

503191

COUNTY Medina TOWNSHIP Wadsworth SECTION OF TOWNSHIP 7

OWNER Fred Trimmer ADDRESS Seville Ohio

LOCATION OF PROPERTY Fullerton Rd

CONSTRUCTION DETAILS

Casing diameter 6" Length of casing 32'

Type of screen slot Length of screen 80'

Type of pump S.L.

Capacity of pump 10 GPM

Depth of pump setting 80'

Date of completion July 1974

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 10 gpm Duration of test 1 hrs

Drawdown 78 ft Date July 1974

Static level (depth to water) 220' ft

Quality (clear, cloudy, taste, odor) Clear

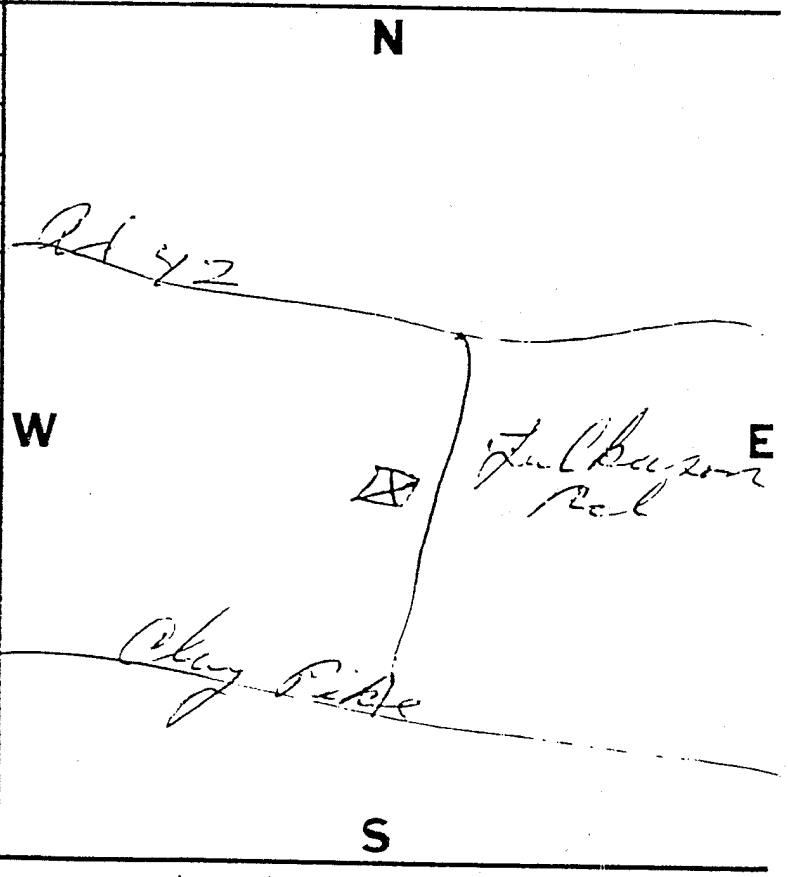
Pump installed by Parker Drilling

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Sand & Shale	0 ft	15 ft
Gravel	15	25
Shale	25	29
Sandy shale	29	40
Sandstone	40	55
Shale	55	59
Sandy Shale	59	70
Soft shale	70	97
Sandstone	97	100
Water at 320' Sulphur		
" " 550'		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Parker ADDRESS 5th Butternut Ridge

DATE July 1974 SIGNED Parker Drilling

*If additional space is needed to complete well log, use next consecutive numbered form.

244

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER NECESSARY - SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

503180

COUNTY Trumbull TOWNSHIP Weathersfield SECTION OF TOWNSHIP 4

OWNER D. T. Lubbe ADDRESS Jones Ohio

LOCATION OF PROPERTY Fulkerson Rd

CONSTRUCTION DETAILS

Casing diameter 6 & 10 Length of casing 25'

Type of screen slot Length of screen 122'

Type of pump —

Capacity of pump —

Depth of pump setting —

Date of completion —

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 2+ gpm Duration of test 1 hrs

Drawdown 130 ft Date May 1977

Static level (depth to water) 20' ft

Quality (clear, cloudy, taste, odor)

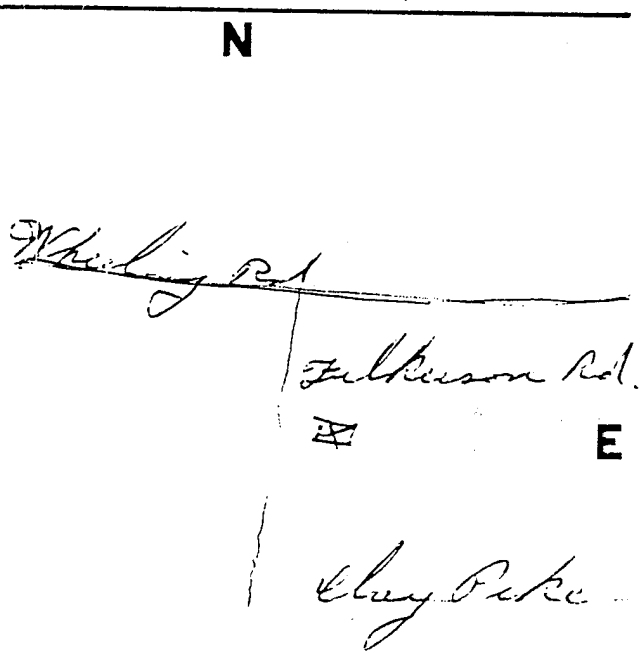
Pump installed by —

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Top soil & Clay	0 ft	35 ft
Sandstone	35	38
Gravel	38	40
Soft Stone	40	60
shale	60	90
Sandstone	90	105
Gray shale	105	130
Water at 55' - 2 gpm		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Beck

ADDRESS 50 Fulkerson Rd Jones

DATE May 1977

SIGNED [signature]

*If additional space is needed to complete well log, use next consecutive numbered form.

245

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER NECESSARY - SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Geological Survey
Fountain Square
Columbus, Ohio 43224 Phone (614) 466-5344

497954

COUNTY Muskingum TOWNSHIP Wayne SECTION OF TOWNSHIP OR LOT NUMBER Lot 8

OWNER Wm. Howard "Bill" Hayes ADDRESS 465 Stardust Circle

LOCATION OF PROPERTY Corner of Fulkerson Rd & Clear Lake Drive

CONSTRUCTION DETAILS

Casing diameter 7" Length of casing 387 ft

Type of screen none Length of screen none

Type of pump 5 HP M Sub

Capacity of pump 5 gpm

Depth of pump setting 106

Date of completion 5/19/78

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 4 gpm Duration of test 16 HRS hrs

Drawdown 90 ft Date 5/18 - 5/19/78

Static level (depth to water) 30 FT ft

Quality (clear, cloudy, taste, odor) no odor or taste

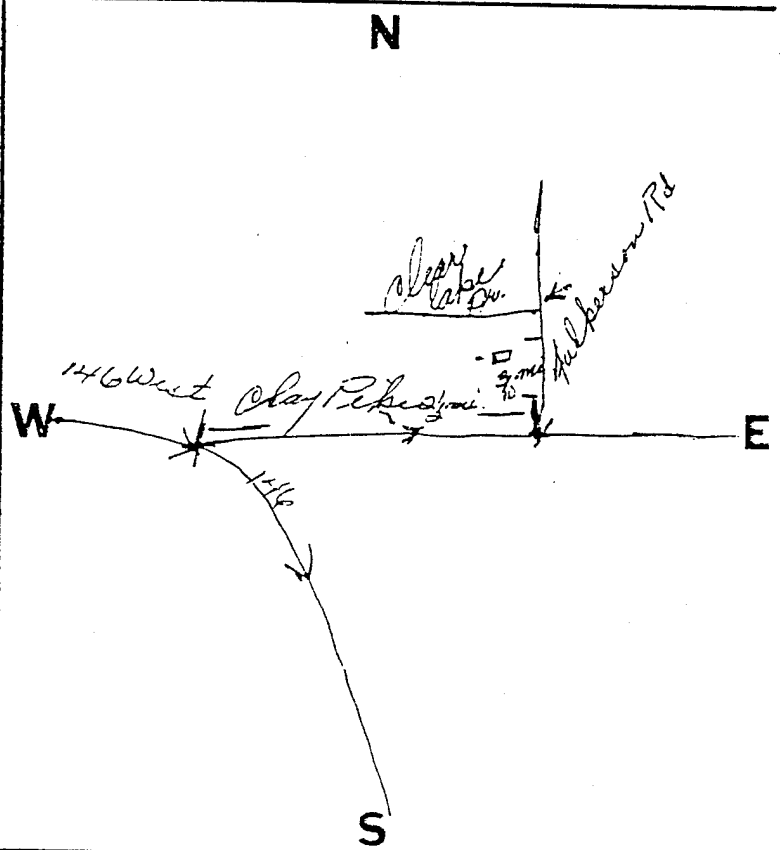
Pump installed by Gary Anders

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Top Soil	0 ft	6 ft
Brown Clay	6	15
Gray clay	15	27
Red Clay	27	39
Coarse Lime Stone	39	43
Gray Lime Rock	43	47
Gray Shale water	47	51
Gray Clay	51	54
Sand Stone	57	57
Gray Clay	57	66
Gray Shale	66	69
Blue Shale	69	75
Gray Shale	75	111
Gray Clay	111	113.4

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Gary Anders

ADDRESS 200 Virginia Ridge Rd

DATE 5/24/78

SIGNED Gary Anders Sr.

34

*If additional space is needed to complete well log, use next consecutive numbered form.

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER NECESSARY— SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

No. 404089

County Muskingum Township Wayne Section of Township

Owner O. E. Blackford #3 Address Rt. 4 Zanesville, Ohio

Location of property 4 Miles Off St. Rt. 40 on Co. Rd. 5

CONSTRUCTION DETAILS

Casing diameter 7" Length of casing 43'

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion 4-17-70

BAILING OR PUMPING TEST
(Specify one by circling)

Test Rate 8 G.P.M. Duration of test hrs.

Drawdown 41 ft. Date

Static level-depth to water 13 ft.

Quality (clear, cloudy, taste, odor)

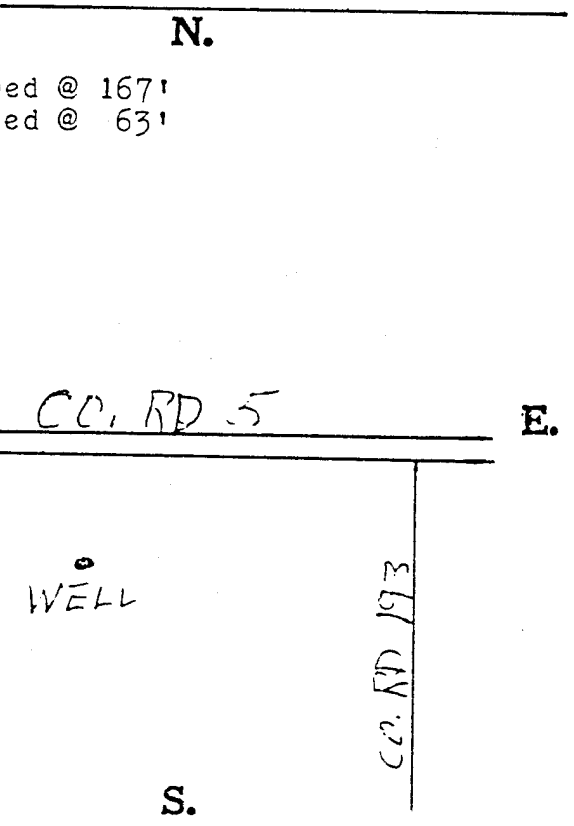
Pump installed by

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Top	0 Feet	2 Ft.
Clay	2	17
Gray Shale	17	21
Dark Shale	21	30
Gray Shale	30	40
Sand Rock	40	41 TD

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



Drilling Firm Suburban Drilling Co., Inc. Date 4-20-70

Address 1950 East Pike, Zanesville, Ohio Signed Bill N. Wilkie

*If additional space is needed to complete well log, use next consecutive numbered form.

35

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER NECESSARY— SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

448216

County [illegible] Township Wayne Section of Township

Owner [illegible] Address [illegible]

Location of property [illegible]

CONSTRUCTION DETAILS

Casing diameter 6" Length of casing 40'

Type of screen Length of screen

Type of pump [illegible]

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST
(Specify one by circling)

Test Rate 5 G.P.M. Duration of test hrs.

Drawdown 120 ft. Date 4-8-75

Static level-depth to water ft.

Quality (clear, cloudy, taste, odor)

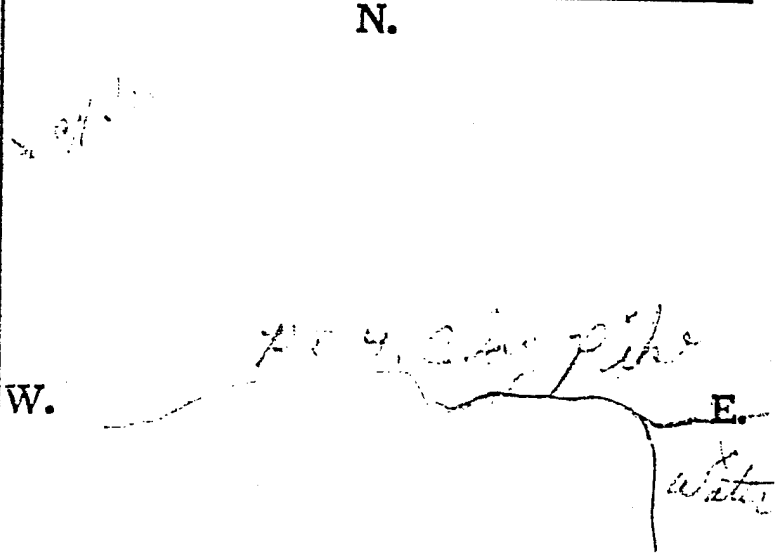
Pump installed by Lloyd Adams

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	10 Ft.
Shale	20	40
Shale	40	50
Sandstone	50	
Sandstone	[illegible]	100

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



Drilling Firm Lloyd Adams

Address Wayne Village Rd

Date 4/8/75

Signed Lloyd Adams

*If additional space is needed to complete well log, use next consecutive numbered form.

36

WELL LOG AND DRILLING REPORT

NO CARBON PAPER NECESSARY - SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

601962

COUNTY Muskingum TOWNSHIP Wayne SECTION OF TOWNSHIP

OWNER Lewis McCollum ADDRESS 3785 Clay Pike

LOCATION OF PROPERTY Clay Pike

CONSTRUCTION DETAILS

Casing diameter 7" Length of casing 18

Type of screen Pvc Conn Length of screen 46

Type of pump S.C.E.

Capacity of pump 12

Depth of pump setting 55 ft

Date of completion May 14 - 1981

BAILING OR PUMPING TEST
(specify one by circling)

Test rate .5 gpm Duration of test hrs

Drawdown ft Date

Static level (depth to water) 18 ft ft

Quality (clear, cloudy, taste, odor) Clear

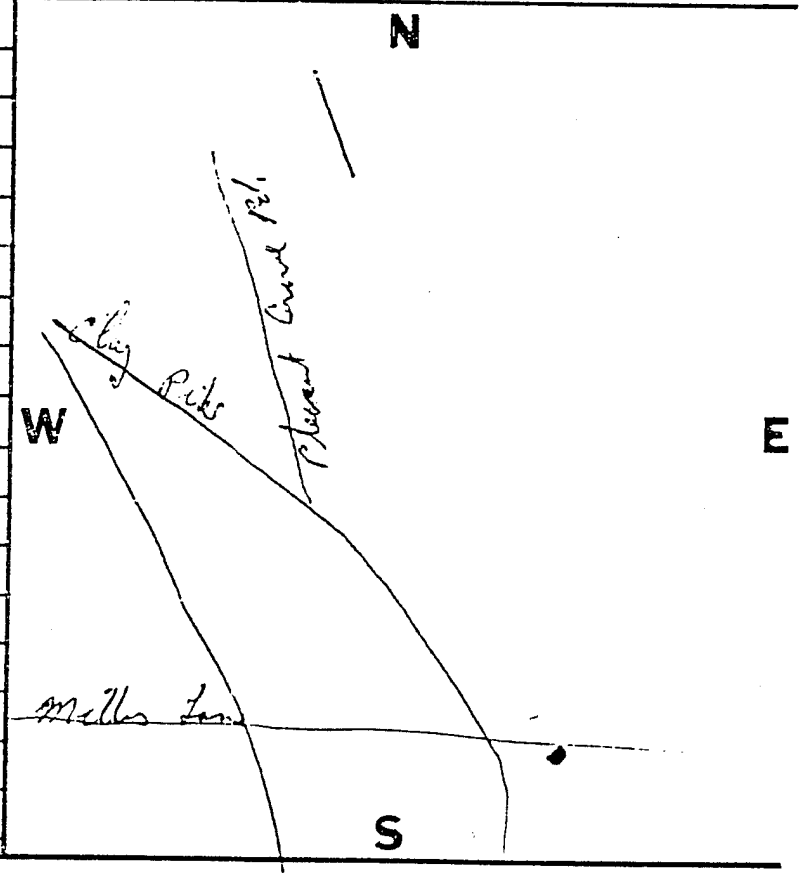
Pump installed by Swingle Water Well

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Surface	0 ft	3 ft
Blue Shale	3	20
Shale	20	35
sandstone	35	37
Shale	57	58

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



Donald G. Swingle
DRILLING FIRM ~~Swingle Water Well Drilling~~

ADDRESS 3480 Moxahala Pk. Rd.
Zanesville, Ohio 43701

DATE Aug 16 - 1981

SIGNED Donald Swingle

*If additional space is needed to complete well log, use next consecutive numbered form.

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37

WELL LOG AND DRILLING REPORT

NO CARBON PAPER NECESSARY– SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

609170

COUNTY Muskingum TOWNSHIP Wayne SECTION OF TOWNSHIP 6

OWNER Robert Fuller ADDRESS 4370 Clay Pike

LOCATION OF PROPERTY on the south side of clay pike appx 1 mile North of Carwick

CONSTRUCTION DETAILS

Casing diameter 8 Length of casing 36'

Type of screen _____ Length of screen _____

Type of pump _____

Capacity of pump _____

Depth of pump setting _____

Date of completion _____

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 1 gpm Duration of test 1 hrs

Drawdown 75 ft Date 10-6-82

Static level (depth to water) 50 ft

Quality (clear, cloudy, taste, odor) clear N. odor

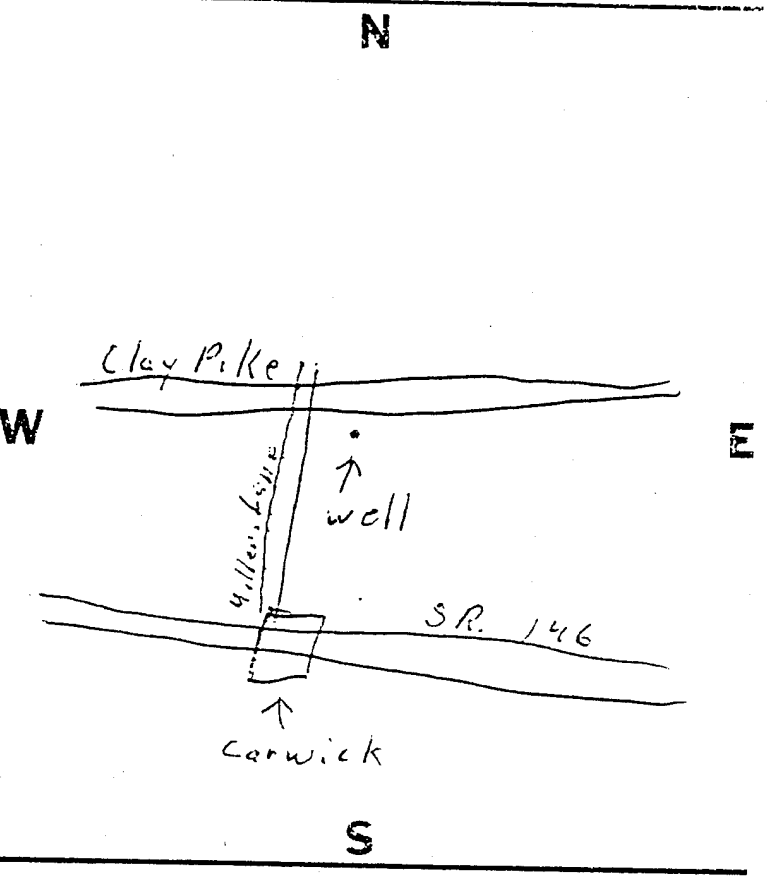
Pump installed by _____

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Loam	0 ft	11 ft
Gray Clay	11	28
sandy shale	28	31
soft shale	31	35
Sand stone	35	52
sandy shale	52	125
Trace of water at		
50' More at 80'		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Ramsey Drilling DATE 10-6-82

ADDRESS 2945 Chandlersville Rd SIGNED William R. Ramsey

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

39

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER NECESSARY– SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Geological Survey
Fountain Square
Columbus, Ohio 43224 Phone (614) 466-5344

496070

COUNTY MUSKINGUM TOWNSHIP WAYNE SECTION OF TOWNSHIP OR LOT NUMBER 6

OWNER GARY TUSINGER ADDRESS 312 NORTH ST DUNCAN FALLS, O

LOCATION OF PROPERTY ON SOUTH SIDE OF CLAY PIKE AND ½ MI EAST MILLERS LANE

CONSTRUCTION DETAILS

Casing diameter 2" PLASTIC Length of casing 100

Type of screen ½" HOLE Length of screen 65 FT

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 3 GPM Duration of test 8 hrs

Drawdown 80' ft Date

Static level (depth to water) 23 ft

Quality (clear, cloudy, taste, odor) CLEAR
NO TASTE

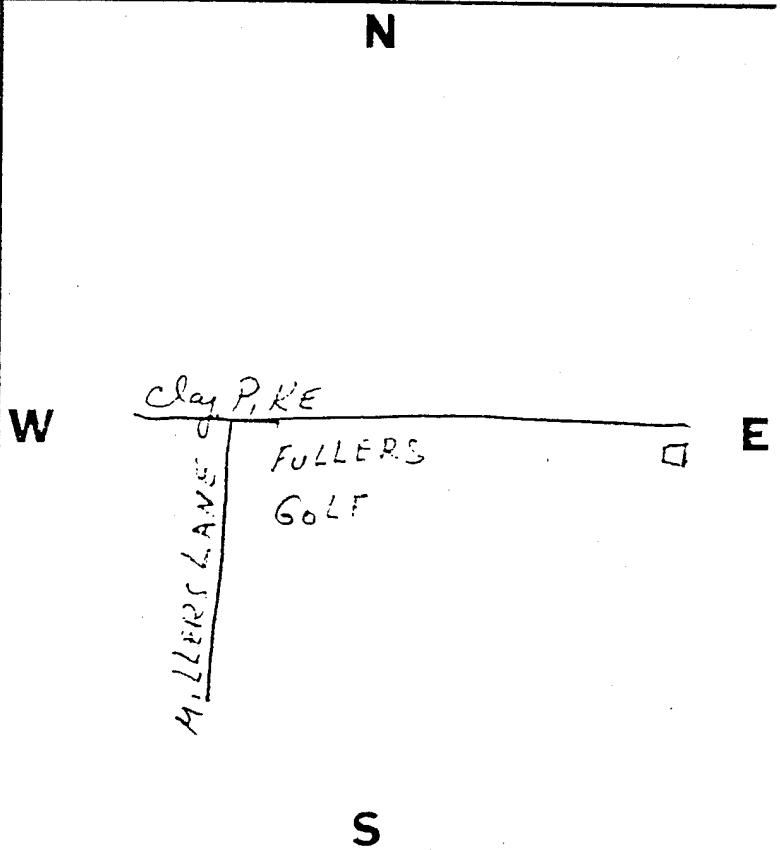
Pump installed by

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
FILLY LOAM	0 ft	3 ft
SHALE	3	32
SANDY SHALE	32	45
COAL CLAY	45	51
SHALE	51	71
DARK SHALE	71	78
SAND PACK	78	83
SANDY SHALE	83	100'
WATER @ 34' & 78'		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM R.C. Ramsey

ADDRESS 2935 Chandlersville Rd. Zanesville, Ohio 43701

DATE 4-16-76

SIGNED R.C. Ramsey

*If additional space is needed to complete well log, use next consecutive numbered form.

39

County Permit No. _____

NO CARBON PAPER NECESSARY– SELF-TRANSCRIBING

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

545374

COUNTY MUSKINGUM TOWNSHIP WAYNE SECTION OF TOWNSHIP 6

OWNER ROBERT FULLER ADDRESS MILLERS LANE ZANESVILLE

LOCATION OF PROPERTY ON EAST SIDE OF MILLERS LANE APPX .1 MI. SOUTH OF CLAY PIKE

CONSTRUCTION DETAILS

Casing diameter 6 5/8" PLASTIC Length of casing 26'-6"

Type of screen \ Length of screen _____

Type of pump SUB

Capacity of pump 300-400 GPH

Depth of pump setting 90'

Date of completion _____

BAILING OR PUMPING TEST

(specify one by circling)

Test rate 40 GPM ~~gpm~~ Duration of test _____ hrs

Drawdown 80 ft Date _____

Static level (depth to water) 20 ft

Quality (clear, cloudy, taste, odor) Clear

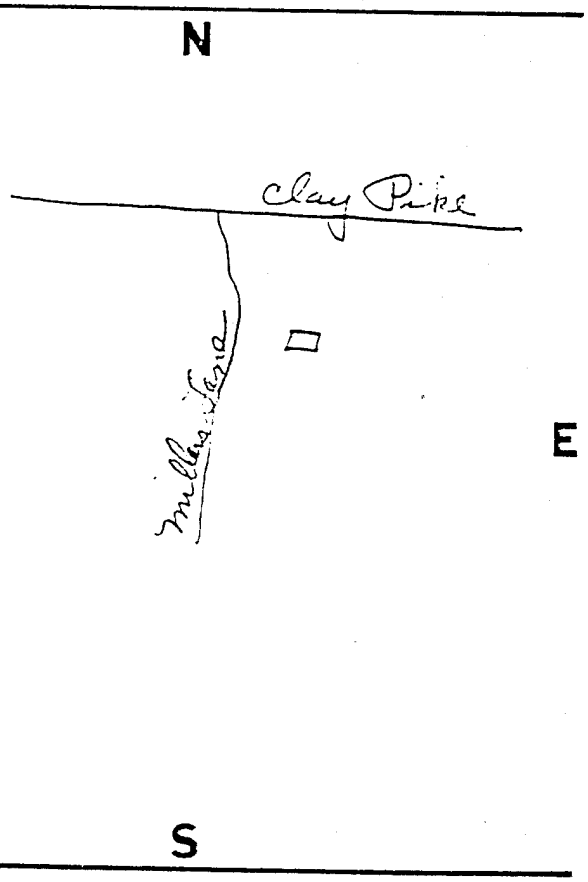
Pump installed by Contractor

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Fract Clay	0 ft	3 ft
Sandy shale	3	11
Sandstone	11	28
Show of Coal	28	29
Sandy shale	29	74
Brown shale	74	78
Sandy shale	78	100+
water app 22-30		
water app 92'		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM R.C. Ramsey
2945 Chandler Rd.
ADDRESS Zanesville, OH 43701

DATE 11-1-80

SIGNED R C Ramsey

*If additional space is needed to complete well log, use next consecutive numbered form.

(40)

WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL OR TYPEWRITER

DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

No. 371374

County Muskingum Township Salt Creek Section of Township

Owner Bohdan Bednarczuk Address R. 1, Chandlersville, Ohio

Location of property On Muskingum County Road # 5 5680 Clay Pike

CONSTRUCTION DETAILS

Casing diameter 7" Length of casing 65'

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion Nov. 20, 1967

BAILING OR PUMPING TEST

Pumping Rate 20 G.P.M. Duration of test hrs.

Drawdown 63 ft. Date

Static level-depth to water 25 ft.

Quality (clear, cloudy, taste, odor) Clear

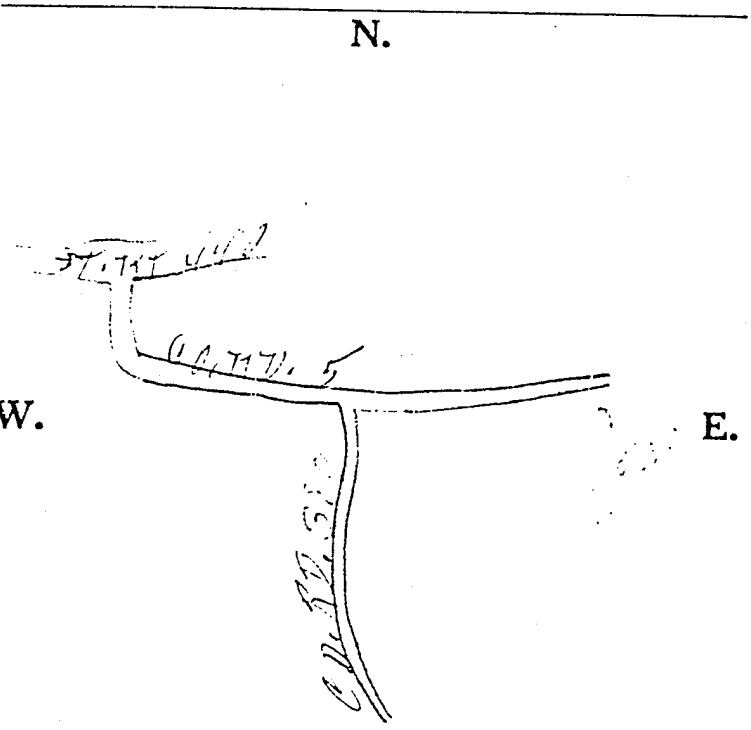
Pump installed by

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Top	0 Feet	8 Ft.
Clay	8	18
Soft Gray Shale	18	37
Gray Shale	37	63
Water @ 40 Ft.		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Suburban Drilling Co. Date Nov. 21, 1967

Address 1950 E. Pike, Zanesville, Ohio Signed B. H. White

*If additional space is needed to complete well log, use next consecutive numbered form.

WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL OR TYPEWRITER
DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus 12, Ohio

No. 299456

County MUSKINGUM Township SALT CREEK Section of Township 4

Owner John J. Roll Address RT #1 Chandlersville, Ohio

Location of property CLAY PIKE (County Rd. 5) 5905 ½ mi E. of Junction of 5 & Twp 389

CONSTRUCTION DETAILS

Casing diameter 8" I.D. Length of casing 26'
Type of screen NONE Length of screen
Type of pump (JET) DEEP WELL
Capacity of pump 220 GPH.
Depth of pump setting 125 ft
Date of completion 3-23-64

BAILING OR PUMPING TEST

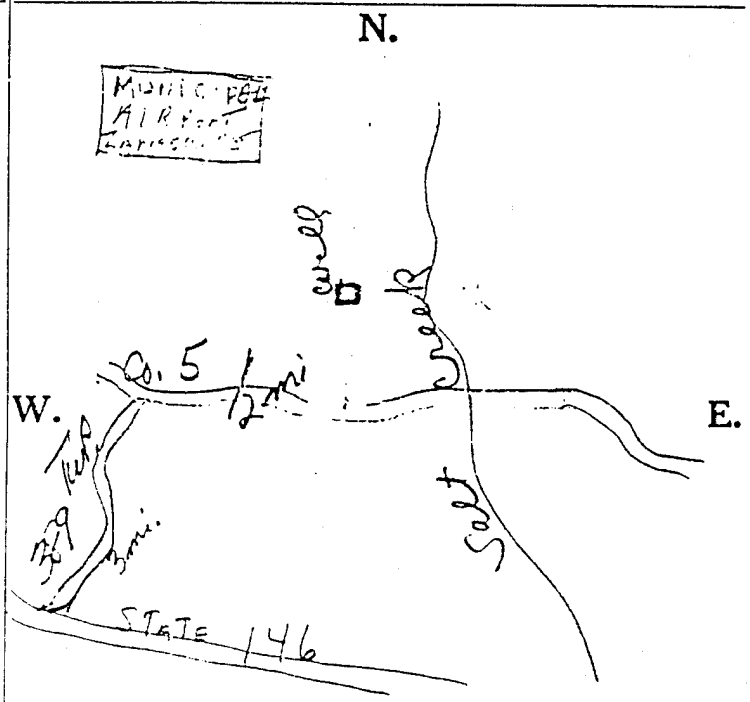
Pumping Rate 1.5 G.P.M. Duration of test 12 hrs.
Drawdown ALL THE WAY (125') Date 3-21+22
Static level-depth to water 35 ft.
Quality (clear, cloudy, taste, odor) CLEAR, NO ODOR
Pump installed by RUSS MYERS

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay (yellow)	0 Feet	6 Ft.
Clay + Shale (yellow)	6	8
Clay + Shale (gray)	8	16
CLAY (BLACK)	16	21
Clay + Shale (Gray)	21	28
SANDROCK COURSE (Gray)	28	41
SANDROCK FINE (Gray)	41	55
Clay (Light Gray)	55	56
Clay Gray + Yellow	56	62
LIME STONE SHALE	62	64
Clay Light Gray	64	66
Clay, Shale + Sand	66	80
Clay + Shale	80	88
SHALE (Gray)	88	91
Clay, Shale and Sand	91	102
White Sand Rock	102	115
SHALE (Dark Gray)	115	127
WATER AT 44 Ft.		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions 2

Drilling Firm RUSS MYERS Date 3-23-64

Address 2 EASTWOOD DRIVE ZANESVILLE OHIO Signed Russell E Myers

WELL LOG AND DRILLING REPORT

NO CARBON PAPER NECESSARY – SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

609200

COUNTY Muskingum TOWNSHIP Salt Creek SECTION OF TOWNSHIP 4

OWNER Joseph & Susan Gormley ADDRESS 6535 Clay Pike

LOCATION OF PROPERTY On The North side of Clay Pike about 6 Mi. east of Zanes

CONSTRUCTION DETAILS

Casing diameter 6 5/8" Length of casing 122'

Type of screen 1/4" slots Length of screen 35'

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 5 gpm Duration of test 1 hrs

Drawdown 55 ft Date 9-5-84

Static level (depth to water) 35 ft

Quality (clear, cloudy, taste, odor) clear low odor?

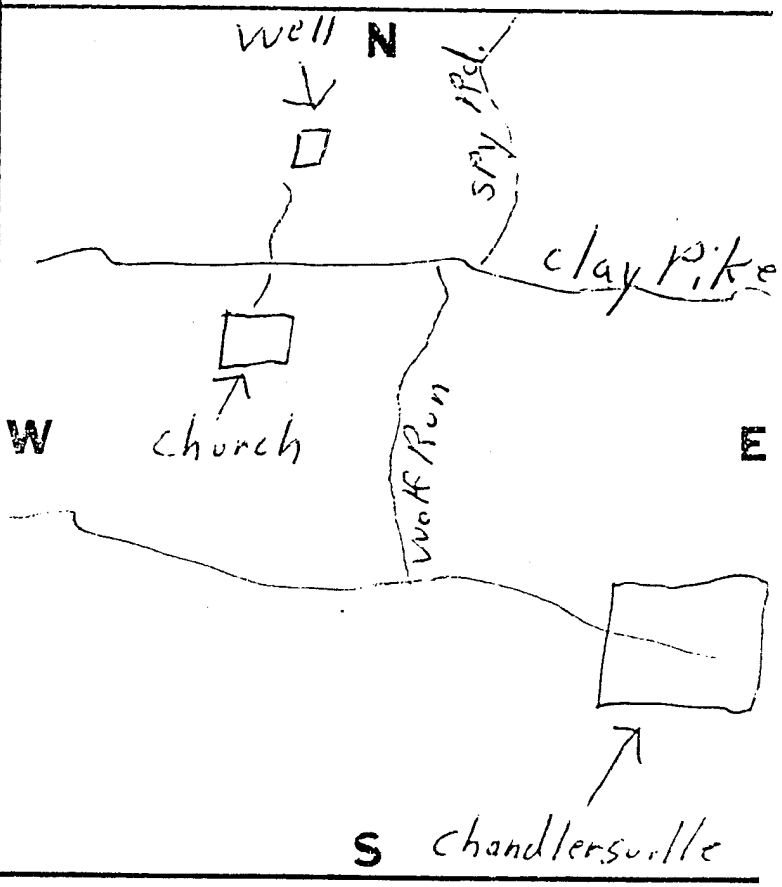
Pump installed by

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Loam	0 ft	4 ft
Running Creek sand	4	18
Soft Grey shale	18	47
Sandy shale	47	91
Coal Streaks	91	95
Sandy shale	95	96
Soft white Clay	96	99
Soft gray shale	99	113
sandy shale	113	124
Sand stone	124	143
Sandy shale	143	160
Water AT 47 and 62 Feet		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Ramsey Drilling DATE 9-9-84

ADDRESS 2945 Chandlersville Rd SIGNED William B. Ramsey

*If additional space is needed to complete well log, use next consecutive numbered form.

3

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WELL LOG AND DRILLING REPORT

ORIGINAL

PLEASE USE PENCIL OR TYPEWRITER

DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio 43212

No. 360629

County ..... Township ..... Section of Township .....

Owner ..... Address .....

Location of property .....

CONSTRUCTION DETAILS

Casing diameter ..... Length of casing .....

Type of screen ..... Length of screen .....

Type of pump SUB

Capacity of pump .....

Depth of pump setting 160

Date of completion .....

BAILING OR PUMPING TEST

Pumping Rate ..... G.P.M. Duration of test ..... hrs.

Drawdown ..... ft. Date .....

Static level-depth to water ..... ft.

Quality (clear, cloudy, taste, odor) .....

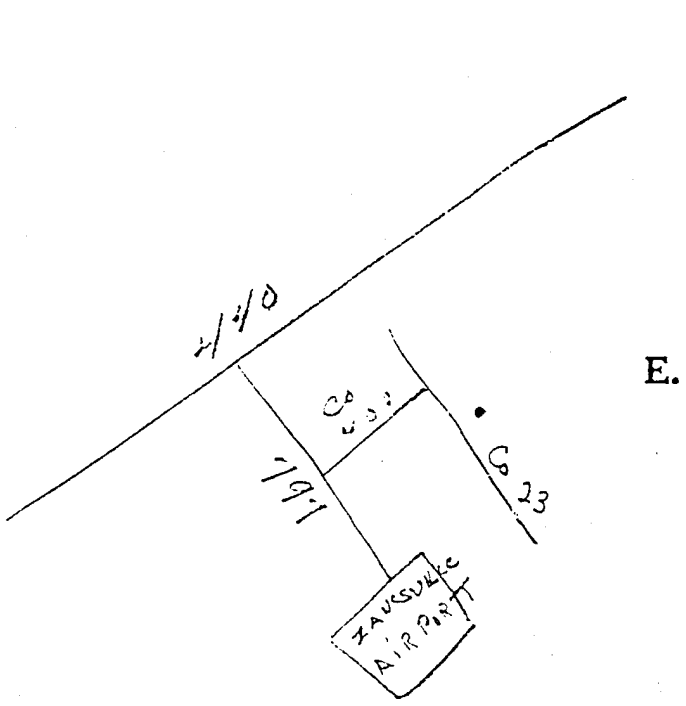
Pump installed by .....

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
	0 Feet	Ft.

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm .....

Address .....

Date 9/15/69

Signed .....

*If additional space is needed to complete well log, use next consecutive numbered form.

1165

WELL LOG AND DRILLING REPORT

NO CARBON PAPER NECESSARY– SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

592569

COUNTY Muskingum TOWNSHIP Perry SECTION OF TOWNSHIP

OWNER Ron Lafferty ADDRESS 6100 Park Lane

LOCATION OF PROPERTY 6100 Park Lane Norwich

CONSTRUCTION DETAILS

Casing diameter 6 5 OD Length of casing 23

Type of screen Perforated Casing Length of screen 100

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 1 gpm Duration of test 2 hrs

Drawdown 134' ft Date Oct 16 81

Static level (depth to water) 57 ft

Quality (clear, cloudy, taste, odor) Clear

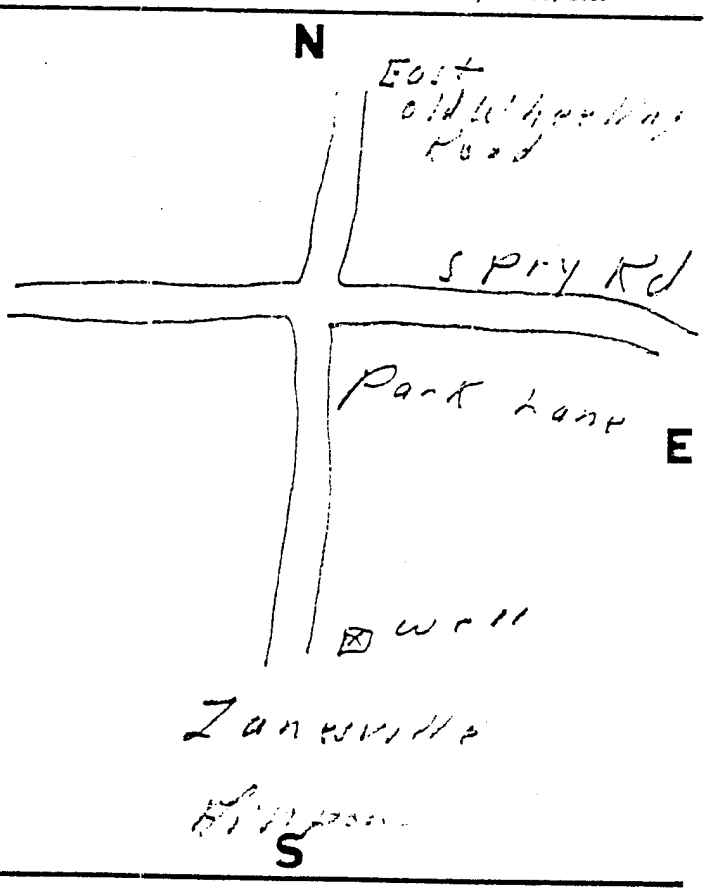
Pump installed by

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Brown Shale	0 ft	14 ft
Brown Sand Rock	14	34
White Sand Rock	34	51
Gray Shale	51	61
Coal	61	63
White Sand Rock	63	97
Gray Shale	97	101
Coal	101	103
White Sandrock	103	119
Gray Soft Shale	119	134
Water at 73		
Total Depth	134	

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Anderson Drilling

ADDRESS 112 So Willow Dr

DATE Oct 16, 1981

SIGNED Robert Anderson

*If additional space is needed to complete well log, use next consecutive numbered form.

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66

WELL LOG AND DRILLING REPORT

ORIGINAL

NO CARBON PAPER NECESSARY– SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

520870

COUNTY Muskingum TOWNSHIP Perry SECTION OF TOWNSHIP 3 or 23

OWNER Tom & Kathy Rushey ADDRESS Southern Rd, Norwich, Ohio

LOCATION OF PROPERTY on North side of Park Lane app ½ mi west of State Rd

CONSTRUCTION DETAILS

Casing diameter 7" Plastic Length of casing 25'

Type of screen _____ Length of screen _____

Type of pump _____

Capacity of pump _____

Depth of pump setting _____

Date of completion _____

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 15 gpm Duration of test _____ hrs

Drawdown 32 ft Date _____

Static level (depth to water) 15 ft

Quality (clear, cloudy, taste, odor) clear

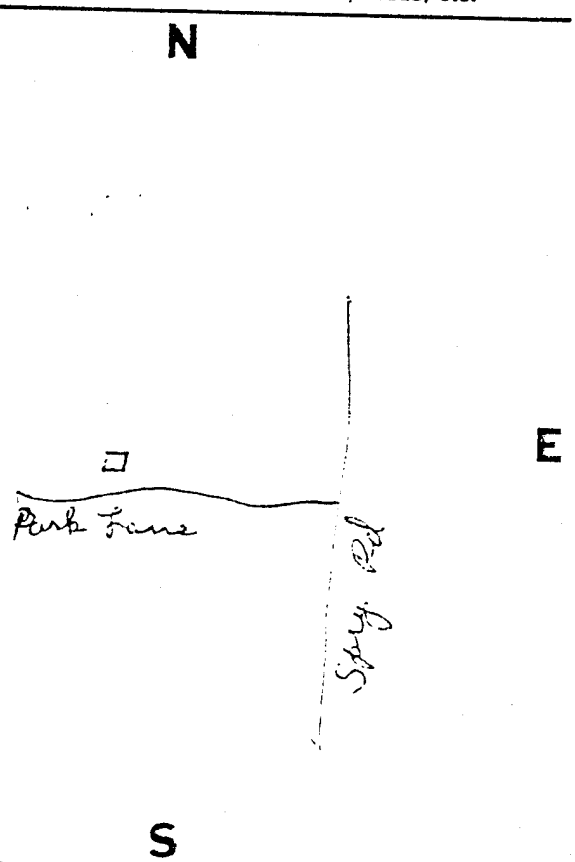
Pump installed by _____

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Loam & Fill	0 ft	2 ft
Broken sandstone	2	8
Sandstone	8	34
shale	34	50
water @ 40'		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM R.C. Ramsey

ADDRESS 2945 Chandlersville Rd. Zanesville, Ohio 43701

DATE 9-17-78

SIGNED RC Ramsey

*If additional space is needed to complete well log, use next consecutive numbered form.

67

WELL LOG AND DRILLING REPORT

NO CARBON PAPER NECESSARY – SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

592577

COUNTY _____ TOWNSHIP _____ SECTION OF TOWNSHIP _____

OWNER _____ ADDRESS _____

LOCATION OF PROPERTY _____

CONSTRUCTION DETAILS

Casing diameter _____ Length of casing _____

Type of screen _____ Length of screen _____

Type of pump _____

Capacity of pump _____

Depth of pump setting _____

Date of completion _____

BAILING OR PUMPING TEST
(specify one by circling)

Test rate _____ gpm Duration of test _____ hrs

Drawdown _____ ft Date _____

Static level (depth to water) _____ ft

Quality (clear, cloudy, taste, odor) _____

Pump installed by _____

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
_____	0 ft	ft
_____		
_____		
_____		
_____		
_____		
_____		
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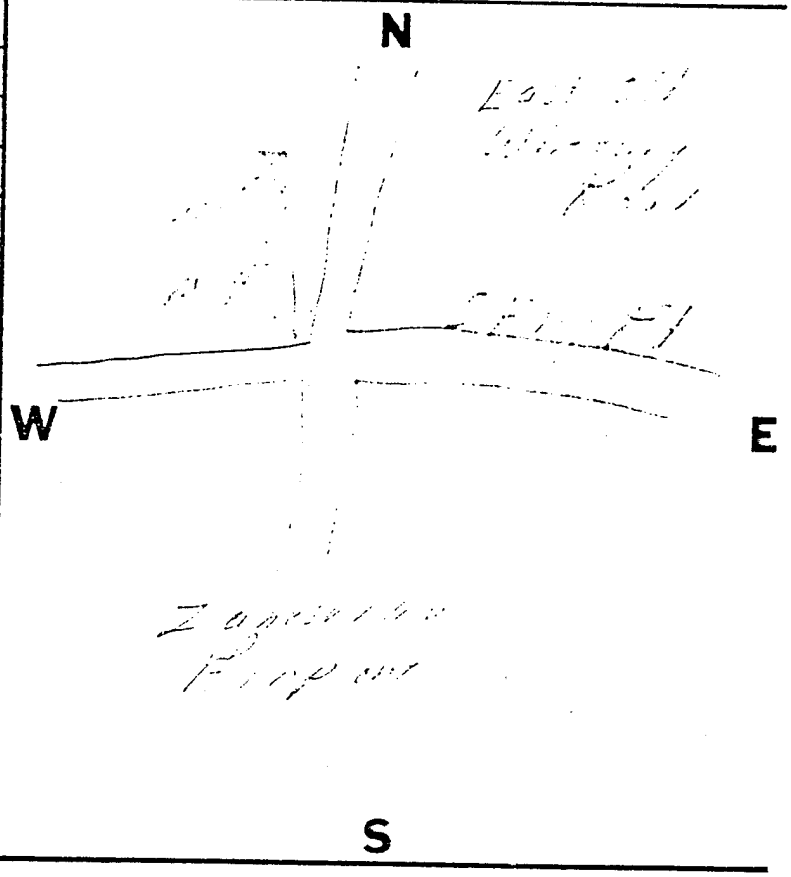
SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Anderson Drlg

ADDRESS 112 So Willow Dr V

DATE Feb 6 1992

SIGNED Robert Anderson

*If additional space is needed to complete well log, use next consecutive numbered form.

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WELL LOG AND DRILLING REPORT

NO CARBON PAPER NECESSARY– SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

592937

COUNTY Muskingum TOWNSHIP Perry SECTION OF TOWNSHIP 19

OWNER Dave Jackson ADDRESS E. Wheeling Rd

LOCATION OF PROPERTY E. Wheeling Rd.

CONSTRUCTION DETAILS

Casing diameter 6 5/8 Length of casing 24±6"

Type of screen perf. 5" Plas Length of screen 120"

Type of pump —

Capacity of pump —

Depth of pump setting —

Date of completion —

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 15 gpm Duration of test 1 hr

Drawdown 85 ft Date July 1953

Static level (depth to water) 35-0" ft

Quality (clear, cloudy, taste, odor) —

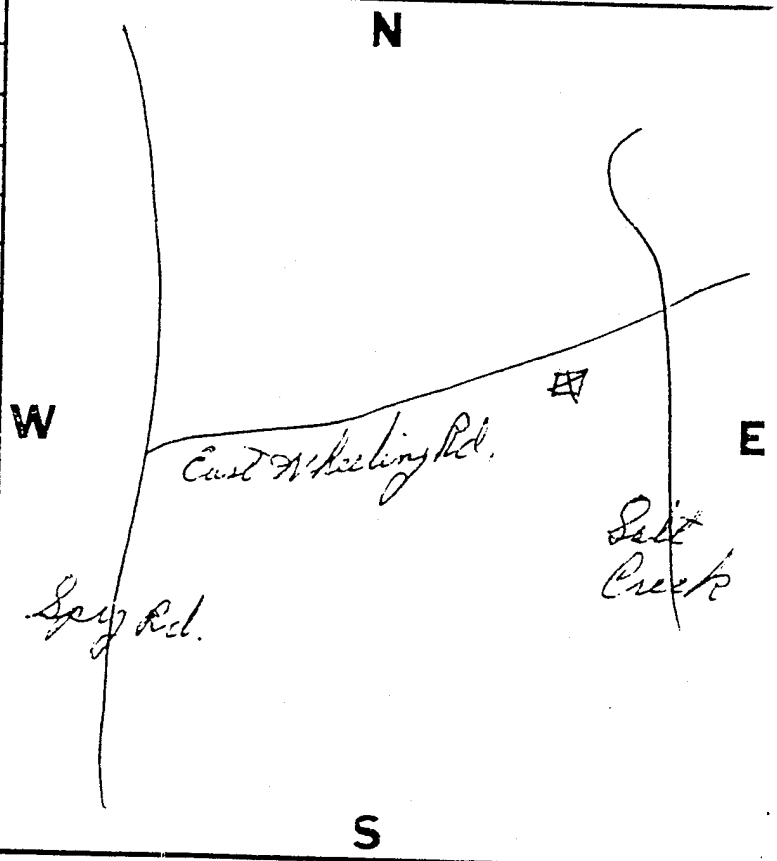
Pump installed by —

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Sandy loam	0 ft	10 ft
Brown Sandstone	10	37
Shale	37	48
Lt Stone	48	70
Sandy Shale	70	120
Light Shale	120	135
Water 20-75'	5 GPM	

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Baker

ADDRESS 2760 Boggs Rd.

DATE July 22 1953

SIGNED James Baker Jr.

*If additional space is needed to complete well log, use next consecutive numbered form.

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APPENDIX B

BORING LOGS

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KEY TO BORING LOG SYMBOLS

UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D2487

MAJOR DIVISIONS			SYMBOL/ GRAPHIC	DESCRIPTIONS
COARSE-GRAINED SOILS (>50% Smaller Than #200 Sieve)	GRAVELS (More than 50% of coarse fraction is larger than the #4 sieve size.)	Clean gravels with little or no fines	GW	Well-Graded Gravels, Gravel - Sand Mixtures
			GP	Poorly Graded Gravels, Gravels - Sand Mixtures
		Gravels with over 12% fines	GM	Silty Gravels, Poorly Graded Gravel-Sand-Clay Mixtures
			GC	Clayey Gravels, Poorly Graded Gravel-Sand-Clay Mixtures
	SANDS (More than 50% of coarse fraction is smaller than the #4 sieve size.)	Clean sands with little or no fines	SW	Well-Graded Sands, Gravelly Sands
			SP	Poorly Graded Sands, Gravelly Sands
		Sands with over 12% fines	SM	Silty Sands, Poorly Graded Sand-Silt Mixtures
			SC	Clayey Sands, Poorly Graded Sand-Clay Mixtures
FINE-GRAINED SOILS (>50% Smaller Than #200 Sieve)	SILTS AND CLAYS (Liquid limit less than 50)		ML	Inorganic Silts and Very Fine Sands, Silty or Clayey Fine Sands
			CL	Inorganic Clays of Low to Medium Plasticity: Gravelly, Sandy or Silty Clays; Lean Clays
			OL	Organic Clays and Organic Silty Clays of Low Plasticity
	SILTS AND CLAYS (Liquid limit greater than 50)		MH	Inorganic Silts, Micaceous or Diatomacious Fine Sandy or Silty Soils, Elastic Silts
			CH	Inorganic Clays of High Plasticity Fat Clays
			OH	Organic Clays of Medium to High Plasticity, Organic Silts
HIGHLY ORGANIC SOILS			Pt	Peat and Other Highly Organic Soils

Sample retained for on-site screening.

Sample prepared for laboratory analysis.

Water Table Level

PID Photo-Ionization Detector readings (ppm)

	Asphaltic Concrete
	Portland Cement Concrete
	Cement Grout
	Boulders or Bedrock

FIGURE B.1

P KEYLOG2

KEY TO BORING LOG
220th EIS, Zanesville ANGS
Zanesville, Ohio

OPTECH
OPERATIONAL TECHNOLOGIES CORPORATION

1994

220th EIS, Ohio Air National Guard

Zanesville, OH

OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING A-001BH

Project No.:	1308-191	**Sampling Method:**	California Style Sampler
Logged By:	Earl Parker	**Depth Drilled:**	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	**Depth To Water:**	Not Encountered
Driller:	Rob Copeland	**Date Measured:**	N/A
Date Drilled:	6/2/94	**Surface Elevation:**	878.1 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
	9 7 5	100			Silty clay loam, shale and quartz fragments, light tan, dry and cohesive. USCS: CH	-	-	ND	ND
5	5 10 11	100			Silt and clay loam with few fine sand particles, shale and quartz fragments, moist and cohesive. USCS: CH	-	-	ND	ND
10	5 12 16	100			Sand, mottled, tan to white, moist. USCS: SW	-	-	ND	ND
					Boring Terminated at 11.5 ft.				
15									

220th EIS, Ohio Air National Guard

Zanesville, OH

OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING A-002BH

Project No.:	1308-191	Sampling Method:	California Style Sampler
Logged By:	Earl Parker	Depth Drilled:	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	Depth To Water:	Not Encountered
Driller:	Rob Copeland	Date Measured:	N/A
Date Drilled:	6/2/94	Surface Elevation:	877.0 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
	18 9 5	100			Silt and clay loam, light brown to tan, dry and cohesive, few rock fragments. USCS: CH	-	-	ND	ND
5	5 9 11	100			Silt and clay loam, few sand grains, shale and quartz fragments, slightly mottled, moist and cohesive USCS: CH	-	-	ND	ND
10	5 11 19	100			Sand, brown and mottled to tan to white, moist. USCS: SW	-	-	ND	ND
					Boring Terminated at 11.5 ft.				
15									

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Zanesville, OH

OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING A-003BH

Project No.:	1308-191	**Sampling Method:**	California Style Sampler
Logged By:	Earl Parker	**Depth Drilled:**	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	**Depth To Water:**	Not Encountered
Driller:	Rob Copeland	**Date Measured:**	N/A
Date Drilled:	6/2/94	**Surface Elevation:**	876.6 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
	10 9 5	100			Clay loam, light tan, hard, dry and very cohesive, some rock fragments. USCS: CH	-	-	ND	ND
5	8 10 15	100			Silty, clay loam, shale and quartz fragments, brown, moist, and very cohesive. USCS: CH	-	-	ND	ND
10	4 12 23	100			Sand, tan to light tan, moist. USCS: SW Boring Terminated at 11.5 ft.	-	-	ND	ND
15									

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OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING A-004BH

Project No.:	1308-191	**Sampling Method:**	California Style Sampler
Logged By:	Earl Parker	**Depth Drilled:**	14.2 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	**Depth To Water:**	Not Encountered
Driller:	Rob Copeland	**Date Measured:**	N/A
Date Drilled:	6/2/94	**Surface Elevation:**	875.8 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
	14 9 6	100			Silty clay loam, light brown and slightly moist, some organic particles. USCS: CH	0.0	0.0	ND	ND
5	4 9 11	90			Sand and silt loam, brown, very fine, cohesive and moist. USCS: CH	0.0	4.8	ND	ND
10	2 12 35	90			Sand and silt, clay loam, cohesive and slightly moist. USCS: CH Sand, mottled, light brown to tan, little silt, slightly moist. USCS: SW	0.0	-	ND	ND
	50	0			Sand, mottled. Sandstone and shale at bottom of borehole, slightly moist. USCS: SW	-	-	-	-
15					Boring Terminated at 14.2 ft.				

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LOG OF BORING A-005BH

Project No.:	1308-191	**Sampling Method:**	California Style Sampler
Logged By:	Earl Parker	**Depth Drilled:**	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	**Depth To Water:**	Not Encountered
Driller:	Rob Copeland	**Date Measured:**	N/A
Date Drilled:	6/2/94	**Surface Elevation:**	875.6 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
	12 14 10	90			Silty, clay loam. light brown, slightly moist, cohesive. USCS: CH	-	-	ND	ND
5	4 8 11	100			Clay loam with quartz fragments, little sand, light brown, slightly moist. USCS: CH	-	-	ND	ND
10	14 16 18	100			Silt loam. light brown, moist. USCS: CH Sand, mottled and clean, tan to white, moist. USCS: SW Boring Terminated at 11.5 ft.	-	-	ND	ND
15									

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Zanesville, OH

OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING A-006BH

Project No.:	1308-191	**Sampling Method:**	California Style Sampler
Logged By:	Earl Parker	**Depth Drilled:**	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	**Depth To Water:**	Not Encountered
Driller:	Rob Copeland	**Date Measured:**	N/A
Date Drilled:	6/2/94	**Surface Elevation:**	874.8 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
	8 10 9	100			Clay, silt loam with shale and quartz fragments, slightly moist. USCS: CH	-	-	ND	ND
5	6 10 10	95			Clay, silt loam with shale and quartz fragments, brown, slightly moist and cohesive. USCS: CH	-	-	ND	ND
10	6 12 23	100			Clean sand, mottled, tan to white to light brown, slightly moist. USCS: SW Boring Terminated at 11.5 ft.	-	-	ND	ND
15									

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Zanesville, OH

OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING A-007BH

Project No.:	1308-191	**Sampling Method:**	California Style Sampler
Logged By:	Earl Parker	**Depth Drilled:**	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	**Depth To Water:**	Not Encountered
Driller:	Rob Copeland	**Date Measured:**	N/A
Date Drilled:	6/2/94	**Surface Elevation:**	876.4 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
	5 10 17	100			Clay loam, very cohesive and hard, light tan, dry. USCS: CH	-	-	ND	ND
5	4 8 13	100			Clay loam, shale and quartz fragments, light brown, slightly moist. USCS: CH	-	-	ND	ND
10	5 10 8	100				-	-	ND	ND
					Sand, mottled, tan to white, slightly moist. USCS: SW Boring Terminated at 11.5 ft.				
15									

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Zanesville, OH

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LOG OF BORING B-001BH

Project No.:	1308-191	**Sampling Method:**	California Style Sampler
Logged By:	Earl Parker	**Depth Drilled:**	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	**Depth To Water:**	Not Encountered
Driller:	Rob Copeland	**Date Measured:**	N/A
Date Drilled:	6/3/94	**Surface Elevation:**	880.5 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
	13 13 8	100			Silty clay loam, shale fragments, mottled, slightly moist and cohesive. USCS: CH	-	-		
5	8 10 14	100			Silty clay loam, shale and quartz fragments, slightly moist, cohesive, brown. USCS: CH	-	-		
10	11 11 16	100			Sand with little silt, brown to tan to white, moist and cohesive. USCS: SM Boring Terminated at 11.5 ft.	-	-		
15									

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Zanesville, OH

OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING B-002BH

Project No.:	1308-191	**Sampling Method:**	California Style Sampler
Logged By:	Earl Parker	**Depth Drilled:**	11.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	**Depth To Water:**	Not Encountered
Driller:	Rob Copeland	**Date Measured:**	N/A
Date Drilled:	6/3/94	**Surface Elevation:**	880.0 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
	13 13 12	100			Silty clay loam, shale and quartz fragments, dry, cohesive. USCS: CH	-	-		
5	11 12 13	100			Silty clay loam, shale fragments and some sand stringers, mottled, moist and cohesive. USCS: CH	-	-		
10	4 11 11	100			Sand with little silt, mottled, brown to tan, moist and cohesive. USCS: SM Boring Terminated at 11.5 ft.	-	-		
15									

220th EIS, Ohio Air National Guard

Zanesville, OH

OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING B-003BH

Project No.:	1308-191	**Sampling Method:**	California Style Sampler
Logged By:	Earl Parker	**Depth Drilled:**	15.5 ft.
Drilling Co.:	Jones Environmental Drilling, Inc.	**Depth To Water:**	Not Encountered
Driller:	Rob Copeland	**Date Measured:**	N/A
Date Drilled:	6/3/94	**Surface Elevation:**	879.7 ft.
Drilling Method:	Hollow Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)	ATHA (ppm)	BTEX (ppb)	Benzene (ppb)
	29 15 8	100			Silty clay loam, shale and quartz fragments, dry and cohesive. USCS: CH	-	-		
5	6 7 12	100			Silty clay loam with sand stringers, shale fragments, moist and cohesive. USCS: CH	-	-		
10	5 6 6	100			Sand with little silt, light brown to white, moist and cohesive. Weathered sandstone at bottom of borehole. USCS: SM	-	-		
15	33 34 50				Boring Terminated at 15.5 ft.	-	-		

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APPENDIX C

SCREENING RESULTS

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Appendix - C
GC Screening Results - Soil
220th EIS, Zanesville ANGS, Zanesville, Ohio

Boring	Sample Interval (ft. BLS)	Sample Mass (grams)	Volatile Concentrations				Total BTEX (ppb)
			Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	
CAL - 01	STD	NA	2,411	1,714		4,046.5	8,171.5
CAL - 02	STD	NA	801.2	978.7	981.4	1,849.4	4,610.4
AIR BLANK	NA	NA	ND	ND	ND	ND	ND
SOIL PRACTICE	NA	10	ND	ND	ND	ND	ND
CAL	NA	NA	863	897.4	683.1	2,186.6	4,630.1
AIR BLANK	NA	NA	ND	ND	ND	ND	ND
CAL 1	NA	NA	451.1	377	178.8	508.6	1,515.5
A - 4	0.0 - 1.5	10	ND	ND	ND	ND	ND
A - 4	5.0 - 6.5	10	ND	ND	ND	ND	ND
A - 4	10.0 - 11.5	10	ND	ND	ND	ND	ND
A - 5	0.0 - 1.5	10	ND	ND	ND	ND	ND
A - 5	5.0 - 6.5	10	ND	ND	ND	ND	ND
A - 5	10.5 - 11.5	10	ND	ND	ND	ND	ND
A - 6	0.0 - 1.5	10	ND	ND	ND	ND	ND
A - 6	5.0 - 6.5	10	ND	ND	ND	ND	ND
A - 6	10.5 - 11.5	10	ND	ND	ND	ND	ND
CAL	NA	NA	236.1	179.7	85.7	309.2	910.7
AIR BLANK	NA	NA	ND	ND	ND	ND	ND
A - 7	0.0 - 1.5	10	ND	ND	ND	ND	ND
A - 7	5.0 - 6.5	10	ND	ND	ND	ND	ND

Appendix - C (Concluded)
GC Screening Results - Soil
220th EIS, Zanesville ANGS, Zanesville, Ohio

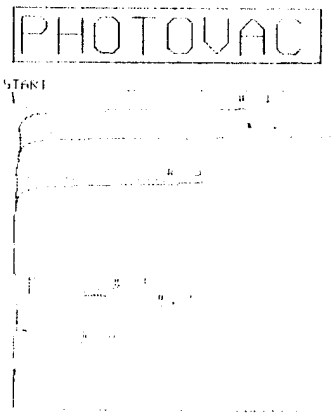
Boring	Sample Interval (ft. BLS)	Sample Mass (grams)	Volatile Concentrations				Total BTEX (ppb)
			Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	
A - 7	10.0 - 11.5	10	ND	ND	ND	ND	ND
A - 3	0.0 - 1.5	10	ND	ND	ND	ND	ND
A - 3	5.0 - 6.5	10	ND	ND	ND	ND	ND
A - 3	10.5 - 11.5	10	ND	ND	ND	ND	ND
A - 1	0.0 - 1.5	10	ND	ND	ND	ND	ND
A - 1	5.0 - 6.5	10	ND	ND	ND	ND	ND
A - 1	10.0 - 11.5	10	ND	ND	ND	ND	ND
A - 2	0.0 - 1.5	10	ND	ND	ND	ND	ND
A - 2	5.0 - 6.5	10	ND	ND	ND	ND	ND
A - 2	10.0 - 11.5	10	ND	ND	ND	ND	ND
CAL	NA	NA	270.9	202.3	100	303.6	876.8
AIR BLANK	NA	NA	ND	ND	ND	ND	ND

BLS - Below land surface.
ppb - Parts per billion.
ND - Non detect.
NA - Not applicable.
CAL - Calibration.
STD - Standard.

CAL - 01

CAL - 02

PHOTOVAC



COMPOUND	ID #	R.T.	UNIT
BENZENE	1	24.4	1 000 PPM
TOLUENE	2	143.6	1 000 PPM
ETHYLBENZENE	3	314.2	1 000 PPM
O-XYLENE	4	402.5	1 000 PPM
M,P-XYLENE	5	331.4	1 000 PPM

PHOTOVAC

PHOTOVAC

AIR BLANK

PHOTOVAC

SOIL PRACTICE

PHOTOVAC

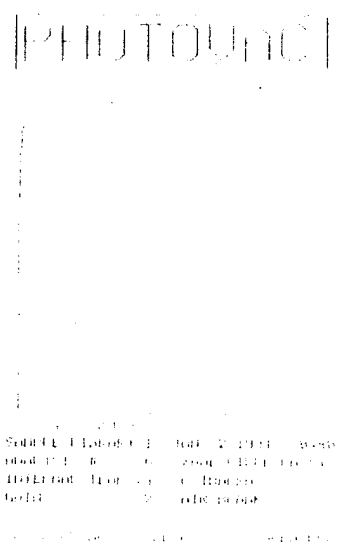
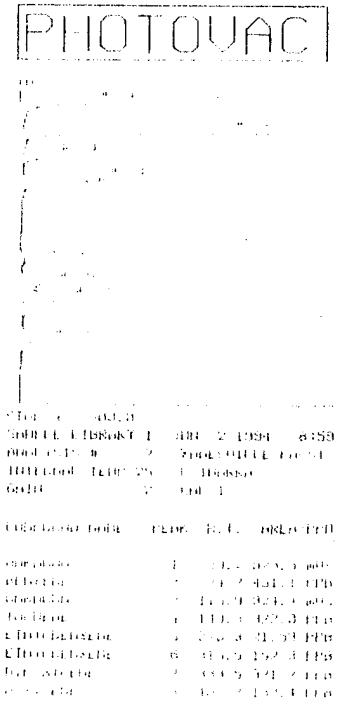
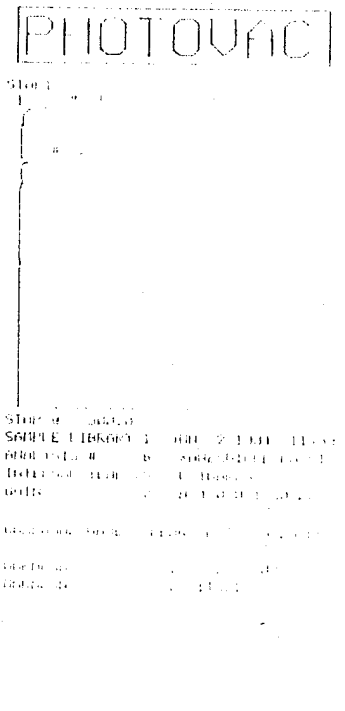
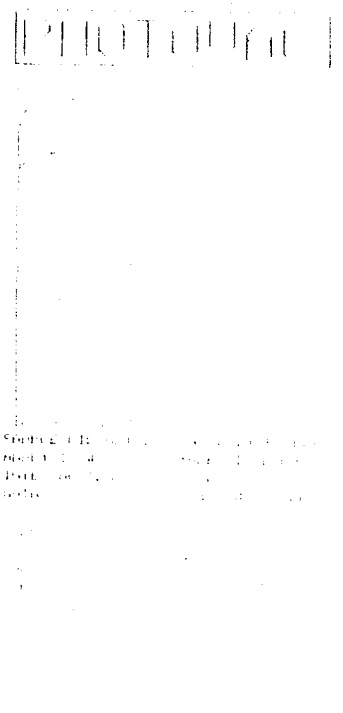
CAL

PHOTOVAC

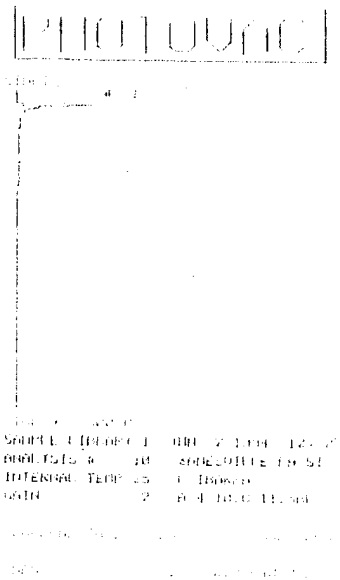
STOP # 500.0
SAMPLE LIBRARY 1 JUN 2 1994 8:32
ANALYSIS # 5 BENESUITE PPB ST
INTERNAL TEMP 24 L-IBANK4
GAIN 2 CAL

COMPOUND	ID #	R.T.	AREA
BENZENE	1	24.4	1.000 PPB
TOLUENE	2	143.6	1.000 PPB
ETHYLBENZENE	3	314.2	1.000 PPB
M,P-XYLENE	4	339.4	2.000 PPB
O-XYLENE	5	402.5	1.000 PPB

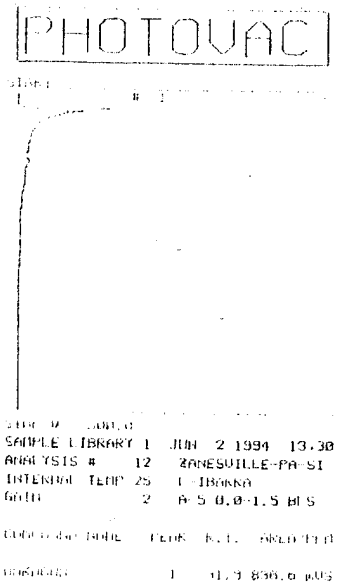
COMPOUND	ID #	R.T.	AREA
BENZENE	1	24.4	1.000 PPB
TOLUENE	2	143.6	1.000 PPB
ETHYLBENZENE	3	314.2	1.000 PPB
M,P-XYLENE	4	339.4	2.000 PPB
O-XYLENE	5	402.5	1.000 PPB

AIR BLANK	CAL 1	A-4, 0.0'-1.5' BLS	A-4, 5.0'-6.5' BLS
			

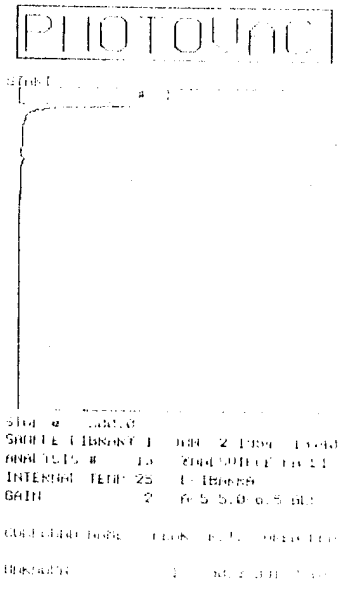
A-4 , 10.0'- 11.5' BLS



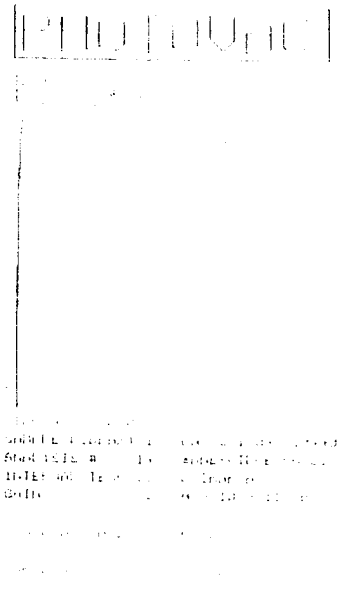
A-5, 0.0'- 1.5' BLS



A-5, 5.0'- 6.5' BLS

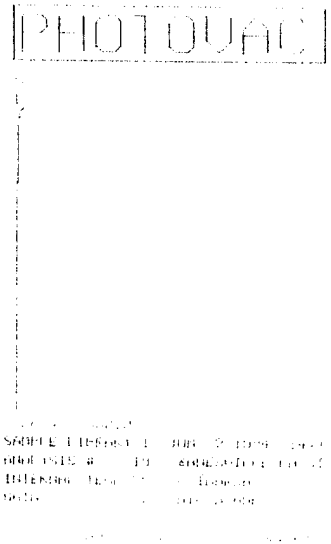


A-5, 10.5'- 11.5' BLS

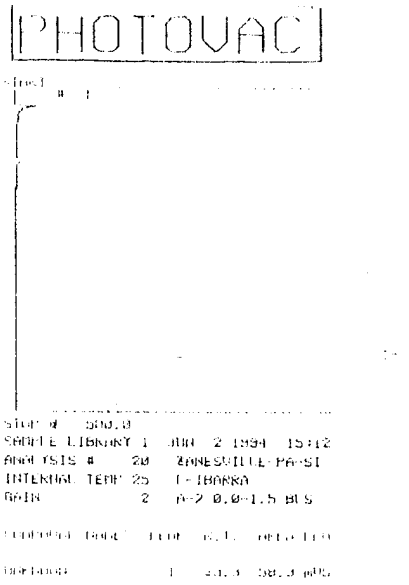


A-6, 0.0'-1.5' BLS	A-6, 5.0'-6.5' BLS	A-6, 10.5'-11.5' BLS	CAL.

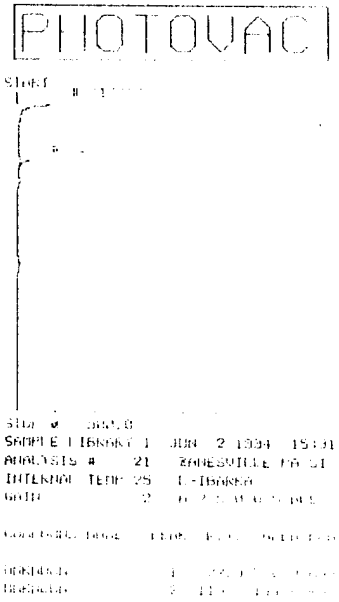
AIR BLANK



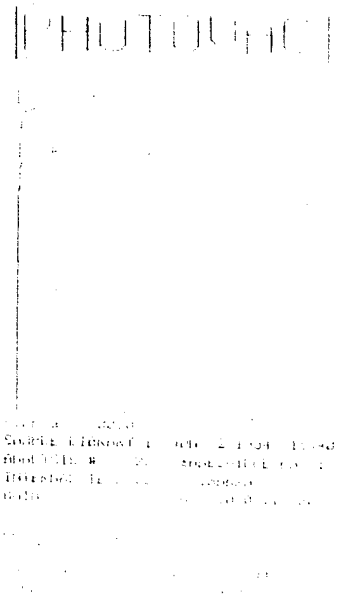
A-7, 0.0'-1.5' BLS



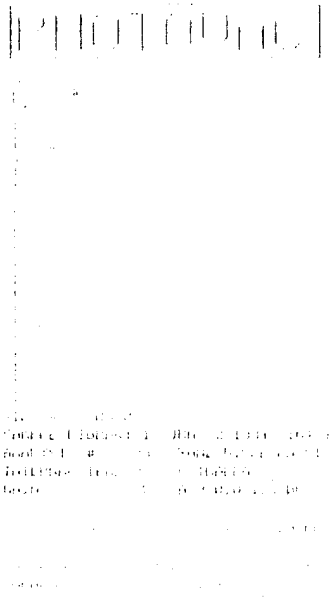
A-7, 5.0'-6.5' BLS



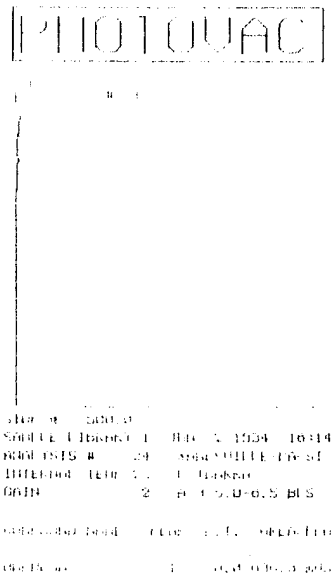
A-7, 10.0'-11.5' BLS



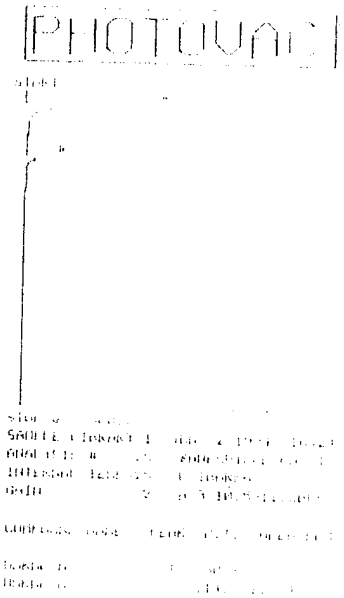
A-3, 0.0'–1.5' BLS



A-3, 5.0'–6.5' BLS

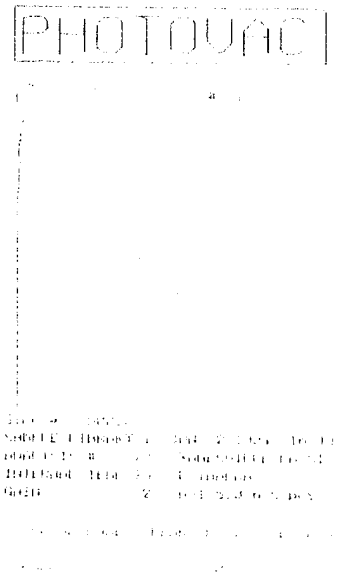


A-3, 10.5'–11.5' BLS

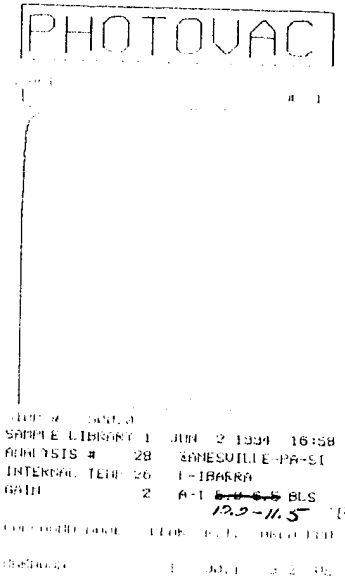


A-1, 0.0'–1.5' BLS

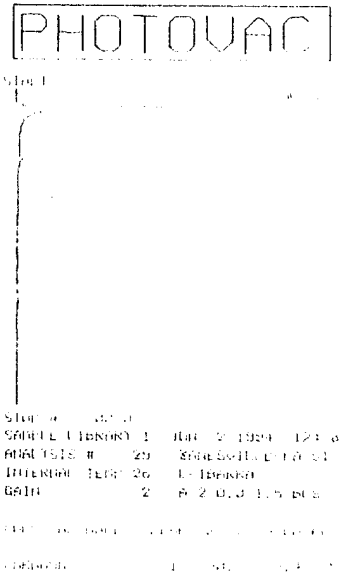
A-1, 5.0'-6.5' BLS



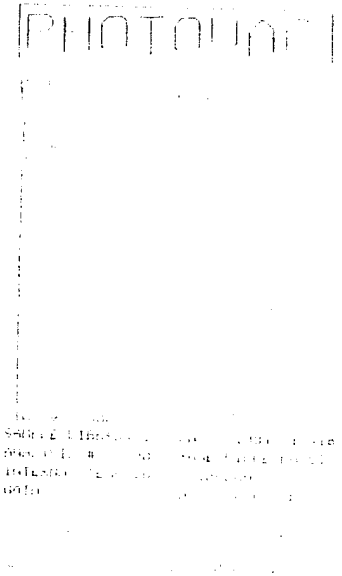
A-1, 10.0'-11.5 BLS



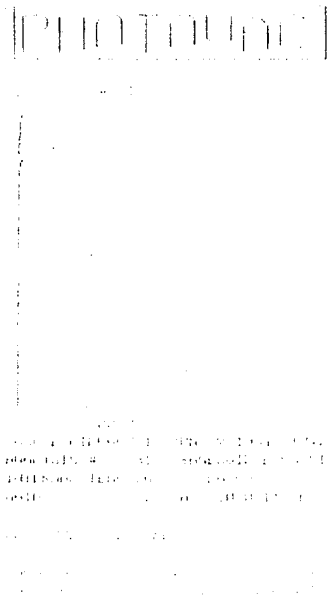
A-2, 0.0'-1.5' BLS



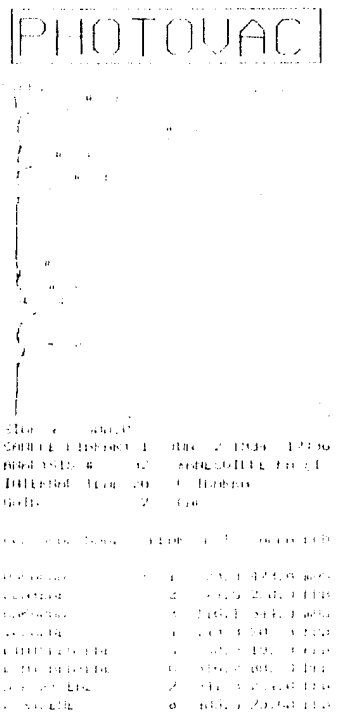
A-2, 5.0'-6.5' BLS



A-2, 10.0'-11.5' BLS



CAL



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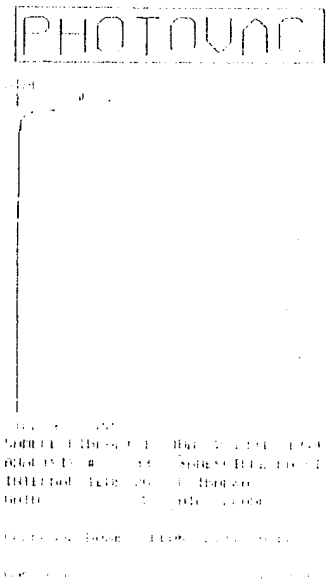

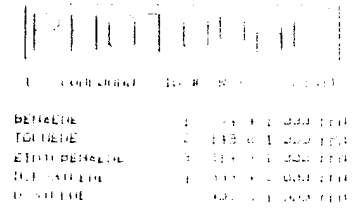

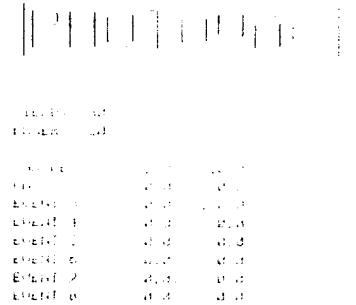

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APPENDIX D

SITE INSPECTION DERIVED WASTE MANAGEMENT

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OPTECH

OPERATIONAL TECHNOLOGIES
CORPORATION

July 26, 1994

Mr. Roger Jones
121 SG/EM
Rickenbacker Air National Guard Base
7556 S. Perimeter Rd.
Columbus, OH 43217-5910

Dear Mr. Jones:

I am writing you concerning the contents of nine drums of site inspection-derived waste which was generated during the recent Site Inspection at the 220th Engineering Installation Squadron, Zanesville ANGS. Eight of these drums contain soil cuttings and one contains decontamination water. The attached table contains the recommended disposition for each of these drums. These recommendations are based on guidance provided by Mr. John Rochotte of the Ohio Environmental Protection Agency (OEPA) in a letter dated January 11, 1994 (copy provided), as well as in recent discussions with Mr. Rochotte. Soil cuttings with detected contaminants below action levels are to be disposed of as solid waste, while those with detected contaminants above action levels are to be disposed of as hazardous waste. Soils in which TPH is the only contaminant above action levels may be disposed of in a solid waste landfill which is permitted to receive TPH-contaminated soils. Mr. Rochotte suggested the Muskingum County Sewer Service be contacted to inquire whether the decontamination water could be disposed of in the sanitary sewer at the Station.

Also included with this letter is one table per drum describing the maximum analyte concentrations detected in soils contained in that drum, along with their comparison to action levels. Mr. Dan Wyatt of ANGRC/CEVR requested that I send you this information so that you can proceed in obtaining authorization and disposal of the contents of these drums. If you have any questions regarding this information, please do not hesitate to contact me at (210) 731-0000. Thank you for your time.

Sincerely,

Matthew L. Alexander

Matthew Alexander, Ph.D.
Manager of Environmental Technology Development

Enclosure: as stated

cc: Dan Wyatt, ANGRC/CEVR
Maj. Jeffrey Lewis, 220th EIS, Zanesville ANGS
Air National Guard file

4100 N.W. Loop 410, Suite 230 • San Antonio, TX 78229-4253 • (210) 731-0000 • Fax (210) 731-0008

Recommended Disposition of Inspection Derived Waste
220th EIS, Zanesville ANGS, Zanesville, Ohio

Drum Number/ Material	Origin	Recommended Disposition	Rationale
1/Soil	B-001BH B-002BH	Dispose in solid waste landfill.	Soil analysis results did not exceed State action levels or PRGs.
2/Soil	B-002BH B-003BH	Dispose in solid waste landfill.	Soil analysis results did not exceed State action levels or PRGs.
3/Soil	A-001BH A-002BH	Dispose in solid waste landfill.	Soil analysis results did not exceed State action levels ore PRGs.
4/Soil	A-007BH	Dispose in solid waste landfill.	Soil analysis results did not exceed State action levels or PRGs.
5/Soil	A-006BH	Dispose as a hazardous waste.	Soil analysis results show benzo(a)pyrene exceeds State PRGs.
6/Soil	A-004BH	Dispose in solid waste landfill permitted to accept TPH-contaminated soils.	Soil analysis results show TPH exceeds State action levels.
7/Soil	A-002BH A-003BH	Dispose in solid waste landfill.	Soil analysis results did not exceed State action levels or PRGs.
8/Soil	A-005BH	Dispose in solid waste landfill permitted to accept TPH-contaminated soils.	Soil analysis results show TPH exceeds State action levels.
9/Water	Decontamination Wastewater	Obtain approval from Muskingum County Sewer Service for disposal through oil/water separator at Zanesville ANGS.	Analytes washed from sampling equipment are significantly diluted by the total volume of decontamination water.

BH – Borehole.
PRG – Preliminary Remediation Goal.
TPH – Total Petroleum Hydrocarbons.

OhioEPA
State of Ohio Environmental Protection Agency
Southeast District Office
2195 Front Street
Logan, Ohio 43138-903:
(614) 385-8501
FAX (614) 385-6490

George V. Voinovich
Governor

January 13, 1994

RE: MUSKINGUM COUNTY
ZANESVILLE ANGB
DERR CORRESPONDENCE

Mr. Matthew L. Alexander, Ph.D.
Operational Technologies Corporation
4100 N.W., Loop 410
San Antonio, Texas 78229

Dear Mr. Alexander:

OEPA Guidance for Preparation of Zanesville, Ohio ANGB Work Plan

Enclosed are some pertinent chapters from Ohio EPA's Guidance Document entitled "Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring Programs" that should aid you in the development of the above referenced workplan. Also included is a copy of Ohio Administrative Code 3745-9-10 which applies to abandonment of wells used as a drinking water source. The methods outlined in Chapter 9 of the Guidance Document also apply to the abandonment of former drinking water wells.

Regarding soil and ground water cleanup levels, the State of Ohio does not currently have established constituent specific cleanup goals except for petroleum contaminated soil cleanups. This level is currently established at 105 ppm TPH using EPA method 8015 (modified) or method 418.1, whichever is appropriate. Ohio EPA applies risk based cleanup levels established in accordance with USEPA's "Risk Assessment Guidance for Superfund", Volume 1, Part A, EPA/540/1-89/002, and Part B, EPA/540/R-92/003. Ohio EPA's "How Clean is Clean?" policy (enclosed) should also be followed. Should contamination be detected at the Zanesville site, please contact this office to discuss possible cleanup strategies.

Regarding investigation derived wastes, Ohio EPA is currently developing a policy for managing this waste, but is not yet final. The procedure now in place is the following:

- Investigation derived wastes must be contained in weather resistant containers prior to evaluation (e.g. 55 gallon drums for soils, plastic or metal tanks for liquids).

- Investigation sample results may be used to guide decision making regarding disposition of derived waste.

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- Investigation derived wastes must be evaluated based on sampling data. RCRA listed wastes or wastes that test hazardous by characteristic must be disposed of accordingly. Soils with detectible levels of constituents but not hazardous are considered solid waste and must be disposed of in a licensed solid waste landfill. Non-hazardous wastewaters are normally disposed of via a POTW facility with the operator's permission.

If you have any questions regarding site investigation and/or cleanup in Ohio, please feel free to call this office at 614-385-8501.

Sincerely,

John Rochotte

John Rochotte
Site Coordinator
Division of Emergency and Remedial Response

JR/mr

Enclosures

cc: Saul St. Alverez, Rickenbacker ANGB

INVESTIGATION DERIVED WASTE LOG

Drum	Contents (Water/Soil Cuttings/Borehole/MW/Decon)		% Full
1	Soil	B-001 BH B-002 BH	95 %
2	Soil	B-003 BH B-002 BH	100 %
3	Soil	A-001 BH A-002 BH	95 %
4	Soil	A-007 BH	85 %
5	Soil	A-006 BH	75 %
6	Soil	A-004 BH	70 %
7	Soil	A-002 BH A-003 BH	95 %
8	Soil	A-005 BH	70 %
9	WATER	DECON WATER	65 %
—	NONE		—

Location of Drums: GRAVEL PARKING AREA EAST of Bldg 5.

Date Stored: 6/3/94

Site Manager: EARL E PARKER

Site Inspection Derived Waste
Drum 1 Containing Cuttings from Boreholes B-001BH and B-002BH
220th EIS, Zanesville ANGS, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
Lead	43	NA

mg/kg - milligrams per kilogram.
NA - not available.

Site Inspection Derived Waste
Drum 2 Containing Cuttings from Boreholes B-002BH and B-003BH
220th EIS, Zanesville ANGS, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
Lead	7.9	NA

mg/kg - milligrams per kilogram.
NA - not available

Site Inspection Derived Waste
Drum 3 Containing Cuttings from Boreholes A-001BH and A-002BH
220th EIS, Zanesville ANGS, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
VOCs		
None	--	--
SVOCs		
None	--	--
TPH	71	105*
Metals		
Arsenic	16	0.37‡
Beryllium	1.0	0.15‡
Cadmium	1.2	140‡
Chromium	7	1,400‡
Copper	25	NA
Nickel	14	5,400‡
Lead	15	NA
Zinc	57	81,000‡

mg/kg - milligrams per kilogram.
VOCs - Volatile Organic Compounds.
SVOCs - Semivolatile Organic Compounds.
TPH - Total Petroleum Hydrocarbons.
*Ohio EPA action level.
‡Ohio EPA provided Preliminary Remediation Goals.
NA - not available.

Site Inspection Derived Waste
Drum 4 Containing Cuttings from Borehole A-007BH
220th EIS, Zanesville ANGS, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
VOCs		
None	--	--
SVOCs		
None	--	--
TPH	23	105*
Metals		
Arsenic	9	0.37‡
Beryllium	0.9	0.15‡
Cadmium	0.19	140‡
Chromium	9	1,400‡
Copper	22	NA
Nickel	16	5,400‡
Lead	11	NA
Zinc	52	81,000‡

mg/kg - milligrams per kilogram.
VOCs - Volatile Organic Compounds.
SVOCs - Semivolatile Organic Compounds.
TPH - Total Petroleum Hydrocarbons.
*Ohio EPA action level.
‡Ohio EPA provided Preliminary Remediation Goals.
NA - not available.

Site Inspection Derived Waste
Drum 5 Containing Cuttings from Borehole A-006BH
220th EIS, Zanesville ANGS, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
VOCs		
Tetrachloroethene	.007	20,000‡
SVOCs		
Benzo(a)anthracene	2.2	NA
Benzo(b)fluoranthene	1.7	NA
Benzo(k)fluoranthene	1.8	NA
Benzo(a)pyrene	2.1	0.78‡
Chrysene	1.8	NA
Fluoranthene	4.0	82,000‡
Pyrene	2.6	61,000‡
TPH	20	105*
Metals		
Arsenic	6	0.37‡
Beryllium	0.7	0.15‡
Cadmium	0.90	140‡
Chromium	10	1,400‡
Copper	22	NA
Nickel	17	5,400‡
Lead	16	NA
Zinc	57	81,000‡

mg/kg - milligrams per kilogram.
VOCs - Volatile Organic Compounds.
SVOCs - Semivolatile Organic Compounds.
TPH - Total Petroleum Hydrocarbons.
*Ohio EPA action level.
‡Ohio EPA provided Preliminary Remediation Goals.
NA - not available.

Site Inspection Derived Waste
Drum 6 Containing Cuttings from Borehole A-004BH
220th EIS, Zanesville ANGS, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
VOCs		
None	--	--
SVOCs		
None	--	--
TPH	1,600	105*
Metals		
Arsenic	9	0.37‡
Beryllium	0.8	0.15‡
Cadmium	2.6	140‡
Chromium	8	1,400‡
Copper	27	NA
Nickel	10	5,400‡
Lead	16	NA
Zinc	96	81,000‡

mg/kg - milligrams per kilogram.
VOCs - Volatile Organic Compounds.
SVOCs - Semivolatile Organic Compounds.
TPH - Total Petroleum Hydrocarbons.
*Ohio EPA action level.
‡Ohio EPA provided Preliminary Remediation Goals.
NA - not available.

Site Inspection Derived Waste
Drum 7 Containing Cuttings from Boreholes A-002BH and A-003BH
220th EIS, Zanesville ANGS, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
VOCs		
None	--	--
SVOCs		
None	--	--
TPH	71	105*
Metals		
Arsenic	12	0.37‡
Beryllium	1.0	0.15‡
Cadmium	0.17	140‡
Chromium	16	1,400‡
Copper	35	NA
Nickel	14	5,400‡
Lead	10	NA
Zinc	57	8,100‡

mg/kg - milligrams per kilogram.
VOCs - Volatile Organic Compounds.
SVOCs - Semivolatile Organic Compounds.
TPH - Total Petroleum Hydrocarbons.
*Ohio EPA action level.
‡Ohio EPA provided Preliminary Remediation Goals.
NA - not available.

Site Inspection Derived Waste
Drum 8 Containing Cuttings from Borehole A-005BH
220th EIS, Zanesville ANGS, Zanesville, Ohio

Analyte	Maximum Concentration in Soil Cuttings (mg/kg)	Action Level Concentration (mg/kg)
VOCs		
Tetrachloroethene	.017	20,000‡
SVOCs		
Fluoranthene	2.0	82,000‡
Phenanthrene	0.92	NA
Pyrene	0.72	61,000‡
TPH	**370**	105‡
Metals		
Arsenic	15	0.37‡
Beryllium	1.2	0.15‡
Cadmium	.75	140‡
Chromium	30	1,400‡
Copper	20	NA
Nickel	10	5,400‡
Lead	23	NA
Zinc	91	81,000‡

mg/kg - milligrams per kilogram.
VOCs - Volatile Organic Compounds.
SVOCs - Semivolatile Organic Compounds.
TPH - Total Petroleum Hydrocarbons.
*Ohio EPA action level.
‡Ohio EPA provided Preliminary Remediation Goals.
NA - not available.

APPENDIX E

ANALYTICAL REPORTS

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Appendix E
Summary of Volatile Organic Compounds Detected in Soil Samples at AOC-A
220th EIS, Zanesville ANGS, Zanesville, Ohio
(Results in micrograms per kilogram unless otherwise noted.)

Location No.:	A-01 BH INT 1	A-01 BH INT 2	A-02 BH INT 1	A-02 BH INT 2	A-03 BH INT 1	A-03 BH INT 2	A-04 BH INT 1
Sample Date:	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94
Lab Sample No.:	9406119.11	9406119.12	9406119.13	9406119.14	9406119.09	9406119.1	9406119.01
Volatile Organics / Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Acetone	10U	10U	10U	10U	34B	51B	46B
Benzene	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U
2-Butanone	20U	20U	20U	20U	20U	20U	20U
Carbon Disulfide	5U	5U	5U	5U	5U	5U	5U
Carbon Tetrachloride	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U
2-Chloroethylvinylether	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U
Dibromochloromethane	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U
total-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U
Methylene Chloride	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-Pentanone	10U	10U	10U	10U	10U	10U	10U
Styrene	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	5U	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U
Vinyl Acetate	10U	10U	10U	10U	10U	10U	10U
Vinyl Chloride	10U	10U	10U	10U	10U	10U	10U
Xylenes (total)	5U	5U	5U	5U	5U	5U	5U

U - Indicates compound analyzed for but not detected.
BH - Borehole

B - Indicates analyte found in the associated blank as well as in the sample.
INT - Interval

Appendix E

Summary of Volatile Organic Compounds Detected in Soil Samples at AOC-A
220th EIS, Zanesville ANGS, Zanesville, Ohio

(Results in micrograms per kilogram unless otherwise noted.)

Location No.:	A-04 BH INT 2	A-05 BH INT 1	A-05 BH INT 2	A-06 BH INT 1	A-06 BH INT 2	A-07 BH INT 1	A-07 BH INT 2
Sample Date:	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94
Lab Sample No.:	9406119.02	9406119.03	9406119.04	9406119.05	9406119.06	9406119.07	9406119.08
Volatile Organics Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Acetone	52B	24B	18B	20B	20B	19B	11B
Benzene	5U	5U	5U	5U	5U	5U	5U
Bromodichloromethane	5U	5U	5U	5U	5U	5U	5U
Bromoform	5U	5U	5U	5U	5U	5U	5U
Bromomethane	10U	10U	10U	10U	10U	10U	10U
2-Butanone	20U	20U	20U	20U	20U	20U	20U
Carbon Disulfide	5U	5U	5U	5U	5U	5U	5U
Carbon Tetrachloride	5U	5U	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U	5U	5U
Chloroethane	10U	10U	10U	10U	10U	10U	10U
2-Chloroethylvinylether	10U	10U	10U	10U	10U	10U	10U
Chloroform	5U	5U	5U	5U	5U	5U	5U
Chloromethane	10U	10U	10U	10U	10U	10U	10U
Dibromochloromethane	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethane	5U	5U	5U	5U	5U	5U	5U
1,1-Dichloroethene	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloroethane	5U	5U	5U	5U	5U	5U	5U
total-1,2-Dichloroethene	5U	5U	5U	5U	5U	5U	5U
1,2-Dichloropropane	5U	5U	5U	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U
trans-1,3-Dichloropropene	5U	5U	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U	5U	5U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U
Methylene Chloride	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-Pentanone	10U	10U	10U	10U	10U	10U	10U
Styrene	5U	5U	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U	5U	5U
Tetrachloroethene	5U	17	5U	7	5U	5U	5U
Toluene	5U	5U	5U	5U	5U	5U	5U
1,1,1-Trichloroethane	5U	5U	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U	5U	5U
Trichloroethene	5U	5U	5U	5U	5U	5U	5U
Trichlorofluoromethane	5U	5U	5U	5U	5U	5U	5U
Vinyl Acetate	10U	10U	10U	10U	10U	10U	10U
Vinyl Chloride	10U	10U	10U	10U	10U	10U	10U
Xylenes (total)	5U	5U	5U	5U	5U	5U	5U

U - Indicates compound analyzed for but not detected.
BH - Borehole

B - Indicates analyte found in the associated blank as well as in the sample.
INT - Interval

Appendix E
Summary of Semivolatile Organic Compound Detected in Soil Samples at AOC-A
220th EIS, Zanesville ANGS, Zanesville, Ohio
(Results in micrograms per kilogram unless otherwise noted.)

Location No.: / Sample Date: / Lab Sample No.:	A-01 BH INT 1 6/2/94 9406119.11	A-01 BH INT 2 6/2/94 9406119.12	A-02 BH INT 1 6/2/94 9406119.13	A-02 BH INT 2 6/2/94 940619.14	A-03 BH INT 1 6/2/94 9406119.09	A-03 BH INT 2 6/2/94 9406119.10	A-04 BH INT 1 6/2/94 9406119.01
Semivolatile Organics Matrix	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Acenaphthene	330U	330U	330U	330U	330U	330U	330U
Acenaphthylene	330U	330U	330U	330U	330U	330U	330U
Aniline	330U	330U	330U	330U	330U	330U	330U
Anthracene	330U	330U	330U	330U	330U	330U	330U
Benzo(a)Anthracene	330U	330U	330U	330U	330U	330U	330U
Benzo(b)Fluoranthene	330U	330U	330U	330U	330U	330U	330U
Benzo(k)Fluoranthene	330U	330U	330U	330U	330U	330U	330U
Benzo(a)Pyrene	330U	330U	330U	330U	330U	330U	330U
Benzoic Acid	1600U	1600U	1600U	1600U	1600U	1600U	1600U
Benzo(g,h,i)Perylene	330U	330U	330U	330U	330U	330U	330U
Benzyl alcohol	330U	330U	330U	330U	330U	330U	330U
4-Bromophenylphenyl ether	330U	330U	330U	330U	330U	330U	330U
Butylbenzylphthalate	330U	330U	330U	330U	330U	330U	330U
di-n-Butyl phthalate	330U	330U	330U	330U	330U	330U	330U
Carbozole	330U	330U	330U	330U	330U	330U	330U
4-Chloroaniline	330U	330U	330U	330U	330U	330U	330U
bis(2-Chloroethoxy)Methane	330U	330U	330U	330U	330U	330U	330U
bis(2-Chloroethyl)Ether	330U	330U	330U	330U	330U	330U	330U
bis(2-Chloroisopropyl)Ether	330U	330U	330U	330U	330U	330U	330U
4-Chloro-3-Methylphenol	330U	330U	330U	330U	330U	330U	330U
2-Chloronaphthalene	330U	330U	330U	330U	330U	330U	330U
2-Chlorophenol	330U	330U	330U	330U	330U	330U	330U
4-Chlorophenylphenyl ether	330U	330U	330U	330U	330U	330U	330U
Chrysene	330U	330U	330U	330U	330U	330U	330U
Dibenz(a,h)Anthracene	330U	330U	330U	330U	330U	330U	330U
Dibenzofuran	330U	330U	330U	330U	330U	330U	330U
1,2-Dichlorobenzene	330U	330U	330U	330U	330U	330U	330U
1,3-Dichlorobenzene	330U	330U	330U	330U	330U	330U	330U
1,4-Dichlorobenzene	330U	330U	330U	330U	330U	330U	330U
3,3'-Dichlorobenzidine	330U	330U	330U	330U	330U	330U	330U
2,4 Dichlorophenol	330U	330U	330U	330U	330U	330U	330U
Diethylphthalate	330U	330U	330U	330U	330U	330U	330U
2,4-Dimethylphenol	330U	330U	330U	330U	330U	330U	330U
Dimethyl Phthalate	330U	330U	330U	330U	330U	330U	330U
4,6-Dinitro-2-Methylphenol	880U	800U	800U	800U	800U	800U	800U

U - Indicates compound analyzed for but not detected.
BH - Borehole

INT - Interval

Appendix E

Summary of Semivolatile Organic Compound Detected in Soil Samples at AOC-A

220th EIS, Zanesville ANGS, Zanesville, Ohio

(Results in micrograms per kilogram unless otherwise noted.)

Location No.:	A-01 BH INT 1	A-01 BH INT 2	A-02 BH INT 1	A-02 BH INT 2	A-03 BH INT 1	A-03 BH INT 2	A-04 BH INT 1
Sample Date:	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94
Lab Sample No.:	9406119.11	9406119.12	9406119.13	940619.14	9406119.09	9406119.10	9406119.01
Semivolatile Organics Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
2,4-Dinitrophenol	880U	800U	800U	800U	800U	800U	800U
2,4-Dinitrotoluene	330U	330U	330U	330U	330U	330U	330U
2,6-Dinitrotoluene	330U	330U	330U	330U	330U	330U	330U
1,2-Diphenylhydrazine	330U	330U	330U	330U	330U	330U	330U
bis(2-Ethylhexyl)Phthalate	330U	330U	330U	330U	330U	330U	330U
Fluoranthene	330U	330U	330U	330U	330U	330U	330U
Fluorene	330U	330U	330U	330U	330U	330U	330U
Hexachlorobenzene	330U	330U	330U	330U	330U	330U	330U
Hexachlorobutadiene	330U	330U	330U	330U	330U	330U	330U
Hexachloroethane	330U	330U	330U	330U	330U	330U	330U
Hexachlorocyclopentadiene	330U	330U	330U	330U	330U	330U	330U
Indeno(1,2,3-cd)Pyrene	330U	330U	330U	330U	330U	330U	330U
Isophorone	330U	330U	330U	330U	330U	330U	330U
2-Methylnaphthalene	330U	330U	330U	330U	330U	330U	330U
2-Methylphenol	330U	330U	330U	330U	330U	330U	330U
4-Methylphenol	330U	330U	330U	330U	330U	330U	330U
Naphthalene	330U	330U	330U	330U	330U	330U	330U
2-Nitroaniline	880U	800U	800U	800U	800U	800U	800U
3-Nitroaniline	880U	800U	800U	800U	800U	800U	800U
4-Nitroaniline	880U	800U	800U	800U	800U	800U	800U
Nitrobenzene	330U	330U	330U	330U	330U	330U	330U
2-Nitrophenol	330U	330U	330U	330U	330U	330U	330U
4-Nitrophenol	880U	800U	800U	800U	800U	800U	800U
N-Nitrosodiphenylamine (1)	330U	330U	330U	330U	330U	330U	330U
N Nitroso Di n Propylamine	330U	330U	330U	330U	330U	330U	330U
Di-n-Octyl Phthalate	330U	330U	330U	330U	330U	330U	330U
Pentachlorophenol	880U	800U	800U	800U	800U	800U	800U
Phenanthrene	330U	330U	330U	330U	330U	330U	330U
Phenol	330U	330U	330U	330U	330U	330U	330U
Pyrene	330U	330U	330U	330U	330U	330U	330U
Pyridine	330U	330U	330U	330U	330U	330U	330U
1,2,4-Trichlorobenzene	330U	330U	330U	330U	330U	330U	330U
2,4,5-Trichlorophenol	880U	800U	800U	800U	800U	800U	800U
2,4,6-Trichlorophenol	330U	330U	330U	330U	330U	330U	330U

U - Indicates compound analyzed for but not detected.

BH - Borehole

INT - Interval

Appendix E
Summary of Semivolatile Organic Compounds Detected in Soil Samples at AOC-A
220th EIS, Zanesville ANGS, Zanesville, Ohio
(Results in micrograms per kilogram unless otherwise noted.)

Location No.:	A-04 BH INT 2	A-05 BH INT 1	A-05 BH INT 2	A-06 BH INT 1	A-06 BH INT 2	A-07 BH INT 1	A-07 BH INT 2
Sample Date:	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94
Lab Sample No.:	9406119.02	9406119.03	9406119.04	9406119.05	9406119.06	9406119.07	9406119.08
Semivolatile Organics Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Acenaphthene	330U	660U	330U	1600U	330U	330U	330U
Acenaphthylene	330U	660U	330U	1600U	330U	330U	330U
Aniline	330U	660U	330U	1600U	330U	330U	330U
Anthracene	330U	660U	330U	1600U	330U	330U	330U
Benzo(a)Anthracene	330U	660U	330U	2200	330U	330U	330U
Benzo(b)Fluoranthene	330U	660U	330U	1700	330U	330U	330U
Benzo(k)Fluoranthene	330U	660U	330U	1800	330U	330U	330U
Benzo(a)Pyrene	330U	660U	330U	2100	330U	330U	330U
Benzoic Acid	1600U	3200U	1600U	800U	1600U	1600U	1600U
Benzo(g,h,i)Perylene	330U	660U	330U	1600U	330U	330U	330U
Benzyl alcohol	330U	660U	330U	1600U	330U	330U	330U
4-Bromophenylphenyl ether	330U	660U	330U	1600U	330U	330U	330U
Butylbenzylphthalate	330U	660U	330U	1600U	330U	330U	330U
di-n-Butyl phthalate	330U	660U	330U	1600U	330U	330U	330U
Carbozole	330U	660U	330U	1600U	330U	330U	330U
4-Chloroaniline	330U	660U	330U	1600U	330U	330U	330U
bis(2-Chloroethoxy)Methane	330U	660U	330U	1600U	330U	330U	330U
bis(2-Chloroethyl)Ether	330U	660U	330U	1600U	330U	330U	330U
bis(2-Chloroisopropyl)Ether	330U	660U	330U	1600U	330U	330U	330U
4-Chloro-3-Methylphenol	330U	660U	330U	1600U	330U	330U	330U
2-Chloronaphthalene	330U	660U	330U	1600U	330U	330U	330U
2-Chlorophenol	330U	660U	330U	1600U	330U	330U	330U
4-Chlorophenylphenyl ether	330U	660U	330U	1600U	330U	330U	330U
Chrysene	330U	660U	330U	1600U	330U	330U	330U
Dibenz(a,h)Anthracene	330U	660U	330U	1600U	330U	330U	330U
Dibenzofuran	330U	660U	330U	1600U	330U	330U	330U
1,2-Dichlorobenzene	330U	660U	330U	1600U	330U	330U	330U
1,3-Dichlorobenzene	330U	660U	330U	1600U	330U	330U	330U
1,4-Dichlorobenzene	330U	660U	330U	1600U	330U	330U	330U
3,3'-Dichlorobenzidine	330U	660U	330U	1600U	330U	330U	330U
2,4-Dichlorophenol	330U	660U	330U	1600U	330U	330U	330U
Diethylphthalate	330U	660U	330U	1600U	330U	330U	330U
2,4-Dimethylphenol	330U	660U	330U	1600U	330U	330U	330U
Dimethyl Phthalate	330U	660U	330U	1600U	330U	330U	330U
4,6-Dinitro-2-Methylphenol	800U	1600U	800U	4000U	800U	800U	800U

U - Indicates compound analyzed for but not detected.
BH - Borehole
INT - Interval

Appendix E
Summary of Semivolatile Organic Compounds Detected in Soil Samples at AOC-A
220th EIS, Zanesville ANGS, Zanesville, Ohio
(Results in micrograms per kilogram unless otherwise noted.)

Location No.:	A-04 BH INT 2	A-05 BH INT 1	A-05 BH INT 2	A-06 BH INT 1	A-06 BH INT 2	A-07 BH INT 1	A-07 BH INT 2
Sample Date:	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94
Lab Sample No.:	9406119.02	9406119.03	9406119.04	9406119.05	9406119.06	9406119.07	9406119.08
Semivolatile Organics Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
2,4-Dinitrophenol	800U	1600U	800U	4000U	800U	800U	800U
2,4-Dinitrotoluene	330U	660U	330U	1600U	330U	330U	330U
2,6-Dinitrotoluene	330U	660U	330U	1600U	330U	330U	330U
1,2-Diphenylhydrazine	330U	660U	330U	1600U	330U	330U	330U
bis(2-Ethylhexyl)Phthalate	330U	660U	330U	1600U	330U	330U	330U
Fluoranthene	330U	2000	330U	4000	330U	330U	330U
Fluorene	330U	660U	330U	1600U	330U	330U	330U
Hexachlorobenzene	330U	660U	330U	1600U	330U	330U	330U
Hexachlorobutadiene	330U	660U	330U	1600U	330U	330U	330U
Hexachloroethane	330U	660U	330U	1600U	330U	330U	330U
Hexachlorocyclopentadiene	330U	660U	330U	1600U	330U	330U	330U
Indeno(1,2,3-cd)Pyrene	330U	660U	330U	1600U	330U	330U	330U
Isophorone	330U	660U	330U	1600U	330U	330U	330U
2-Methylnaphthalene	330U	660U	330U	1600U	330U	330U	330U
2-Methylphenol	330U	660U	330U	1600U	330U	330U	330U
4-Methylphenol	330U	660U	330U	1600U	330U	330U	330U
Naphthalene	330U	660U	330U	1600U	330U	330U	330U
2-Nitroaniline	800U	1600U	800U	4000U	800U	800U	800U
3-Nitroaniline	800U	1600U	800U	4000U	800U	800U	800U
4-Nitroaniline	800U	1600U	800U	4000U	800U	800U	800U
Nitrobenzene	330U	660U	330U	1600U	330U	330U	330U
2-Nitrophenol	330U	660U	330U	1600U	330U	330U	330U
4-Nitrophenol	800U	1600U	800U	4000U	800U	800U	800U
N-Nitrosodiphenylamine (1)	330U	660U	330U	1600U	330U	330U	330U
N-Nitroso-Di-n-Propylamine	330U	660U	330U	1600U	330U	330U	330U
Di-n-Octyl Phthalate	330U	660U	330U	1600U	330U	330U	330U
Pentachlorophenol	800U	1600U	800U	4000U	800U	800U	800U
Phenanthrene	330U	920	330U	1600U	330U	330U	330U
Phenol	330U	660U	330U	1600U	330U	330U	330U
Pyrene	330U	720	330U	2600	330U	330U	330U
Pyridine	330U	660U	330U	1600U	330U	330U	330U
1,2,4-Trichlorobenzene	330U	660U	330U	1600U	330U	330U	330U
2,4,5-Trichlorophenol	800U	1600U	800U	4000U	800U	800U	800U
2,4,6-Trichlorophenol	330U	660U	330U	1600U	330U	330U	330U

U - Indicates compound analyzed for but not detected.
BH - Borehole
INT - Interval

Appendix E
Summary of Metal/TPH Analytes Detected in Soil Samples
220th EIS, Zanesville ANGS, Zanesville, Ohio
(Results in milligrams per kilogram unless otherwise noted.)

Location No.:	A-01 BH INT 1	A-01 BH INT 2	A-02 BH INT 1	A-02 BH INT 2	A-03 BH INT 1	A-03 BH INT 2	A-04 BH INT 1
Sample Date:	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94
Lab Sample No.:	9406119.11	9406119.12	9406119.13	9406119.14	9406119.09	9406119.10	9406119.01
Metals **Matrix**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Silver, Total	0.6U	0.6U	0.6U	0.6U	0.6U	0.6U	0.6U
Arsenic, Total	16	2	2	0.2	4	12	9
Beryllium, Total	0.6	0.6	0.8	1	0.8	1	0.6
Cadmium, Total	1.2	0.03	0.17	0.04	0.04	0.04	2.6
Chromium, Total	7	7	5	1	9	16	5
Copper, Total	24	12	25	22	28	35	27
Mercury, Total	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
Nickel, Total	14	4	10	13	12	14	10
Lead, Total	15	5.7	10	10	9	10	16
Antimony, Total	3U	3U	3U	5.7	3U	3U	3U
Selenium, Total	0.2U	0.2U	0.2U	0.2	0.2U	0.2U	0.4
Thallium, Total	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U
Zinc, Total	57	24	50	43	55	57	96

Lab Sample ID No.:	9406119.11	9406119.12	9406119.13	9406119.14	9406119.09	9406119.10	9406119.01
Total Petroleum Hydrocarbons-Diesel	17	4.4	71	4U	4U	4U	1600

U - Indicates compound analyzed for but not detected.
BH - Borehole

B - Indicates analyte found in the associated blank as well as in the sample.
INT - Interval

Appendix E
Summary of Metal/TPH Analytes Detected in Soil Samples
220th EIS, Zanesville ANGS, Zanesville, Ohio
(Results in milligrams per kilogram unless otherwise noted.)

Location No.:	A-04 BH INT 2	A-05 BH INT 1	A-05 BH INT 2	A-06 BH INT 1	A-06 BH INT 2	A-07 BH INT 1	A-07 BH INT 2
Sample Date:	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94	6/2/94
Lab Sample No.:	9406119.02	9406119.03	9406119.04	9406119.05	9406119.06	9406119.07	9406119.08
Metals **Matrix**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Silver, Total	0.6U	0.6U	0.6U	0.6U	0.6U	0.6U	0.6U
Arsenic, Total	6	15	5U	6	2	8	9
Beryllium, Total	0.8	0.6	1.2	0.7	0.1U	0.7	0.9
Cadmium, Total	0.03	0.75	0.02	0.9	0.01	0.19	0.08
Chromium, Total	8	30	10	10	2.3	8	9
Copper, Total	15	20	13	22	6	17	22
Mercury, Total	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
Nickel, Total	10	8	10	17	1U	13	16
Lead, Total	10	23	9.4	16	4.9	8.4	11
Antimony, Total	3U	4.4	3.3	3U	3U	3U	3U
Selenium, Total	0.2U	0.6	0.2U	0.2U	0.2U	0.2U	0.2U
Thallium, Total	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U
Zinc, Total	33	91	30	57	20	49	52

Lab Sample ID No.:	9406119.02	9406119.03	9406119.04	9406119.05	9406119.06	9406119.07	9406119.08
Total Petroleum Hydrocarbons-Diesel	4U	370	4U	20	4U	23	4U

U - Indicates compound analyzed for but not detected.
BH - Borehole

B - Indicates analyte found in the associated blank as well as in the sample.
INT - Interval

Appendix E
Summary of Metal Analytes Detected in Soil Samples at AOC-A
220th EIS, Zanesville ANGS, Zanesville, Ohio
(Results in milligrams per kilogram unless otherwise noted.)

Location No.:	B-001 BH INT 1	B-001 BH INT 2	B-002 BH INT 1	B-002 BH INT 2	B-003 BH INT 1	B-003 BH INT 2
Sample Date:	6/3/94	6/3/94	6/3/94	6/3/94	6/3/94	6/3/94
Lab Sample No.:	9406170.05	9406170.06	9406170.03	9406170.04	9406170.01	9406170.02
Metals **Matrix**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**	**Soil**
Lead, Total	43	42	5.3	6.2	7.9	4.9

U - Indicates Compound Analyzed For But Not Detected.
BH - Borehole
INT - Interval

SPL, INC.

REPORT APPROVAL SHEET

WORK ORDER NUMBER: 94.06.119

Approved for release by:

S. Sample, Laboratory Director Date: 6/22/94

Karen Satterfield, Project Manager Date: 6/27/94

CASE NARRATIVE

WORK ORDER No.: 9406119

Southern Petroleum Laboratories (SPL) is pleased to present the results for laboratory analyses to Operational Technologies. The fourteen (14) soil samples were received at our laboratory on June 03, 1994 at a temperature of 3 degrees Celsius. The following is a brief narrative of the laboratory analysis.

The samples were analyzed for volatiles, semi-volatiles, metals, and TPH (diesel). All results are reported on an as received basis. There were no deviations from the methods.

Soil sample "A-05 BH Int.1" was analyzed for semi-volatile organics by SW-846 method 8270. Due to matrix interferences, the internal standard areas for Chrysene-d12 and Perylene-d12 were above the maximum QC control limits. Upon reanalysis of the extract at a higher dilution, the internal standard area of Perylene-d12 failed again. Therefore, the internal standard failed due to matrix interferences. Soil sample "A-04 BH Int.1" was analyzed for semi-volatiles at a 5x dilution due to hydrocarbon interferences. Soil sample "A-06 BH Int.1" was analyzed for semi-volatiles at a 5x dilution due to hydrocarbon interferences.

All of the quality control data was within limits for this project except for acetone detected in the method blank. This is indicated by the letter "B" on the result pages. Acetone is a common laboratory contaminant.

If I can be of further assistance or answer any questions, please do not hesitate to contact me at (713) 660-0901 ext. 114.

Karen Satterfield
Project Manager

Certificate of Analysis No. 9406119-11

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	ND	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-11

Operational Tech

SAMPLE ID: A-01 BH Int.1

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS

ANALYZED BY: HLW DATE/TIME: 06/14/94 12:36:00
METHOD: 8240, Volatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k061494.b/k165s01.d
Lab. Id. :
Inj Date : 14-JUN-1994 12:36
Operator :
Smp Info : 9406119-8240S-11A X1
Misc Info :
Comment :
Method : /chem/k.i/k061494.b/kclps.m
Meth Date : 14-Jun-1994 17:20 hillery
Cal Date : 14-JUN-1994 10:26
Als bottle: 7
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: (
Inst ID: k.i

Cal File: k165cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
* 1 Bromochloromethane	128.00	2.520	(1.000)	68786	50	(Q)
$ 16 1,2-Dichloroethane-d4	65.00	2.823	(1.120)	182756	47	47
* 18 1,4-Difluorobenzene	114.00	3.323	(1.000)	424886	50	
* 33 Chlorobenzene-d5	117.00	7.429	(1.000)	346956	50	
$ 38 Toluene-d8	98.00	5.232	(0.704)	462998	51	51
$ 42 Bromofluorobenzene	95.00	9.505	(1.279)	198483	50	50

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

Client SDG: k061494.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	47	94.47	70-121
$ 38 Toluene-d8	50	51	101.82	84-138
$ 42 Bromofluorobenzene	50	50	99.96	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k165s01.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

Calibration Date: 06/14/94
Calibration Time: 1026
Sample Type: SOIL
Level: LOW

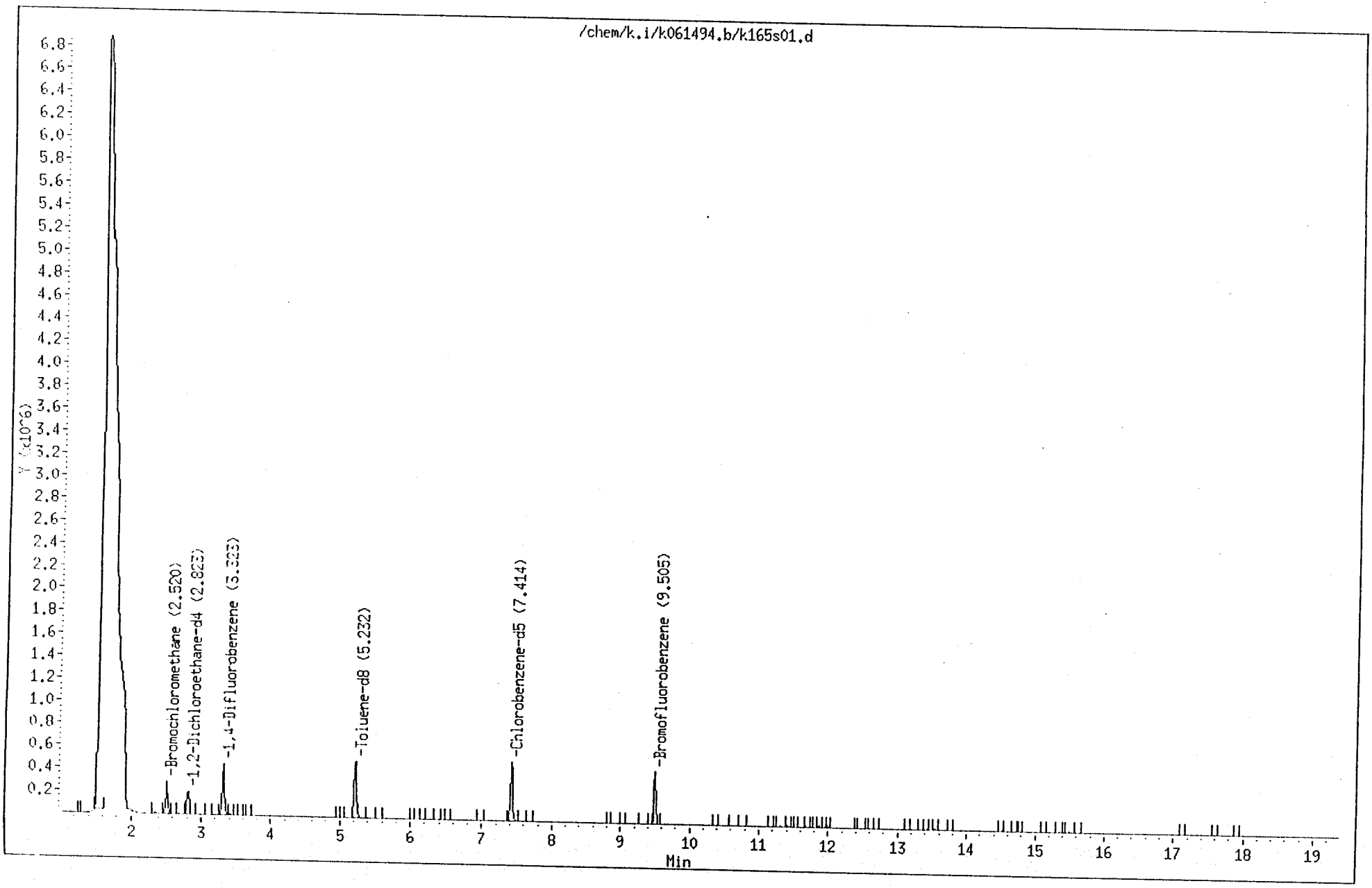
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	65375	32687	130750	68786	5.22
18 1,4-Difluorobenzene	393488	196744	786976	424886	7.98
33 Chlorobenzene-d5	337452	168726	674904	346956	2.82

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.02
18 1,4-Difluorobenzene	3.32	2.82	3.82	3.32	-0.01
33 Chlorobenzene-d5	7.41	6.91	7.91	7.43	0.20

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k061494.b/k165s01.d
Date : 14-JUN-1994 12:36
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



Certificate of Analysis No. 9406119-12

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:28:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	ND	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-12

Operational Tech

SAMPLE ID: A-01 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS

ANALYZED BY: HLW DATE/TIME: 06/14/94 13:50:00
METHOD: 8240, Volatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k061494.b/k165s02.d
Lab. Id. :
Inj Date : 14-JUN-1994 13:50
Operator :
Smp Info : 9406119-8240S-12A X1
Misc Info :
Comment :
Method : /chem/k.i/k061494.b/kclps.m
Meth Date : 14-Jun-1994 17:20 hillery
Cal Date : 14-JUN-1994 10:26
Als bottle: 10
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date:
Inst ID: k.i

Cal File: k165cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)	
* 1 Bromochloromethane	128.00	2.522	(1.000)	69809	50		(Q)
$ 16 1,2-Dichloroethane-d4	65.00	2.810	(1.114)	184537	47	47	
* 18 1,4-Difluorobenzene	114.00	3.325	(1.000)	422478	50		
* 33 Chlorobenzene-d5	117.00	7.416	(1.000)	354876	50		
$ 38 Toluene-d8	98.00	5.219	(0.704)	465778	50	50	
$ 42 Bromofluorobenzene	95.00	9.492	(1.280)	201565	50	50	

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

Client SDG: k061494.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	47	93.99	70-121
$ 38 Toluene-d8	50	50	100.15	84-138
$ 42 Bromofluorobenzene	50	50	99.25	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k165s02.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

Calibration Date: 06/14/94
Calibration Time: 1026
Sample Type: SOIL
Level: LOW

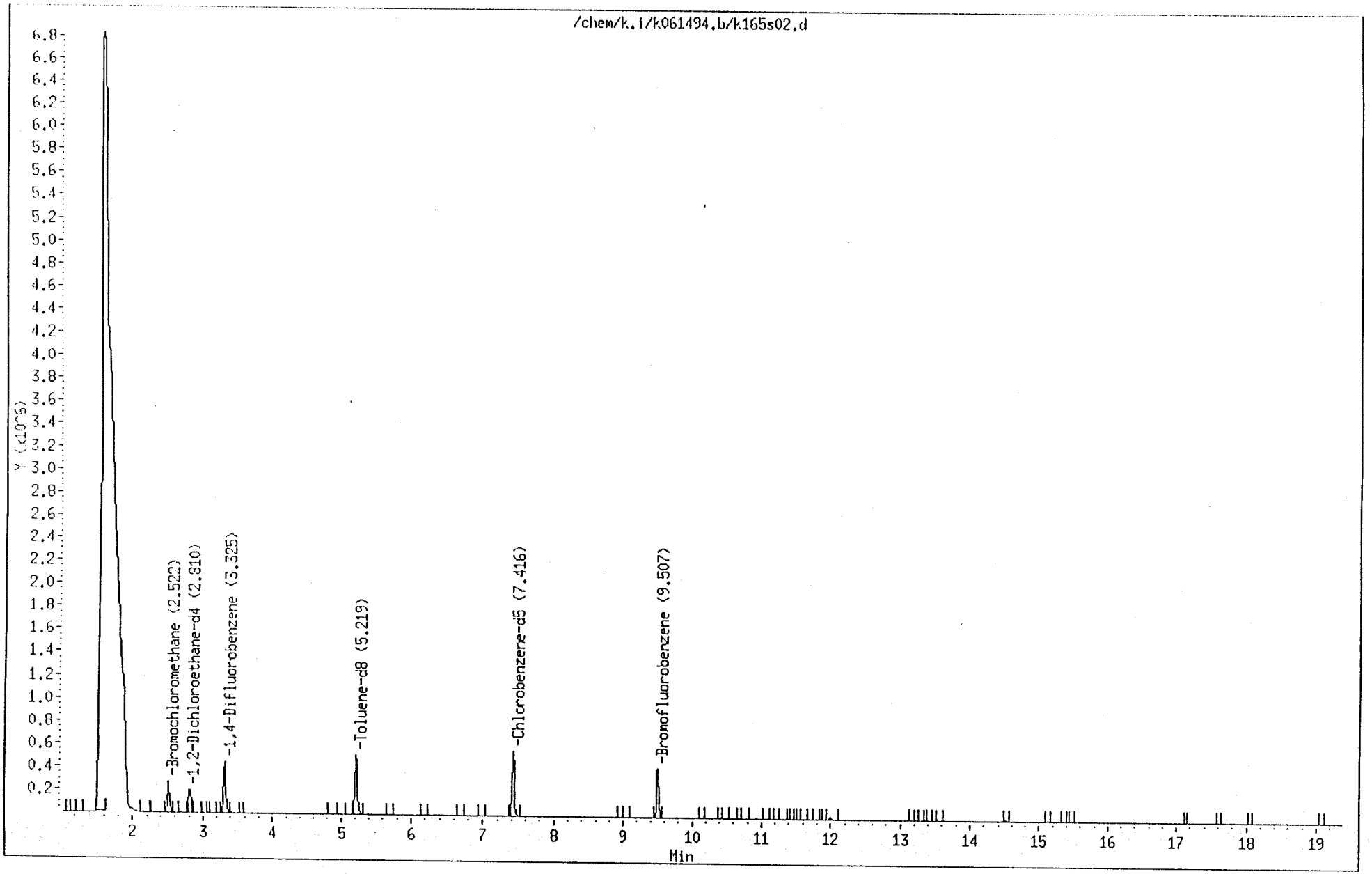
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	65375	32687	130750	69809	6.78
18 1,4-Difluorobenzene	393488	196744	786976	422478	7.37
33 Chlorobenzene-d5	337452	168726	674904	354876	5.16

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.52	0.06
18 1,4-Difluorobenzene	3.32	2.82	3.82	3.32	0.04
33 Chlorobenzene-d5	7.41	6.91	7.91	7.42	0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k061494.b/k165s02.d
Date : 14-JUN-1994 13:50
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



Certificate of Analysis No. 9406119-13

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	ND	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil

(continued on next page)

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k165s04.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

Calibration Date: 06/14/94
Calibration Time: 1026
Sample Type: SOIL
Level: LOW

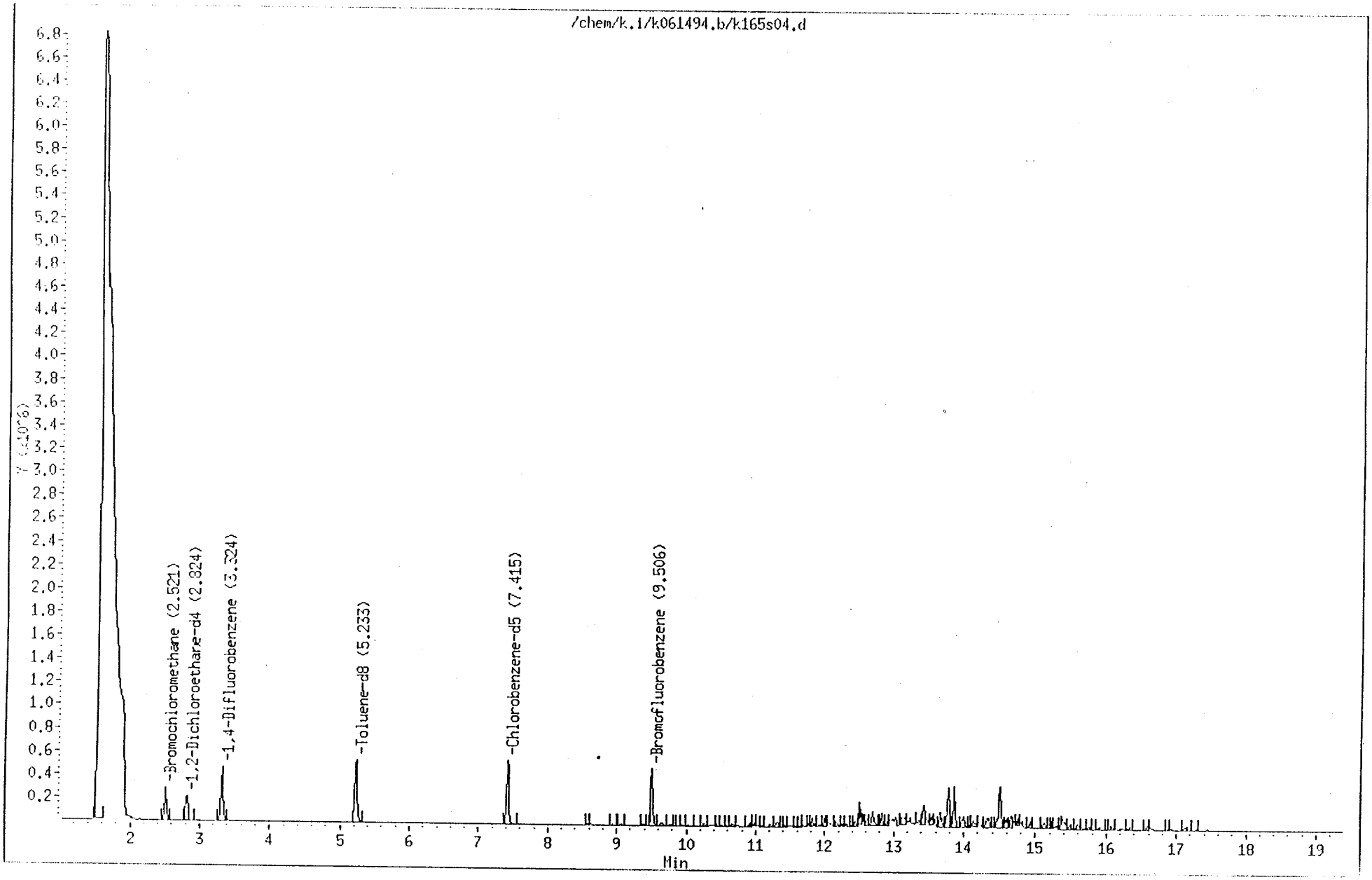
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	65375	32687	130750	74257	13.59
18 1,4-Difluorobenzene	393488	196744	786976	447808	13.80
33 Chlorobenzene-d5	337452	168726	674904	370777	9.88

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.52	0.03
18 1,4-Difluorobenzene	3.32	2.82	3.82	3.32	0.02
33 Chlorobenzene-d5	7.41	6.91	7.91	7.43	0.21

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k061494.b/k165s04.d
Date : 14-JUN-1994 14:39
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



Data File: /chem/k.i/k061494.b/k165s04.d

Date : 14-JUN-1994 14:39

Instrument : k.i

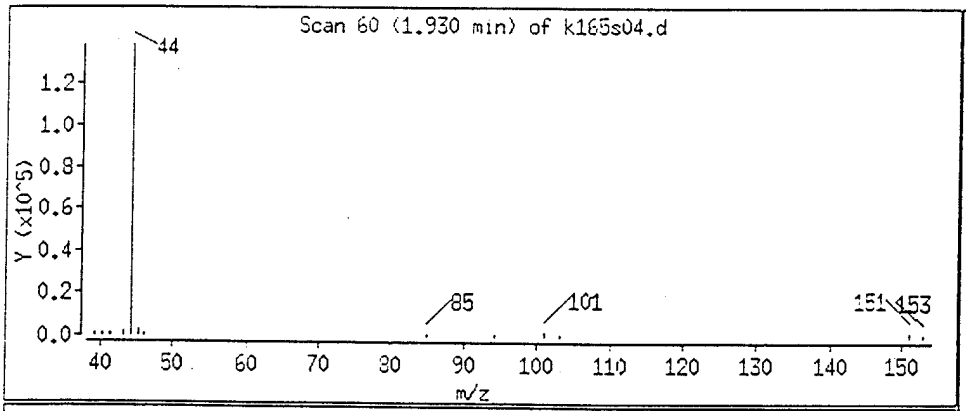
Sample ID :

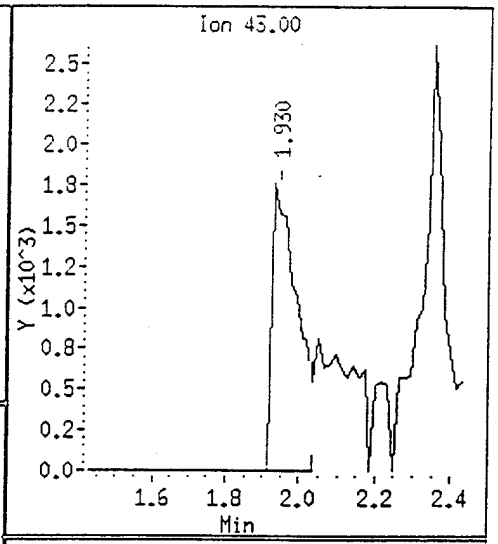
Column phase :

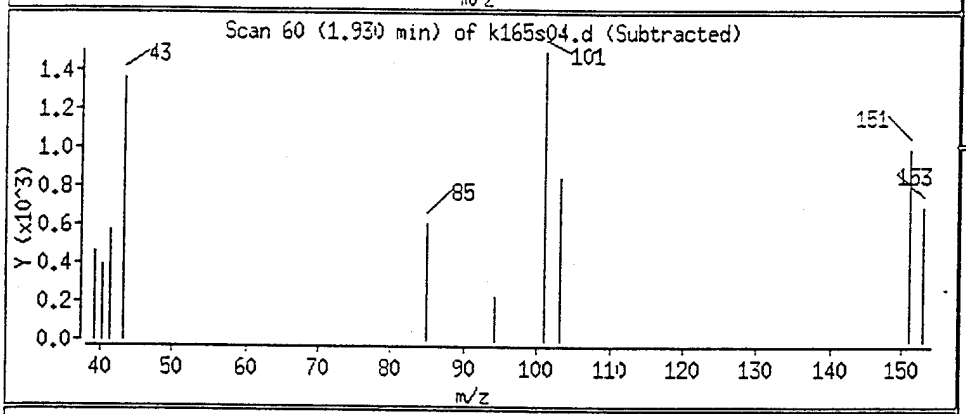
Column diameter : 0.25

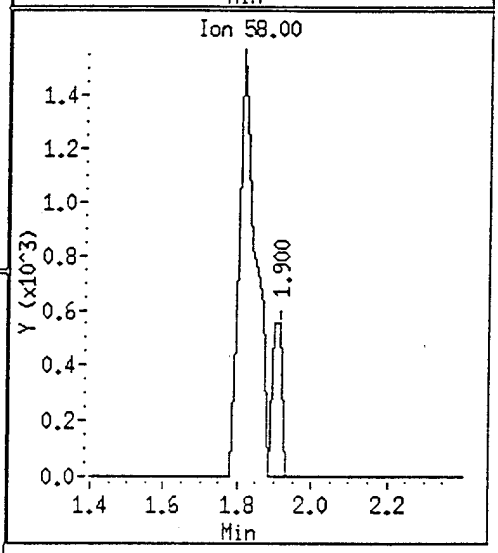
Volume Injected (uL) : 0.0

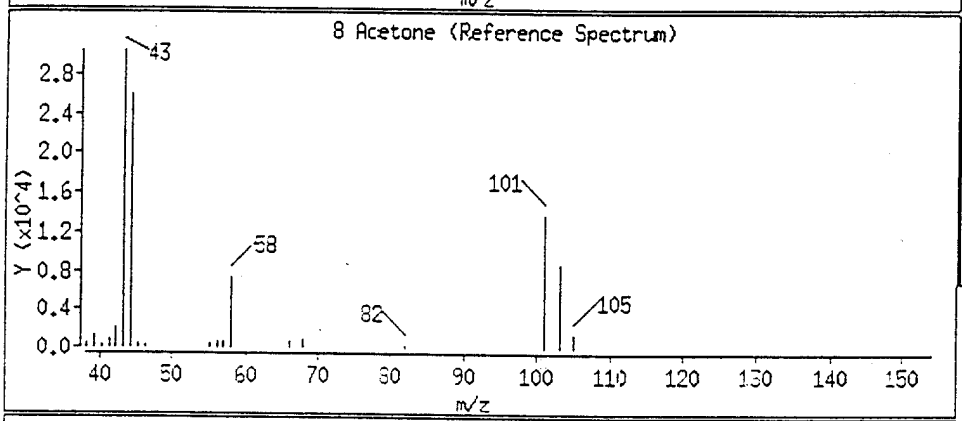
8 Acetone

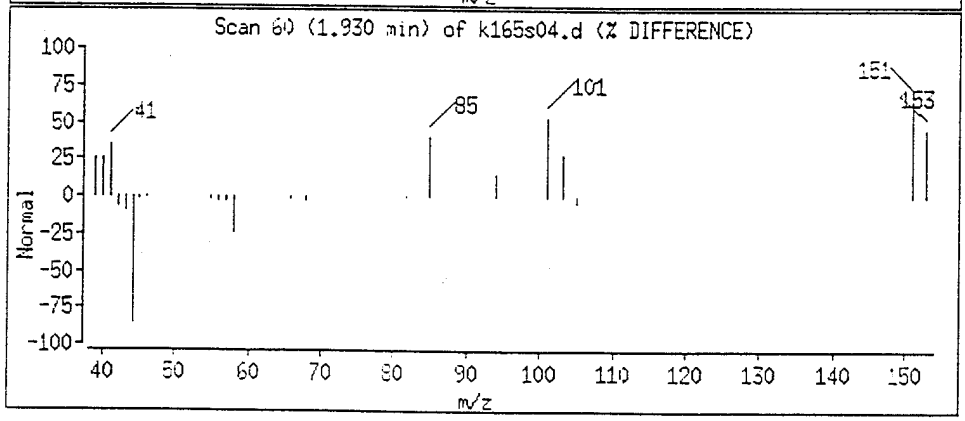












Data File: /chem/k.i/k060894.b/k159bf2.d

Date : 08-JUN-94 12:49

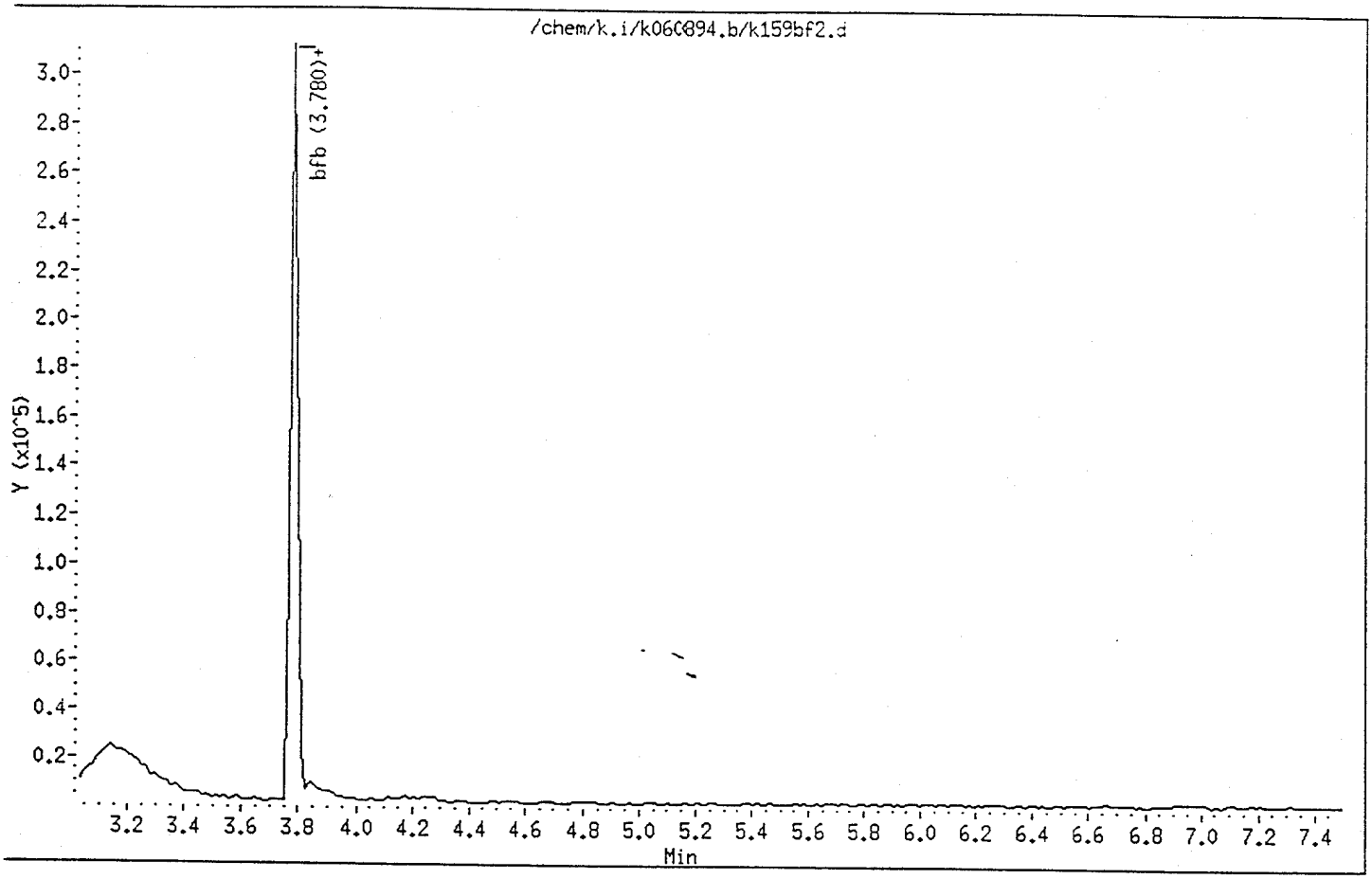
Instrument : k.i

Sample ID :

Column phase :

Column diameter : 2.00

Volume Injected (uL) : 0.0



Certificate of Analysis No. 9406119-09

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 34	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-09

Operational Tech

SAMPLE ID: A-03 BH Int.1

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS

ANALYZED BY: HLW DATE/TIME: 06/08/94 00:22:00
METHOD: 8240, Volatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed
B = Compound present in Method Blank D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k060894.b/k159s10.d
Lab. Id. :
Inj Date : 09-JUN-1994 00:22
Operator :
Smp Info : 9406119-8240S-09A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01
Als bottle: 27
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: k.i

Cal File: k159cc3.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
* 1 Bromochloromethane	128.00	2.520	(1.000)	43400	50	(Q)
8 Acetone	43.00	1.808	(0.717)	24672	34	34
$ 16 1,2-Dichloroethane-d4	65.00	2.823	(1.120)	112036	46	46
* 18 1,4-Difluorobenzene	114.00	3.338	(1.000)	379078	50	
* 33 Chlorobenzene-d5	117.00	7.445	(1.000)	269421	50	
$ 38 Toluene-d8	98.00	5.248	(0.705)	402745	56	56
$ 42 Bromofluorobenzene	95.00	9.521	(1.279)	140043	46	46

HiCW

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Client SDG: k060894.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	46	93.16	70-121
$ 38 Toluene-d8	50	56	112.16	84-138
$ 42 Bromofluorobenzene	50	46	92.71	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s10.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1501
Sample Type: SOIL
Level: LOW

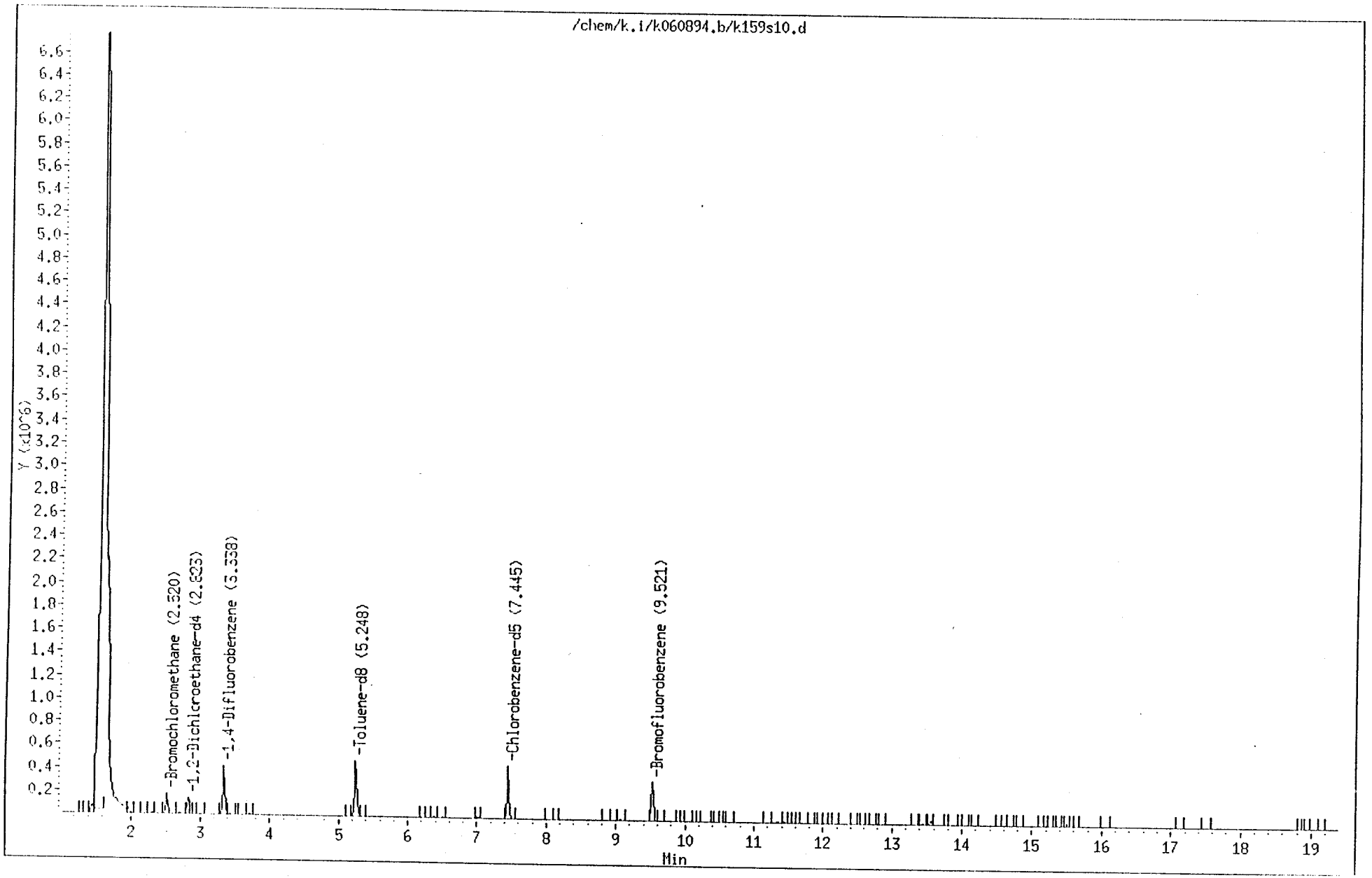
		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	% DIFF
1 Bromochloromethane	62390	31195	124780	43400	-30.44
18 1,4-Difluorobenzene	436788	218394	873576	379078	-13.21
33 Chlorobenzene-d5	349737	174868	699474	269421	-22.96

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.02
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.01
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s10.d
Date : 09-JUN-1994 00:22
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



Data File: /chem/k.1/k060894.b/k159s10.d

Date : 09-JUN-1994 00:22

Instrument : k.1

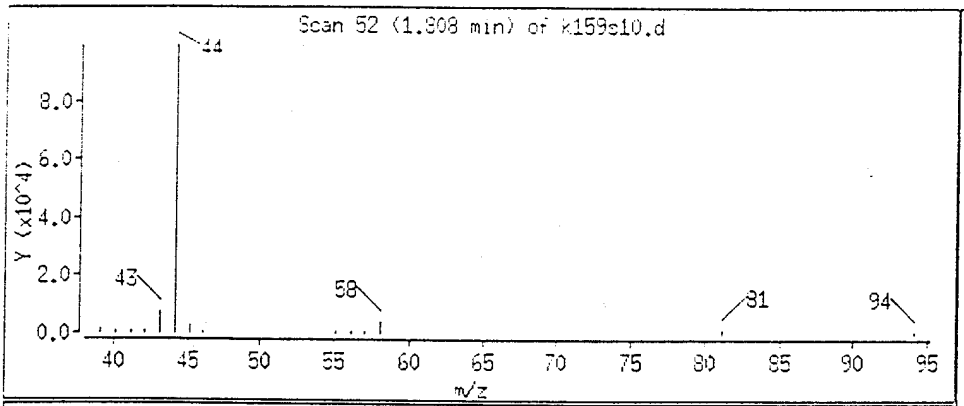
Sample ID :

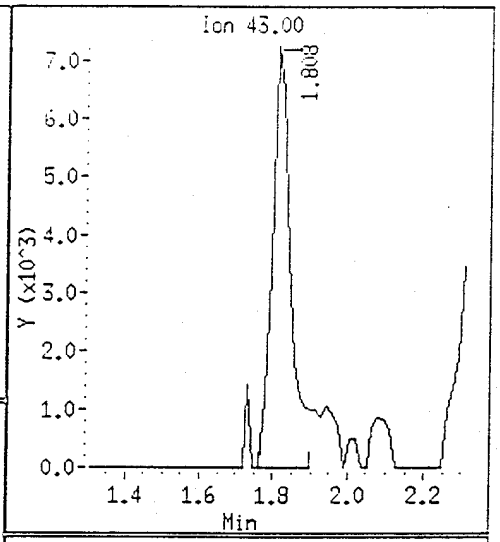
Column phase :

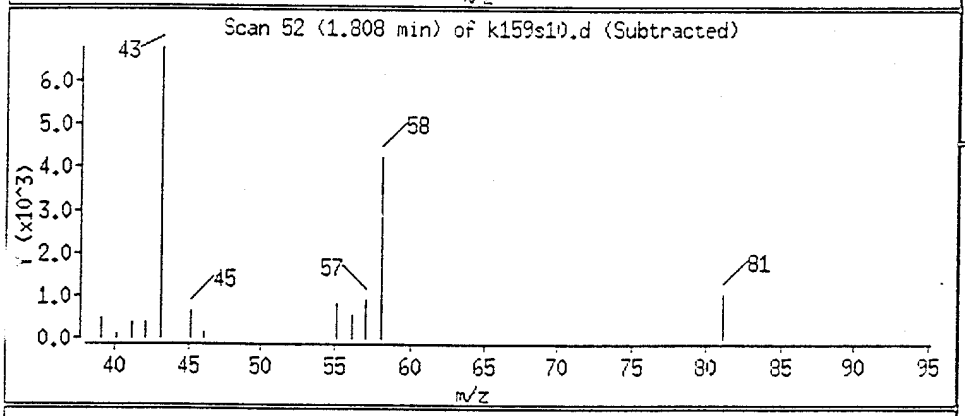
Column diameter : 0.25

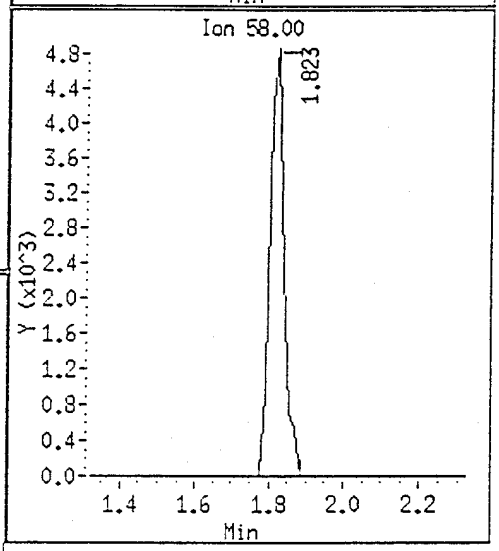
Volume Injected (uL) : 0.0

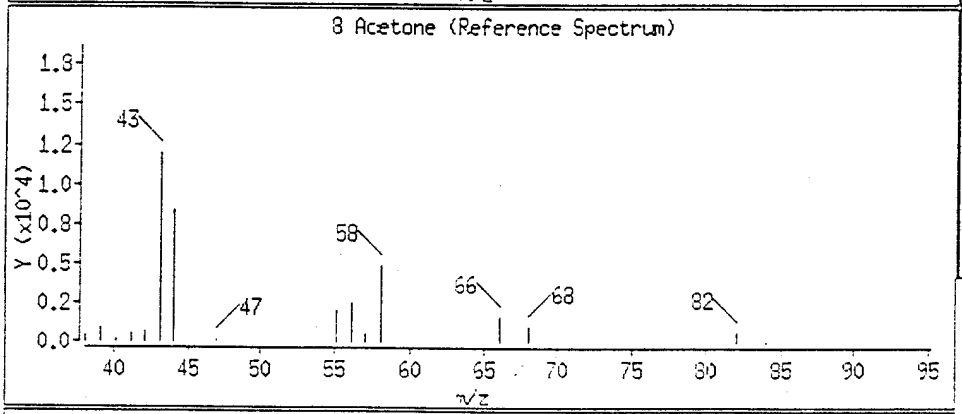
8 Acetone

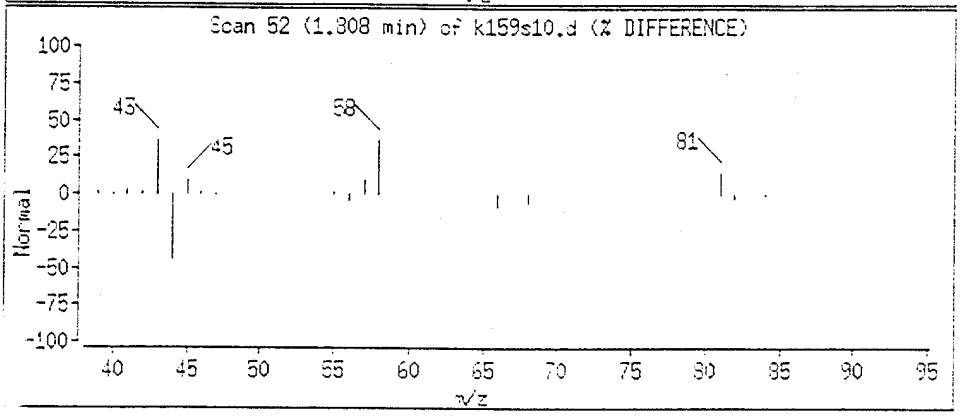












Certificate of Analysis No. 9406119-10

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 51	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-10

Operational Tech **SAMPLE ID:** A-03 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS

ANALYZED BY: HLW DATE/TIME: 06/08/94 00:46:00
METHOD: 8240, Volatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed
B = Compound present in Method Blank D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k060894.b/k159s11.d
Lab. Id. :
Inj Date : 09-JUN-1994 00:46
Operator :
Smp Info : 9406119-8240S-10A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01
Als bottle: 28
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: (
Inst ID: k.i

Cal File: k159cc3.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
* 1 Bromochloromethane	128.00	2.522	(1.000)	37103	50	(Q)
8 Acetone	43.00	1.810	(0.718)	31055	51	51(Q)
$ 16 1,2-Dichloroethane-d4	65.00	2.825	(1.120)	95807	46	46
* 18 1,4-Difluorobenzene	114.00	3.341	(1.000)	368791	50	
* 33 Chlorobenzene-d5	117.00	7.447	(1.000)	258790	50	
$ 38 Toluene-d8	98.00	8.250	(0.705)	395223	57	57
$ 42 Bromofluorobenzene	95.00	9.523	(1.279)	132605	46	46

hbw.

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Client SDG: k060894.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	46	93.19	70-121
$ 38 Toluene-d8	50	57	114.59	84-138
$ 42 Bromofluorobenzene	50	46	91.40	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s11.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

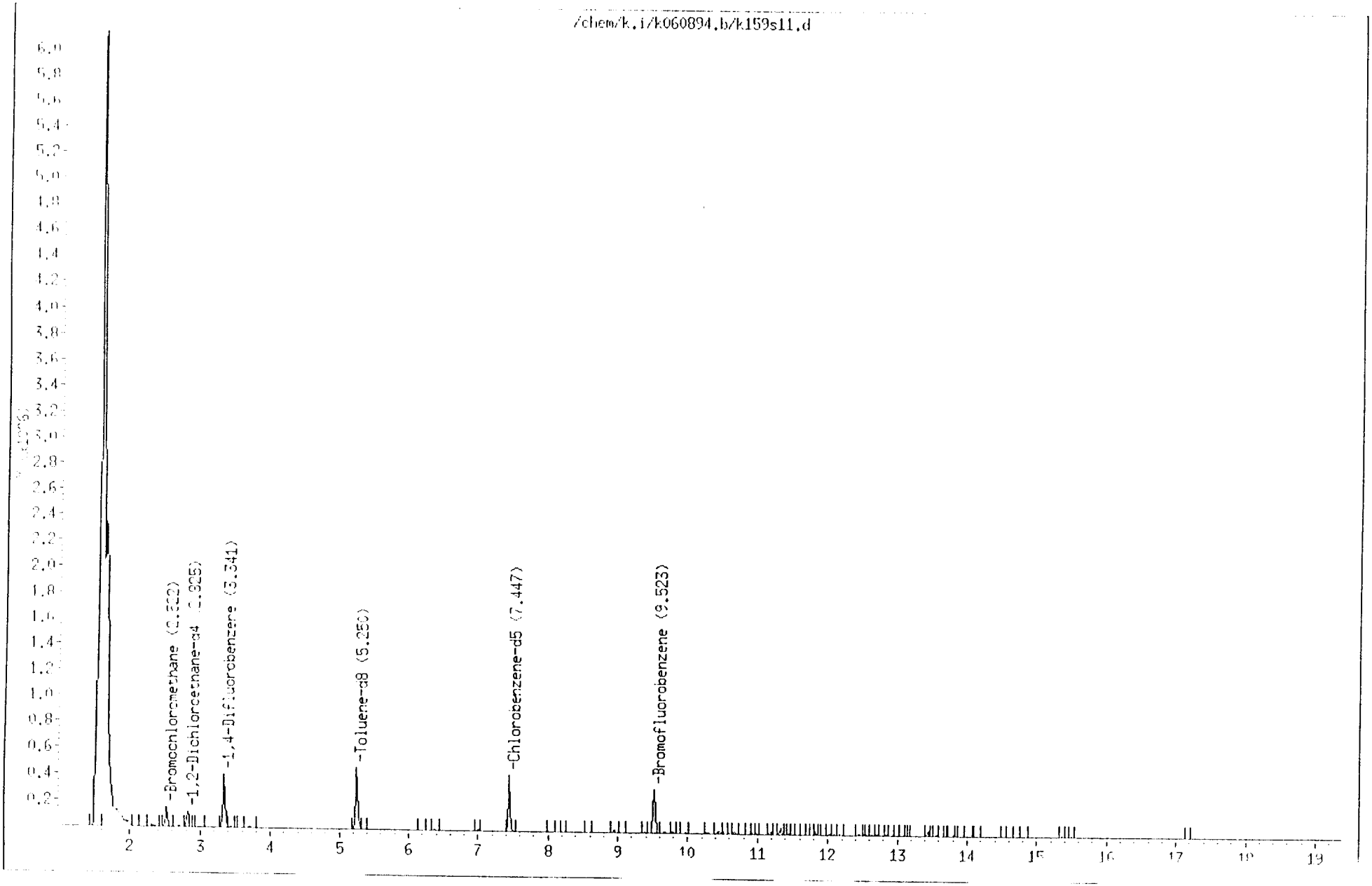
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	62390	31195	124780	37103	-40.53
18 1,4-Difluorobenzene	436788	218394	873576	368791	-15.57
33 Chlorobenzene-d5	349737	174868	699474	258790	-26.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.52	0.07
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	0.05
33 Chlorobenzene-d5	7.45	6.95	7.95	7.45	0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s11.d
Date : 09-JUN-1994 00:46
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



Data File: chem/k...k060894.b/k159s11.d

Date : 09-JUN-1994 00:46

Instrument : k.i

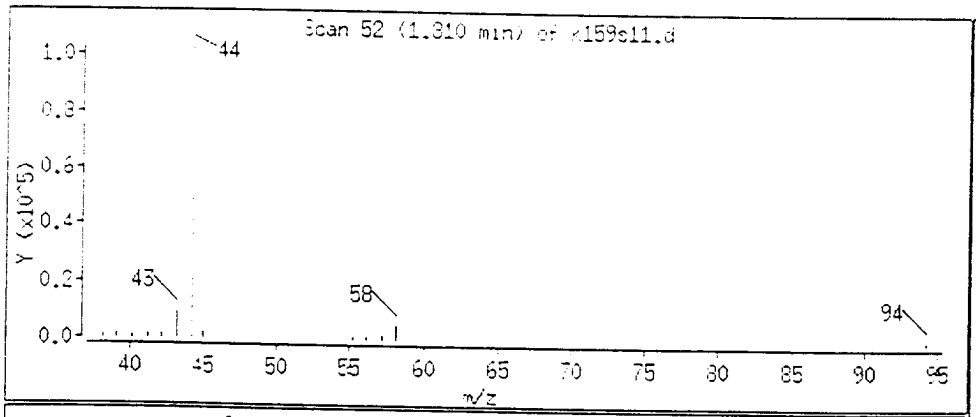
Sample ID :

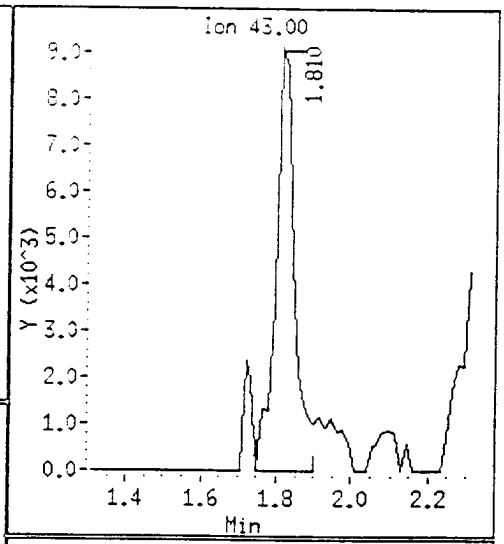
Column phase :

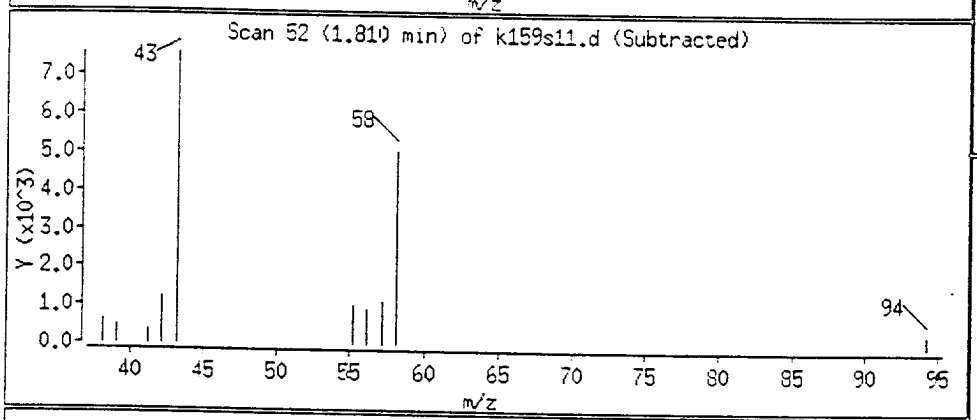
Column diameter : 0.25

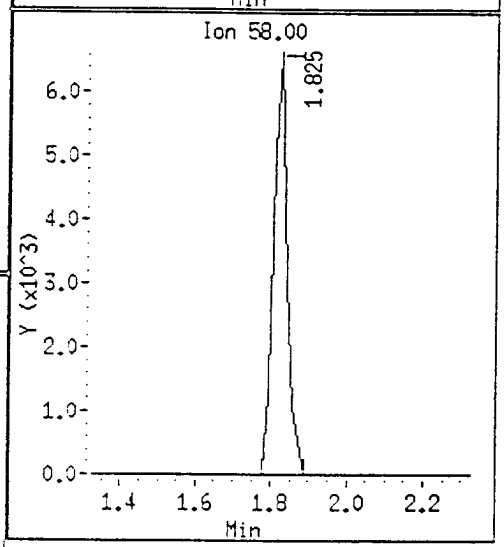
Volume Injected (uL) : 0.0

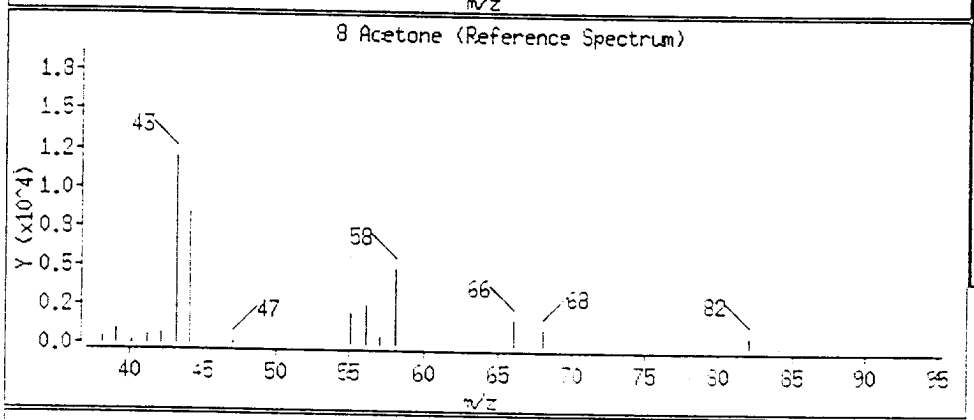
8 Acetone

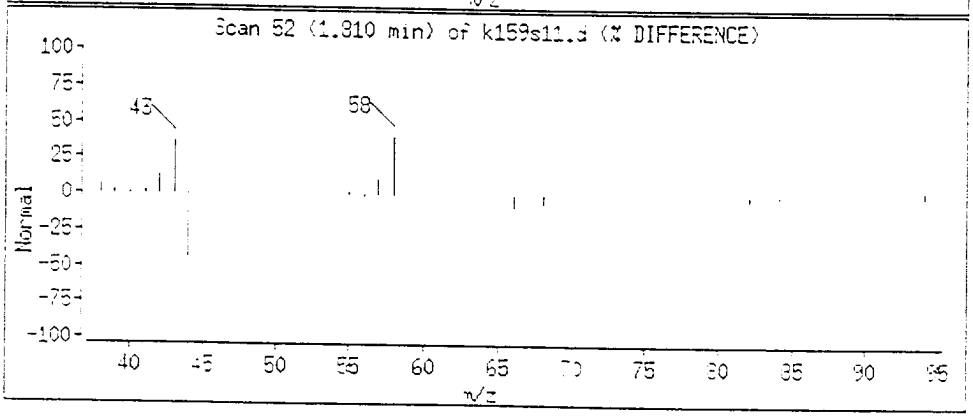












Certificate of Analysis No. 9406119-01

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 46	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-01

Operational Tech

SAMPLE ID: A-04 BH Int.1

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS

ANALYZED BY: HLW DATE/TIME: 06/08/94 21:09:00
METHOD: 8240, Volatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed
B = Compound present in Method Blank D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k060894.b/k159s02.d
Lab. Id. :
Inj Date : 08-JUN-1994 21:09
Operator :
Smp Info : 9406119-8240S-01A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 27-Jun-1994 10:19 csadmin
Cal Date : 08-JUN-1994 16:01
Als bottle: 19
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: k.i

Cal File: k159cc3.d

Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)	
*	1 Bromochloromethane	128.00	2.535	(1.000)	58614	50		(Q)
	8 Acetone	43.00	1.808	(0.713)	44829	46	46	
$	16 1,2-Dichloroethane-d4	65.00	2.838	(1.120)	156847	48	48	
*	18 1,4-Difluorobenzene	114.00	3.353	(1.000)	391894	50		
	19 2-Butanone	43.00	2.353	(0.702)	25040	18	18	
*	33 Chlorobenzene-d5	117.00	7.444	(1.000)	318239	50		
$	38 Toluene-d8	98.00	5.262	(0.707)	433155	51	51	
$	42 Bromofluorobenzene	95.00	9.520	(1.279)	180806	51	51	

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Client SDG: k060894.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	48	96.57	70-121
$ 38 Toluene-d8	50	51	102.12	84-138
$ 42 Bromofluorobenzene	50	51	101.34	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s02.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

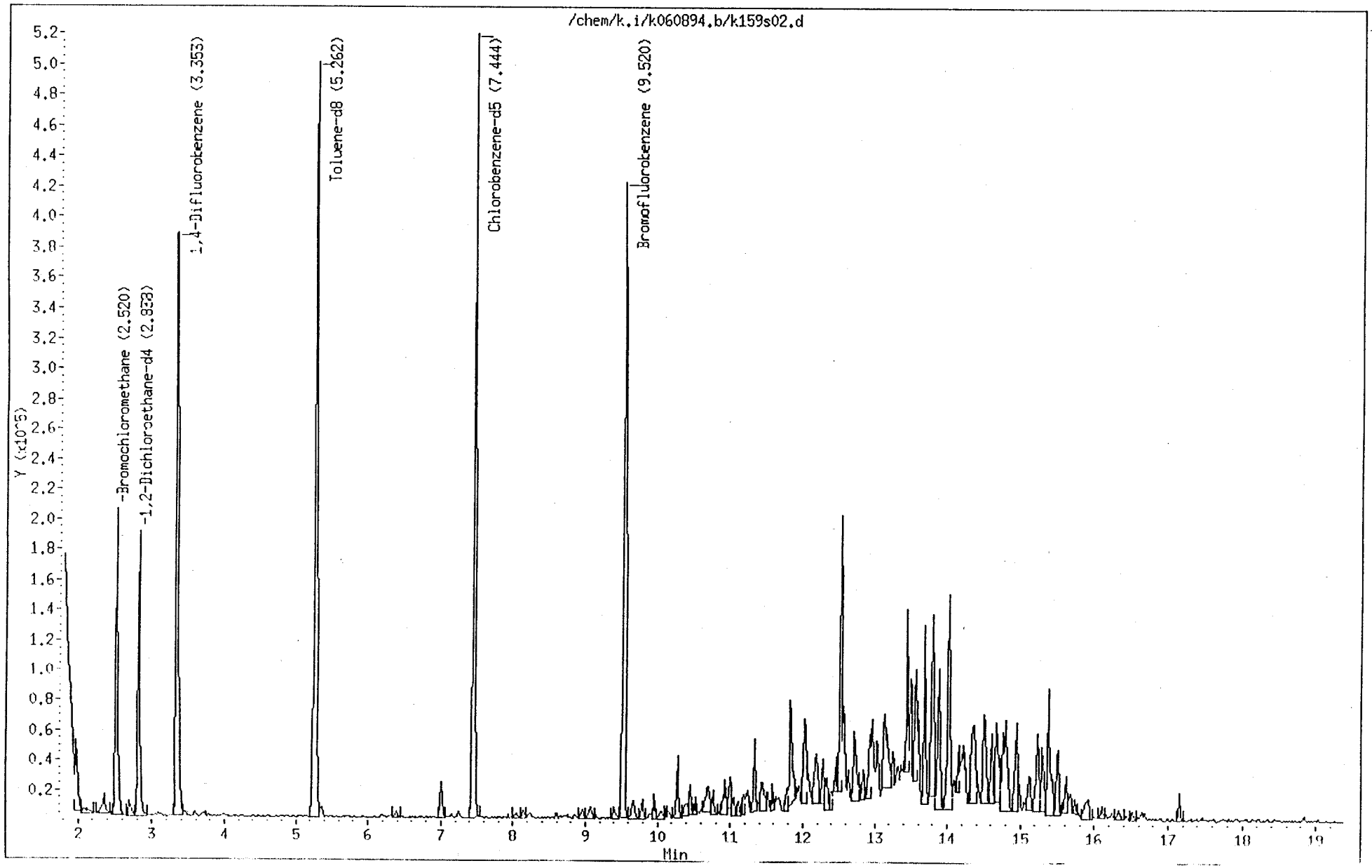
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	62390	31195	124780	58614	-6.05
18 1,4-Difluorobenzene	436788	218394	873576	391894	-10.28
33 Chlorobenzene-d5	349737	174868	699474	318239	-9.01

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.54	0.57
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.35	0.43
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s02.d
Date : 08-JUN-1994 21:09
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



Data File: /chem/k.i/k060894.b/k159s02.d

Date : 08-JUN-1994 21:09

Instrument : k.i

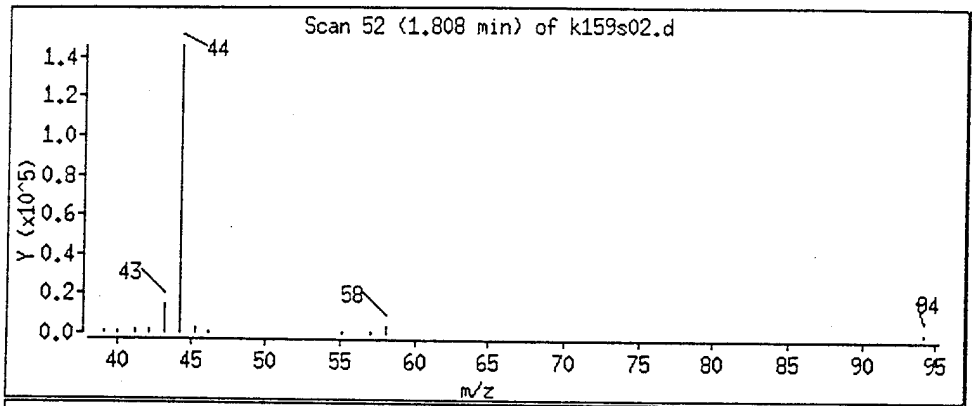
Sample ID :

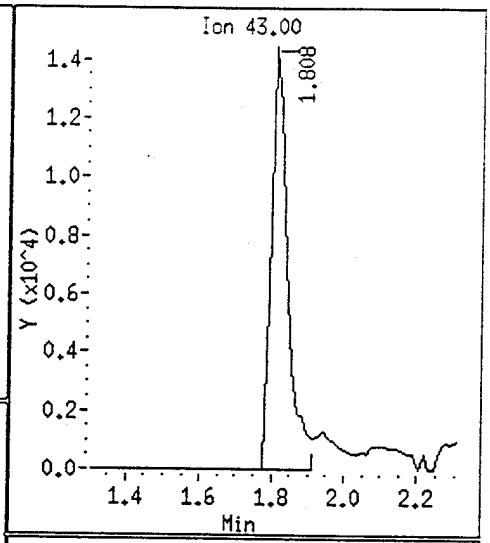
Column phase :

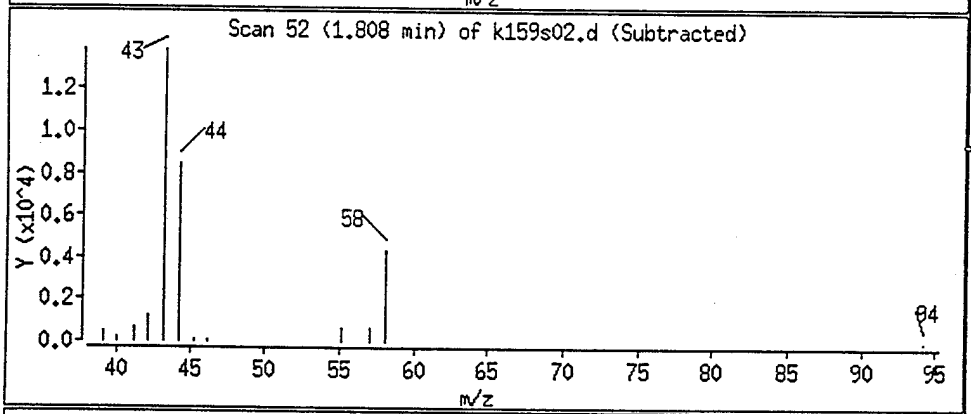
Column diameter : 0.25

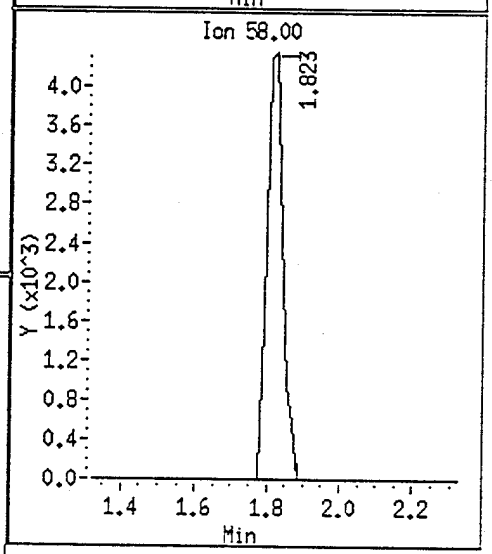
Volume Injected (uL) : 0.0

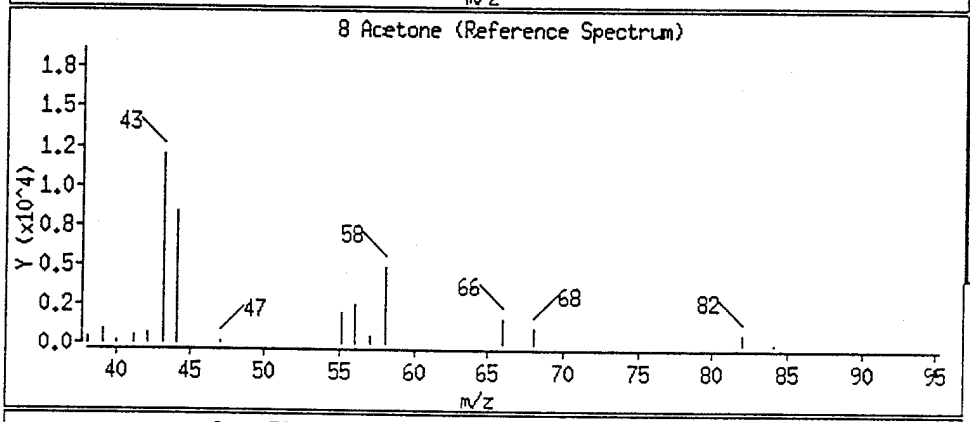
8 Acetone

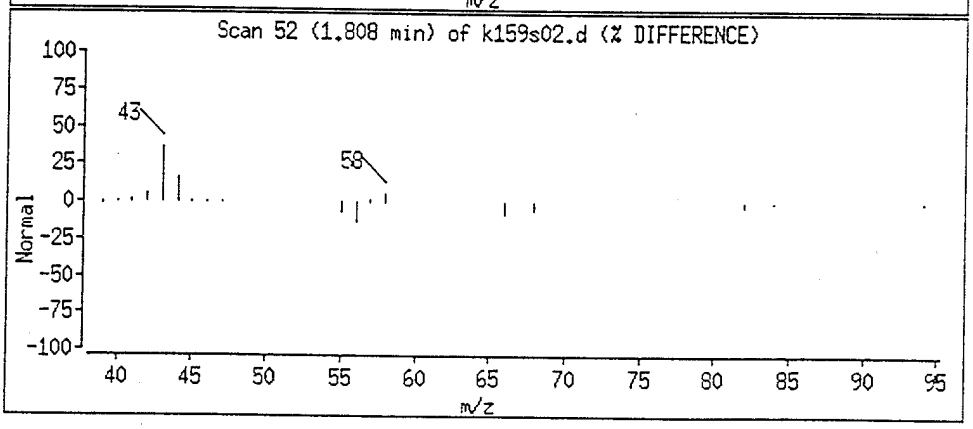












Data File: /chem/k.i/k060894.b/k159s02.d

Date : 08-JUN-1994 21:09

Instrument : k.i

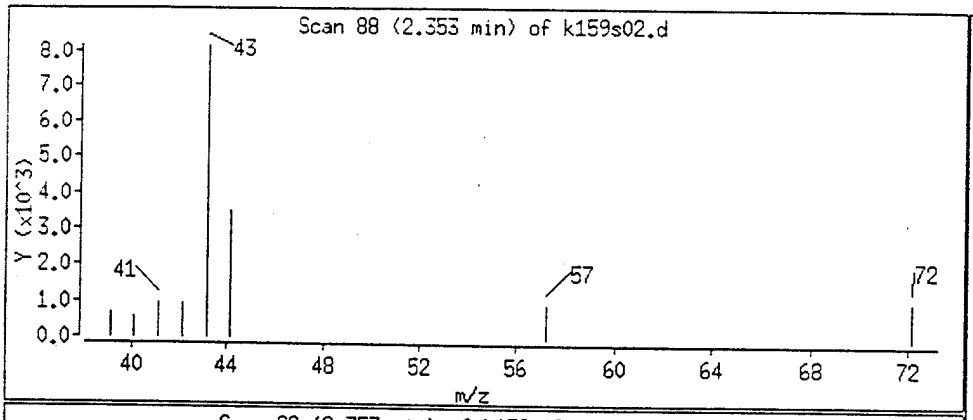
Sample ID :

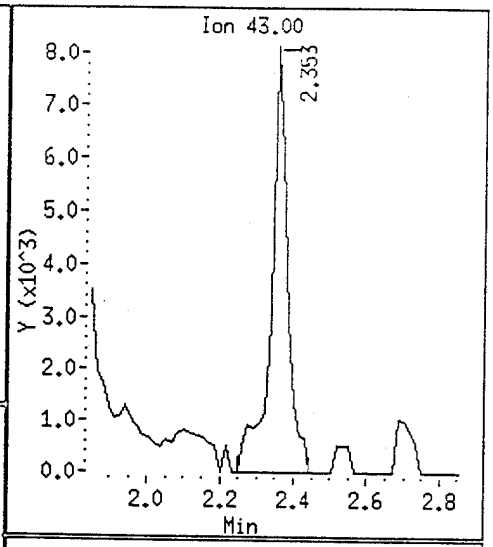
Column phase :

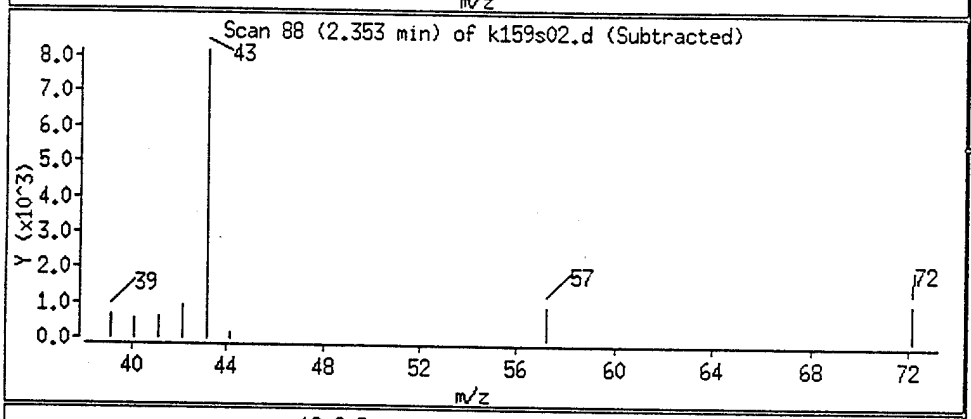
Column diameter : 0.25

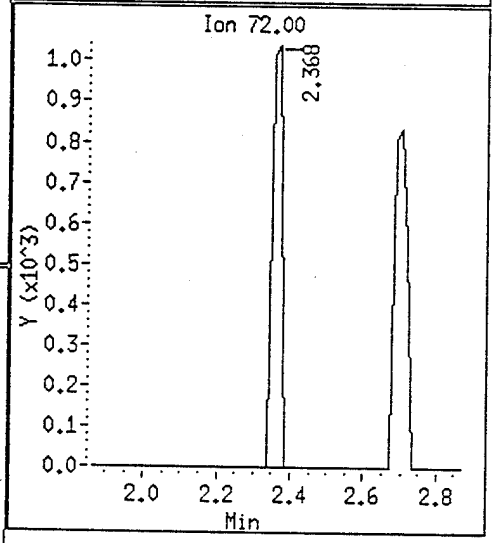
Volume Injected (uL) : 0.0

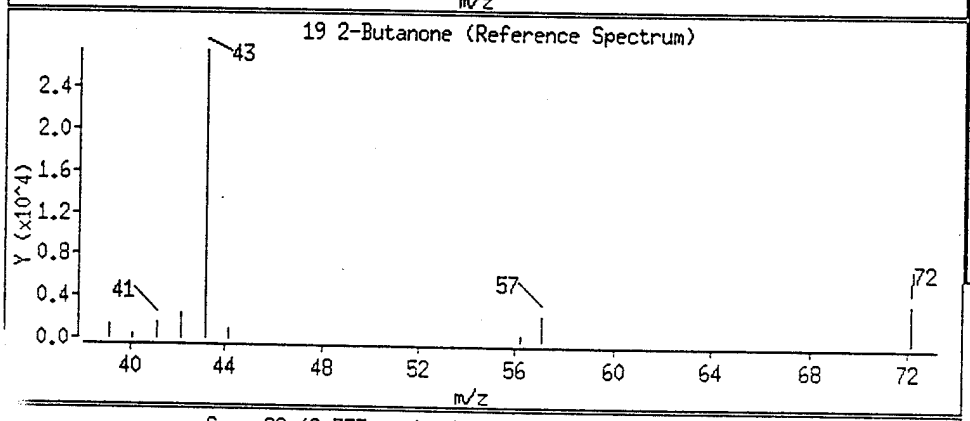
19 2-Butanone

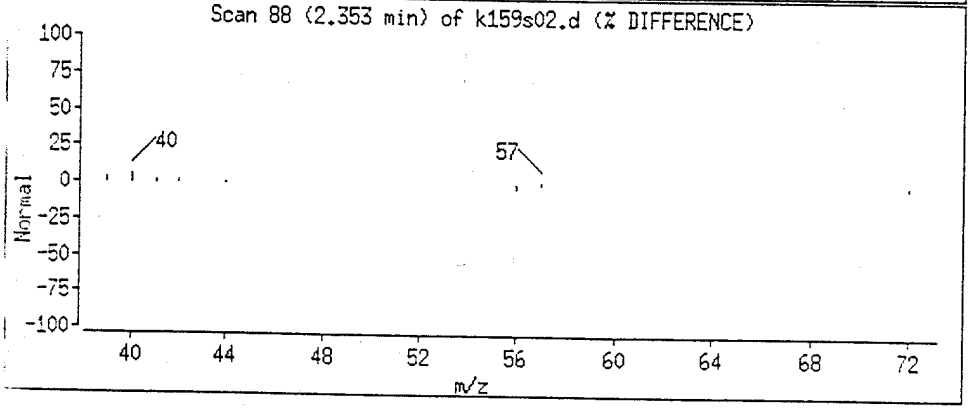












Certificate of Analysis No. 9406119-02

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:40:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 52	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-02

Operational Tech

SAMPLE ID: A-04 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS

ANALYZED BY: HLW DATE/TIME: 06/08/94 21:33:00
METHOD: 8240, Volatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed
B = Compound present in Method Blank D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-13

Operational Tech

SAMPLE ID: A-02 BH Int.1

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS

ANALYZED BY: HLW DATE/TIME: 06/14/94 14:14:00
METHOD: 8240, Volatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k061494.b/k165s03.d
Lab. Id. :
Inj Date : 14-JUN-1994 14:14
Operator :
Smp Info : 9406119-8240S-13A X1
Misc Info :
Comment :
Method : /chem/k.i/k061494.b/kclps.m
Meth Date : 14-Jun-1994 17:20 hillery
Cal Date : 14-JUN-1994 10:26
Als bottle: 11
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: k.i

Cal File: k165cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)	
* 1 Bromochloromethane	128.00	2.520	(1.000)	68200	50		(Q)
$ 16 1,2-Dichloroethane-d4	65.00	2.823	(1.120)	180353	47	47	
* 18 1,4-Difluorobenzene	114.00	3.323	(1.000)	421710	50		
* 33 Chlorobenzene-d5	117.00	7.430	(1.000)	339401	50		
$ 38 Toluene-d8	98.00	8.233	(0.704)	458411	52	52	
$ 42 Bromofluorobenzene	95.00	9.506	(1.279)	216454	56	56	

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name: Client SDG: k061494.b
Sample Matrix: SOLID Fraction: VOA
Client ID: Level: LOW
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: Quant Type: ISTD
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	47	94.03	70-121
$ 38 Toluene-d8	50	52	103.06	84-138
$ 42 Bromofluorobenzene	50	56	111.44	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

Certificate of Analysis No. 9406119-14

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 17:08:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

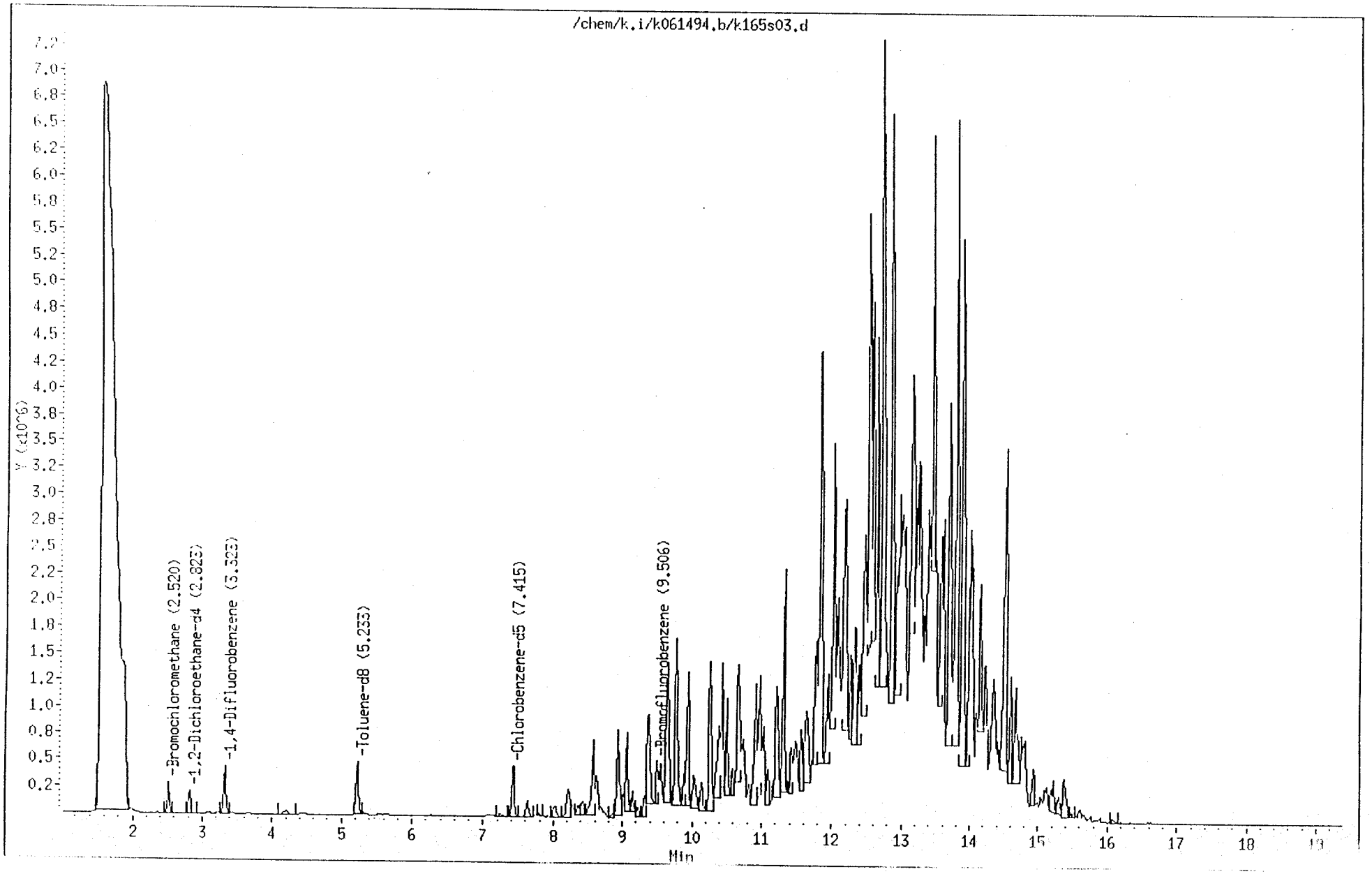
PARAMETER	RESULTS	PQL*	UNITS
Acetone	ND	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil

(continued on next page)

Data File: /chem/k.i/k061494.b/k165s03.d
Date : 14-JUN-1994 14:14
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



Certificate of Analysis No. 9406119-14

Operational Tech

SAMPLE ID: A-02 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS

ANALYZED BY: HLW DATE/TIME: 06/14/94 12:36:00
METHOD: 8240, Volatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k061494.b/k165s04.d
Lab. Id. :
Inj Date : 14-JUN-1994 14:39
Operator :
Smp Info : 9406119-8240S-14A X1
Misc Info :
Comment :
Method : /chem/k.i/k061494.b/kclps.m
Meth Date : 14-Jun-1994 17:20 hillery
Cal Date : 14-JUN-1994 10:26
Als bottle: 12
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: k.i

Cal File: k165cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)	
* 1 Bromochloromethane	128.00	2.521	(1.000)	74257	50	(Q)	
8 Acetone	43.00	1.930	(0.766)	8417	12	12(Q)	HLBU
$ 16 1,2-Dichloroethane-d4	65.00	2.824	(1.120)	190480	46	46	
* 18 1,4-Difluorobenzene	114.00	3.324	(1.000)	447808	50		
* 33 Chlorobenzene-d5	117.00	7.430	(1.000)	370777	50		
$ 38 Toluene-d8	98.00	5.233	(0.704)	487904	50	50	
$ 42 Bromofluorobenzene	95.00	9.506	(1.279)	212911	50	50	

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

Client SDG: k061494.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	46	91.21	70-121
$ 38 Toluene-d8	50	50	100.40	84-138
$ 42 Bromofluorobenzene	50	50	100.34	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

Data file : /chem/k.i/k060894.b/k159s03.d
Lab. Id. :
Inj Date : 08-JUN-1994 21:33
Operator :
Smp Info : 9406119-8240S-02A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01
Als bottle: 20
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: k.i

Cal File: k159cc3.d

Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/Kg)
*	1 Bromochloromethane	128.00	2.520	(1.000)	51630	50	(Q)
	8 Acetone	43.00	1.823	(0.723)	44593	52	52
$	16 1,2-Dichloroethane-d4	65.00	2.838	(1.126)	137583	48	48
*	18 1,4-Difluorobenzene	114.00	3.338	(1.000)	389942	50	
*	33 Chlorobenzene-d5	117.00	7.445	(1.000)	299969	50	
$	38 Toluene-d8	98.00	5.263	(0.707)	421919	53	53
$	42 Bromofluorobenzene	95.00	9.520	(1.279)	165890	49	49

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Client SDG: k060894.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	48	96.17	70-121
$ 38 Toluene-d8	50	53	105.53	84-138
$ 42 Bromofluorobenzene	50	49	98.64	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s03.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

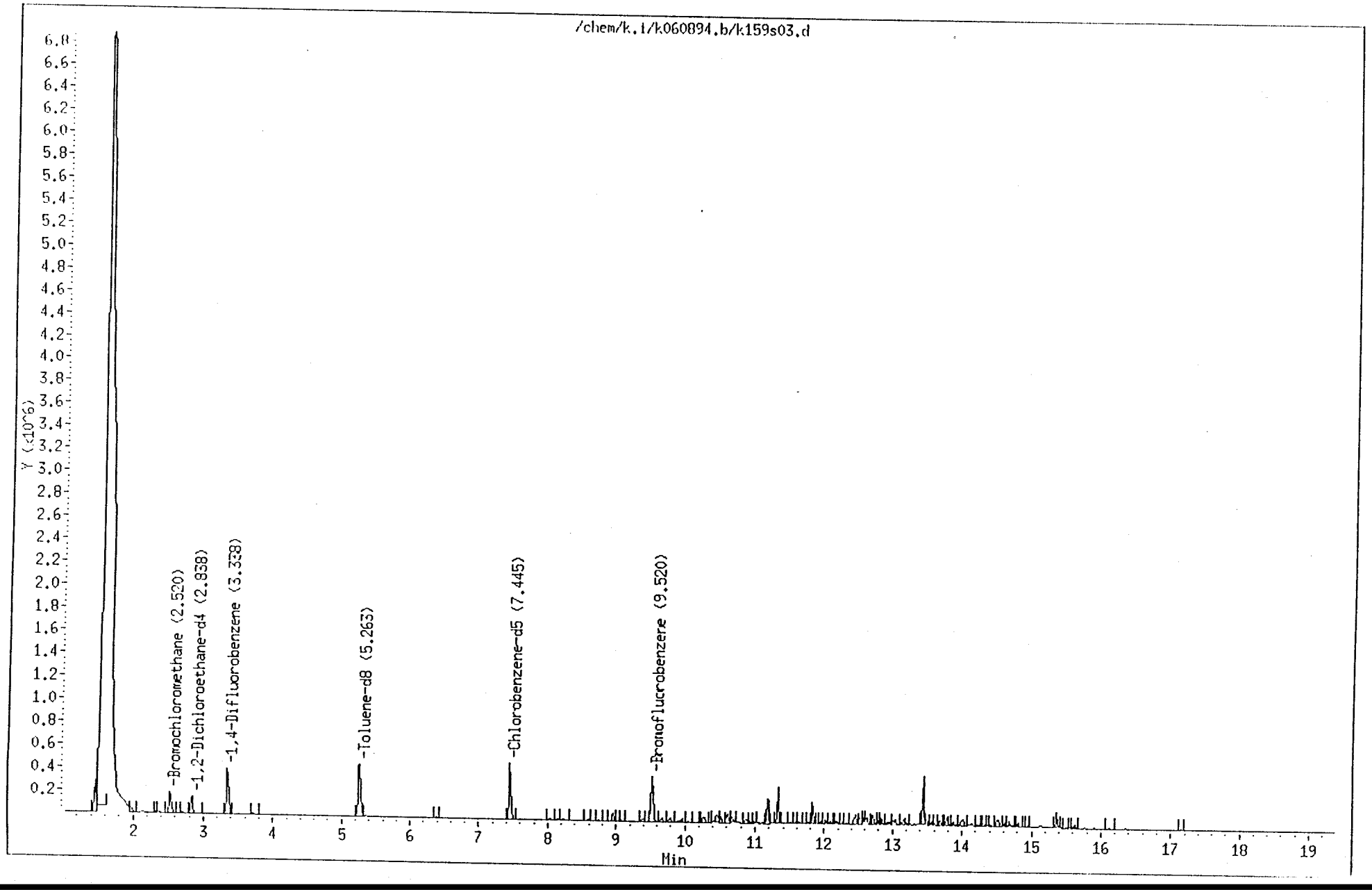
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	62390	31195	124780	51630	-17.25
18 1,4-Difluorobenzene	436788	218394	873576	389942	-10.73
33 Chlorobenzene-d5	349737	174868	699474	299969	-14.23

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.02
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.01
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s03.d
Date : 08-JUN-1994 21:33
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



Data File: /chem/k.1/k060894.b/k159s03.d

Date : 08-JUN-1994 21:33

Instrument : k.:

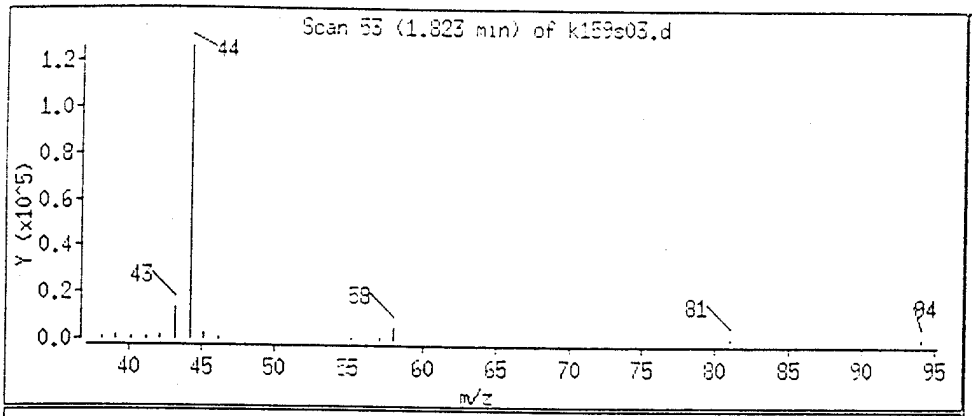
Sample ID :

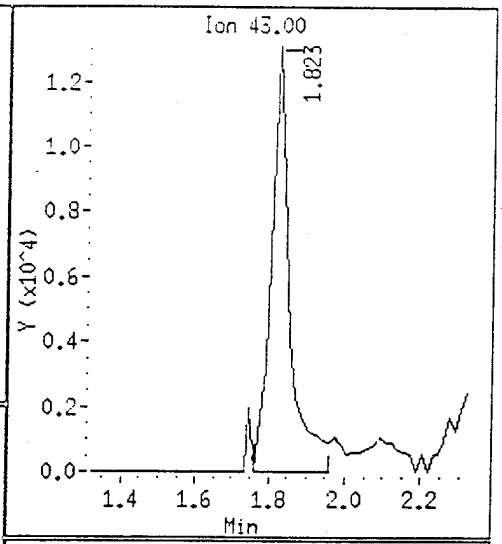
Column phase :

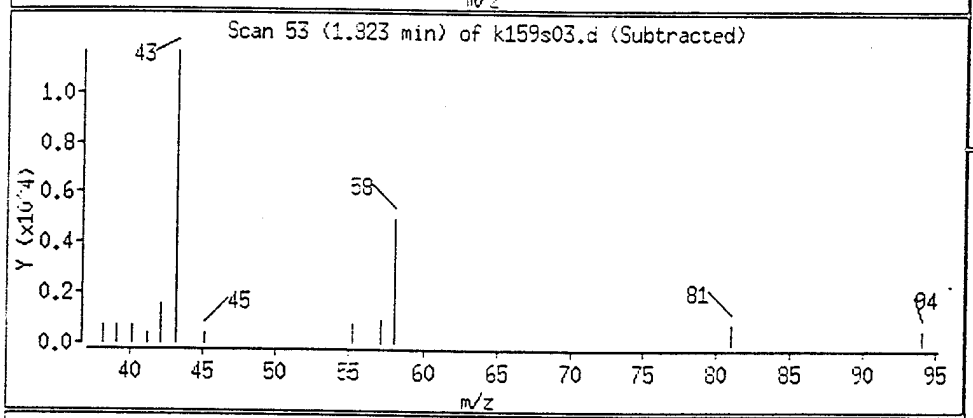
Column diameter : 0.25

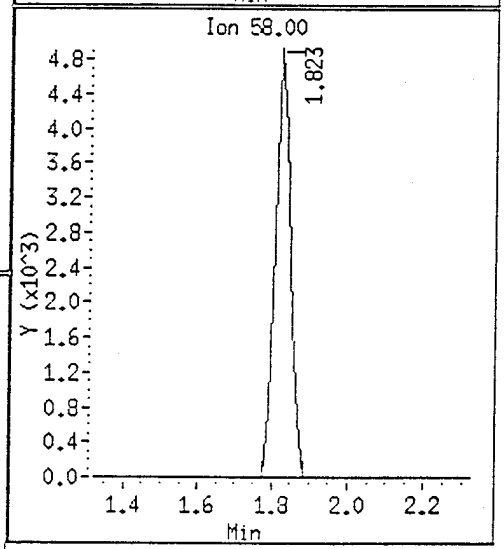
Volume Injected (uL) : 0.)

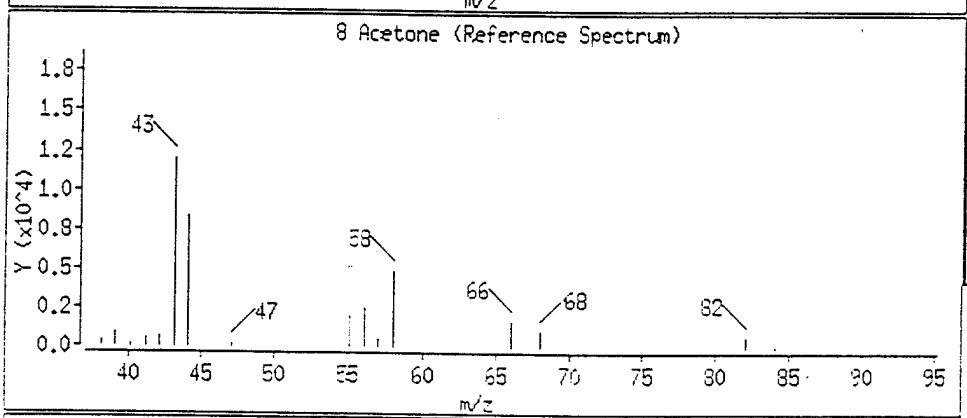
8 Acetone

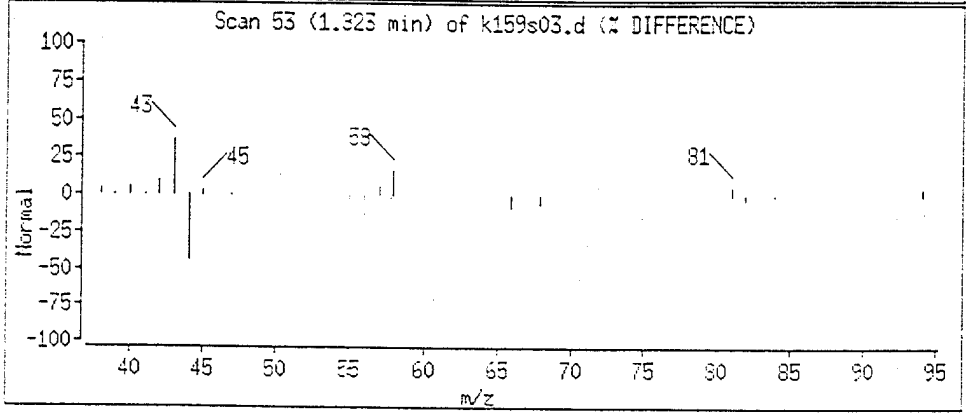












SPL Labs

Data file : /chem/k.i/k060894.b/k159s04.d
Lab. Id. :
Inj Date : 08-JUN-1994 21:57
Operator :
Smp Info : 9406119-8240S-03A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01
Als bottle: 21
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: k.i

Cal File: k159cc3.d

Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)	
*	1 Bromochloromethane	128.00	2.519	(1.000)	54169	50	(Q)	
	8 Acetone	43.00	1.822	(0.723)	21456	24	24	HLBW
S	16 1,2-Dichloroethane-d4	65.00	2.838	(1.126)	147225	49	49	
*	18 1,4-Difluorobenzene	114.00	3.338	(1.000)	385364	50		
*	33 Chlorobenzene-d5	117.00	7.444	(1.000)	256556	50		
	36 Tetrachloroethene	164.00	6.504	(0.874)	22811	17	17	HLBW
S	38 Toluene-d8	98.00	5.247	(0.705)	402218	59	59	
S	42 Bromofluorobenzene	95.00	9.520	(1.279)	122755	43	43	

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Certificate of Analysis No. 9406119-03

Operational Tech

SAMPLE ID: A-05 BH Int.1

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS

ANALYZED BY: HLW DATE/TIME: 06/08/94 21:57:00
METHOD: 8240, Volatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed
B = Compound present in Method Blank D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-03

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:15:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 24	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	17	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil

(continued on next page)

SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Client SDG: k060894.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	49	98.08	70-121
$ 38 Toluene-d8	50	59	117.63	84-138
$ 42 Bromofluorobenzene	50	43	85.34	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s04.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

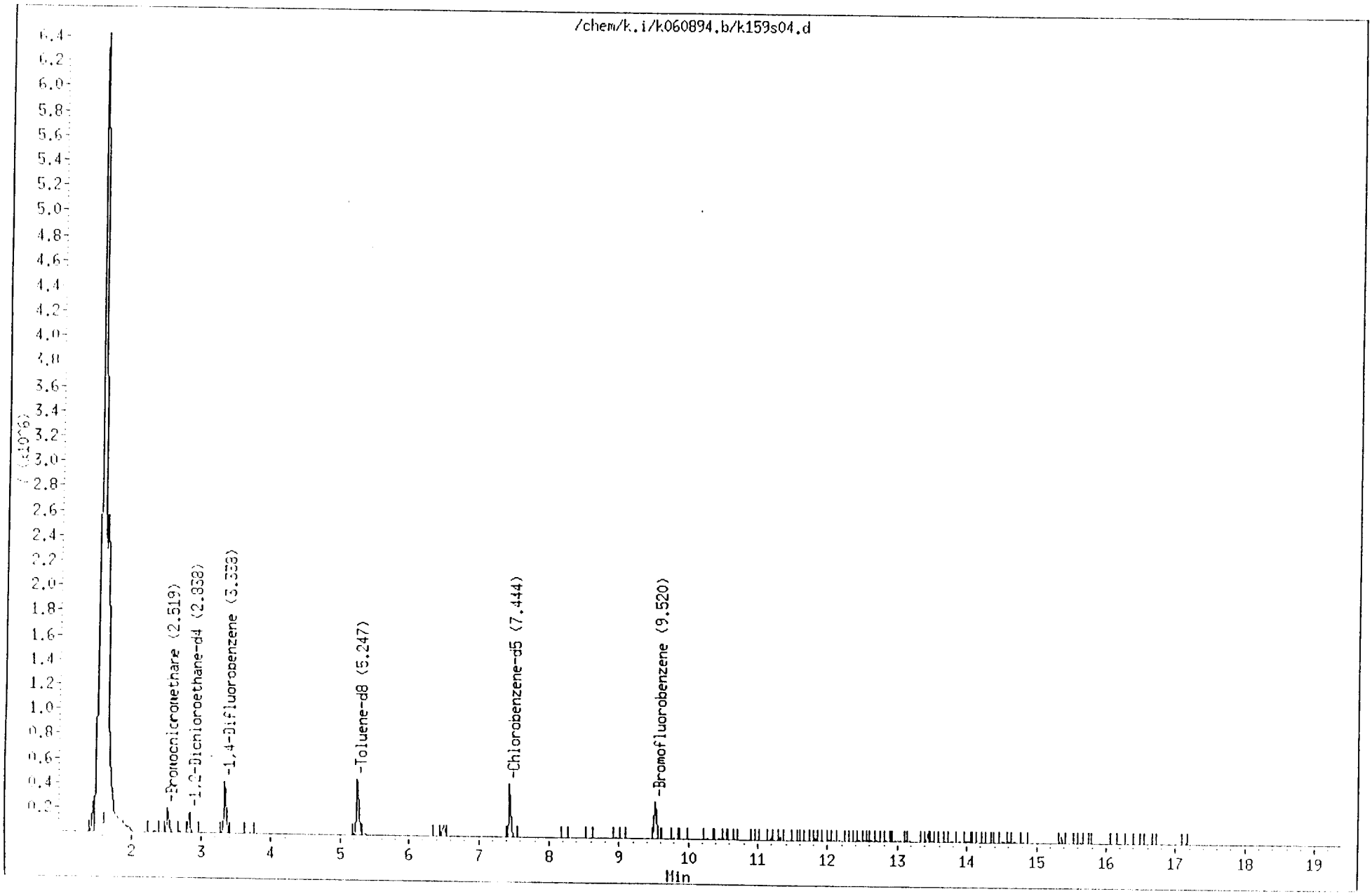
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	62390	31195	124780	54169	-13.18
18 1,4-Difluorobenzene	436788	218394	873576	385364	-11.77
33 Chlorobenzene-d5	349737	174868	699474	256556	-26.64

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.05
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.04
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s04.d
Date : 08-JUN-1994 21:57
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



Data File: /chem/k.1/k060894.b/k159s04.d

Date : 08-JUN-1994 21:57

Instrument : k.1

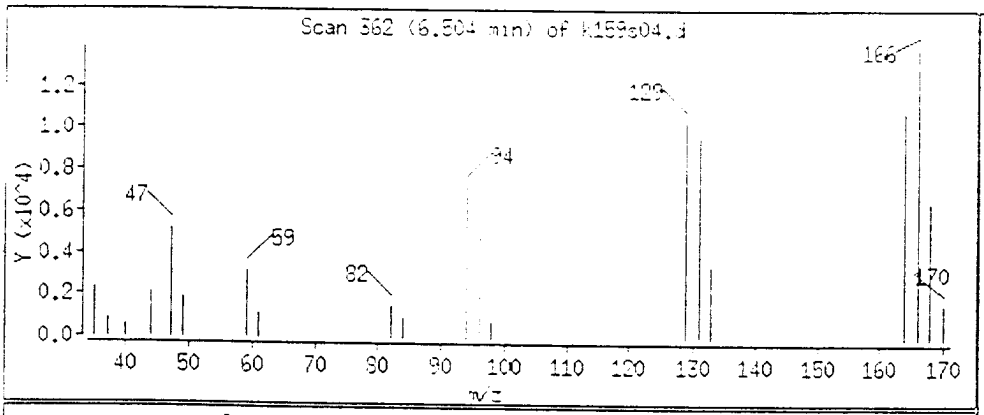
Sample ID :

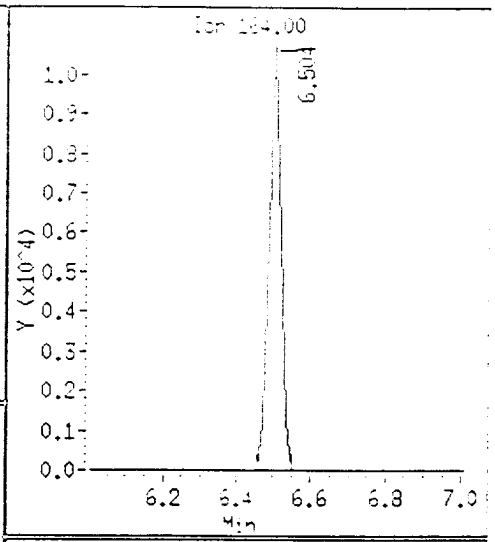
Column phase :

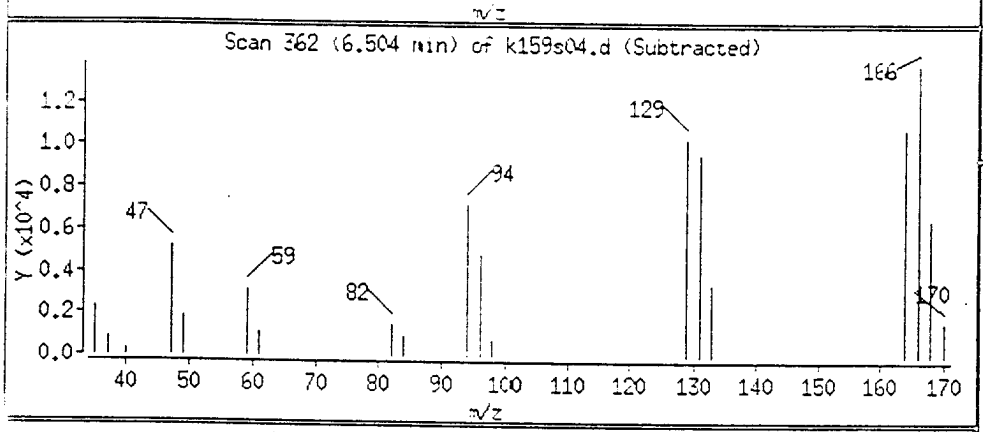
Column diameter : 0.25

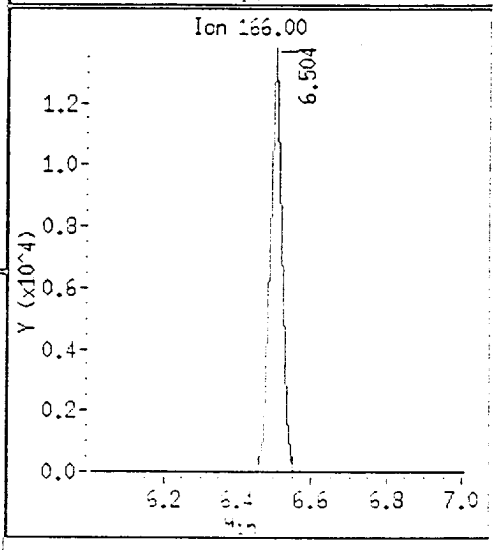
Volume Injected (uL) : 0.0

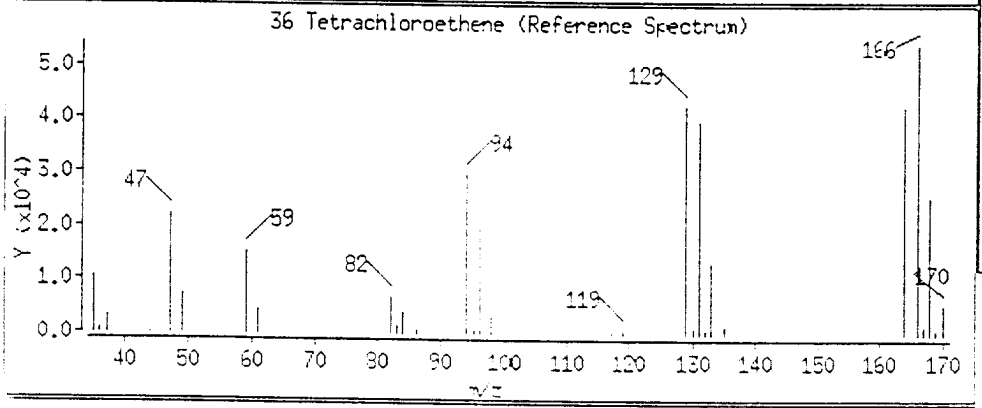
36 Tetrachloroethene

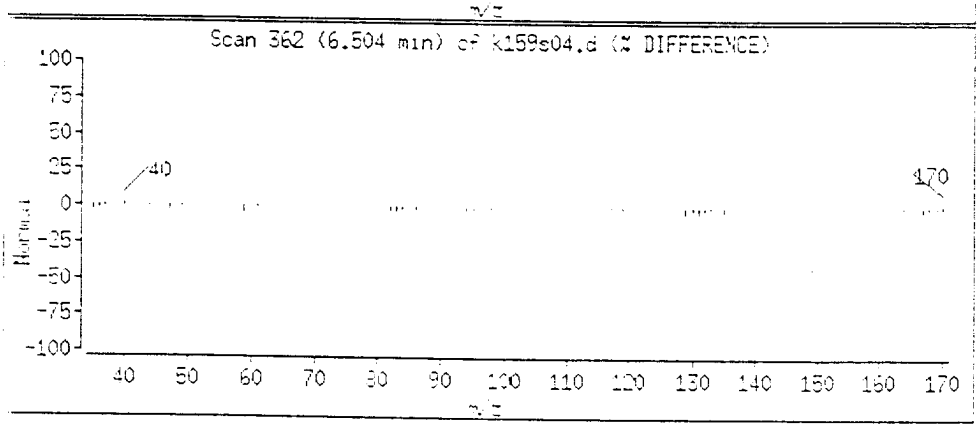












Certificate of Analysis No. 9406119-04

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:18:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 18	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-04

Operational Tech

SAMPLE ID: A-05 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS

ANALYZED BY: HLW DATE/TIME: 06/08/94 22:46:00
METHOD: 8240, Volatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed
B = Compound present in Method Blank D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k060894.b/k159s05.d
Lab. Id. :
Inj Date : 08-JUN-1994 22:21
Operator :
Smp Info : 9406119-8240S-04A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 27-Jun-1994 10:19 csadmin
Cal Date : 08-JUN-1994 16:01
Als bottle: 22
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: k.i

Cal File: k159cc3.d

Target Version: Target 3.00
Compound Sublist: all.sub

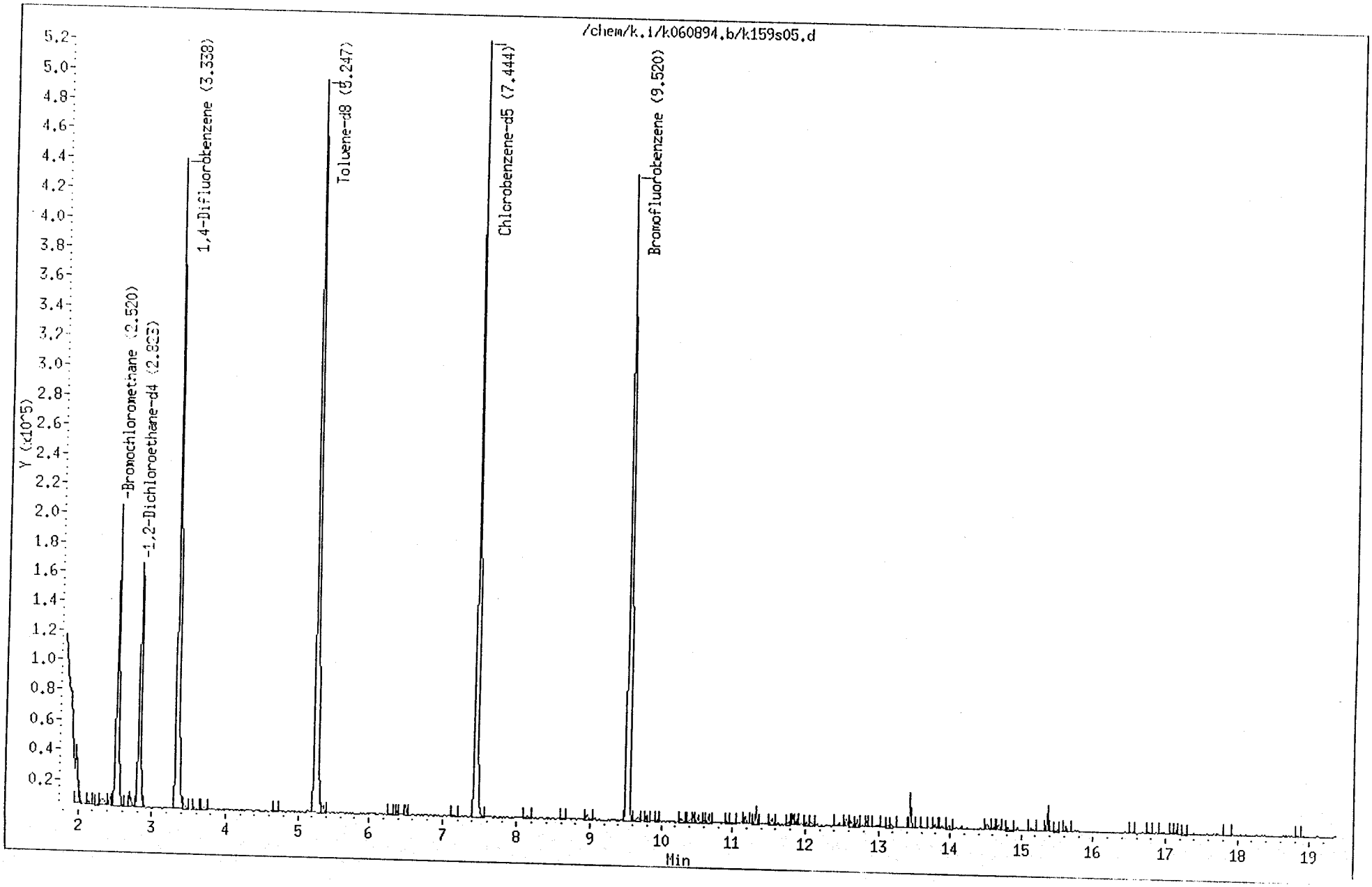
Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
* 1 Bromochloromethane	128.00	2.520	(1.000)	54547	50	(Q)
8 Acetone	43.00	1.823	(0.723)	16382	18	18
$ 16 1,2-Dichloroethane-d4	65.00	2.823	(1.120)	147688	49	49
* 18 1,4-Difluorobenzene	114.00	3.338	(1.000)	382689	50	
* 33 Chlorobenzene-d5	117.00	7.444	(1.000)	312469	50	
$ 38 Toluene-d8	98.00	5.247	(0.705)	420177	50	50
$ 42 Bromofluorobenzene	95.00	9.520	(1.279)	177940	51	51

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: /chem/k.i/k060894.b/k159s05.d
Date : 08-JUN-1994 22:21
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



Data File: /chem/k.i/k060894.b/k159s05.d

Date : 08-JUN-1994 22:21

Instrument : k.i

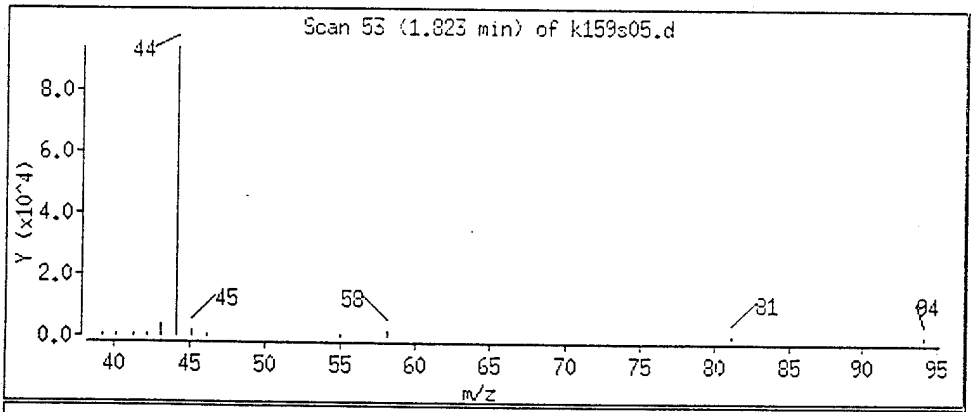
Sample ID :

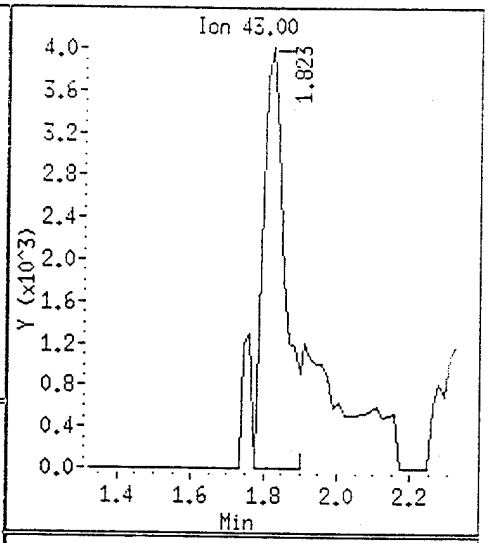
Column phase :

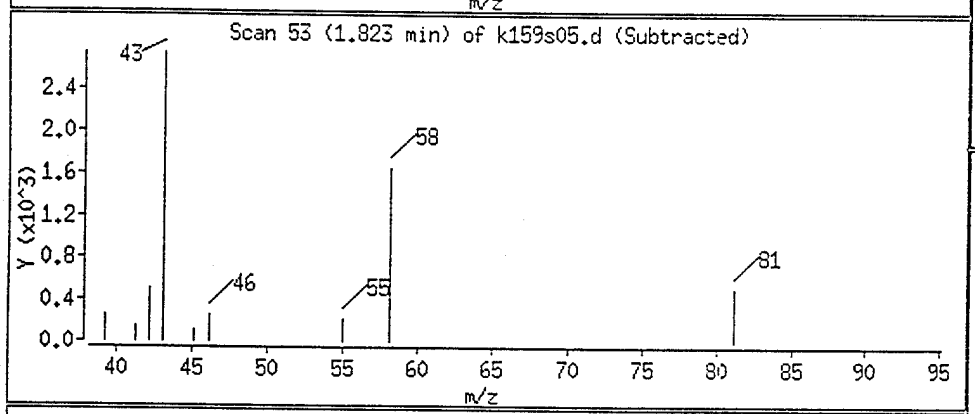
Column diameter : 0.25

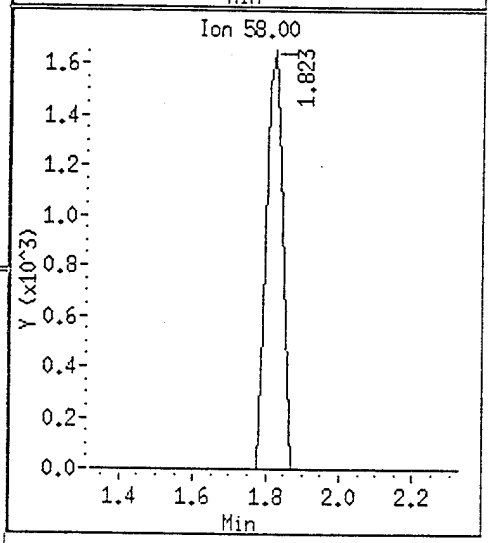
Volume Injected (uL) : 0.0

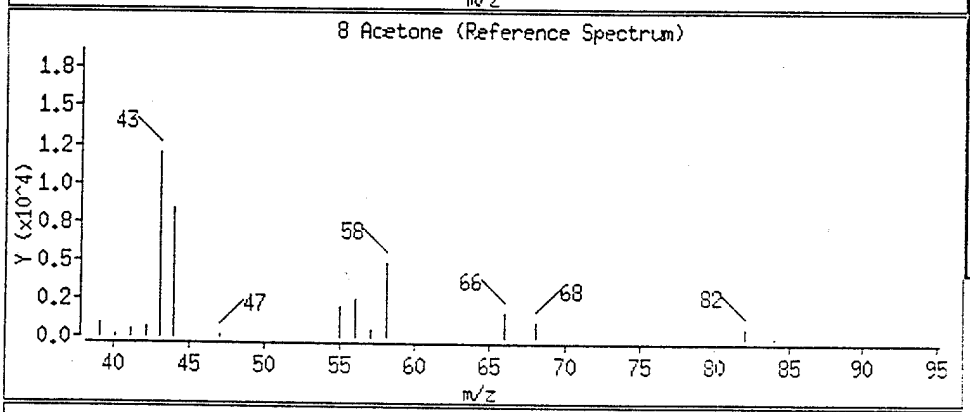
8 Acetone

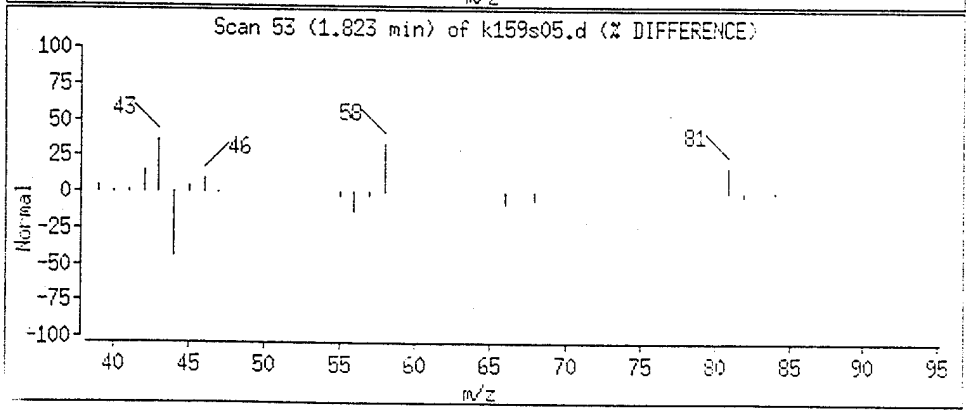












SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Client SDG: k060894.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	49	97.71	70-121
$ 38 Toluene-d8	50	50	100.89	84-138
$ 42 Bromofluorobenzene	50	51	101.57	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s05.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	62390	31195	124780	54547	-12.57
18 1,4-Difluorobenzene	436788	218394	873576	382689	-12.39
33 Chlorobenzene-d5	349737	174868	699474	312469	-10.66

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.05
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.03
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Certificate of Analysis No. 9406119-05

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 20	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	7	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-05

Operational Tech

SAMPLE ID: A-06 BH Int.1

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS

ANALYZED BY: HLW DATE/TIME: 06/08/94 23:10:00
METHOD: 8240, Volatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed
B = Compound present in Method Blank D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k060894.b/k159s06.d
Lab. Id. :
Inj Date : 08-JUN-1994 22:46
Operator :
Smp Info : 9406119-8240S-05A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01
Als bottle: 23
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: k.i

Cal File: k159cc3.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
* 1 Bromochloromethane	128.00	2.520	(1.000)	50232	50	(Q)
8 Acetone	43.00	1.823	(0.723)	16424	20	20 HIGH
$ 16 1,2-Dichloroethane-d4	65.00	2.838	(1.126)	134573	48	48
* 18 1,4-Difluorobenzene	114.00	3.338	(1.000)	373875	50	
* 33 Chlorobenzene-d5	117.00	7.444	(1.000)	250156	50	
36 Tetrachloroethene	164.00	6.505	(0.874)	9136	7	7 HIGH
$ 38 Toluene-d8	98.00	5.247	(0.705)	390641	58	58
$ 42 Bromofluorobenzene	95.00	9.520	(1.279)	123937	44	44

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Client SDG: k060894.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	48	96.68	70-121
$ 38 Toluene-d8	50	58	117.17	84-138
$ 42 Bromofluorobenzene	50	44	88.37	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s06.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

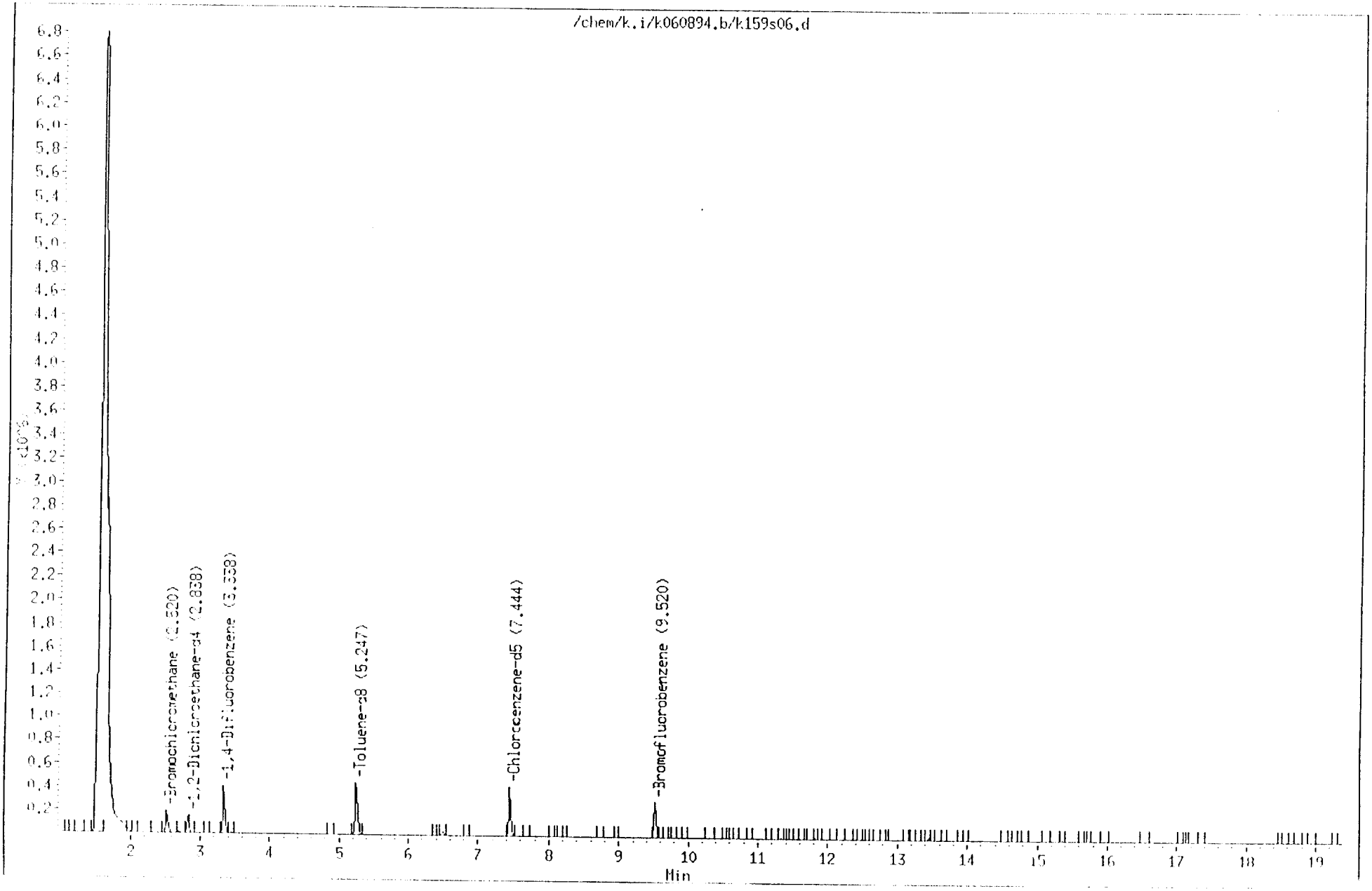
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	62390	31195	124780	50232	-19.49
18 1,4-Difluorobenzene	436788	218394	873576	373875	-14.40
33 Chlorobenzene-d5	349737	174868	699474	250156	-28.47

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.04
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.03
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s06.d
Date : 08-JUN-1994 22:46
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



Data File: /chem/k..1.k060894.s/k159s06.d

Date : 06-JUN-1994 12:46

Instrument : k.1

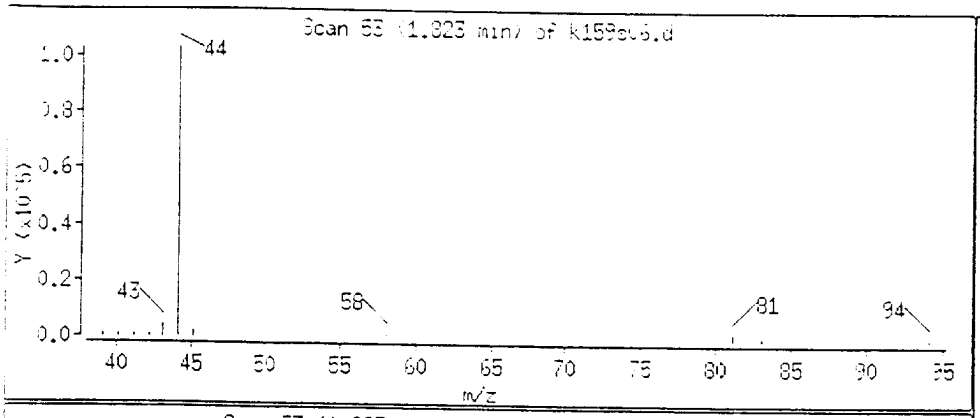
Sample ID :

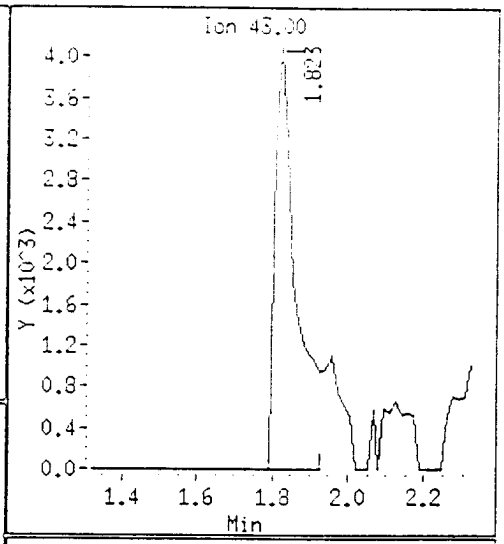
Column phase :

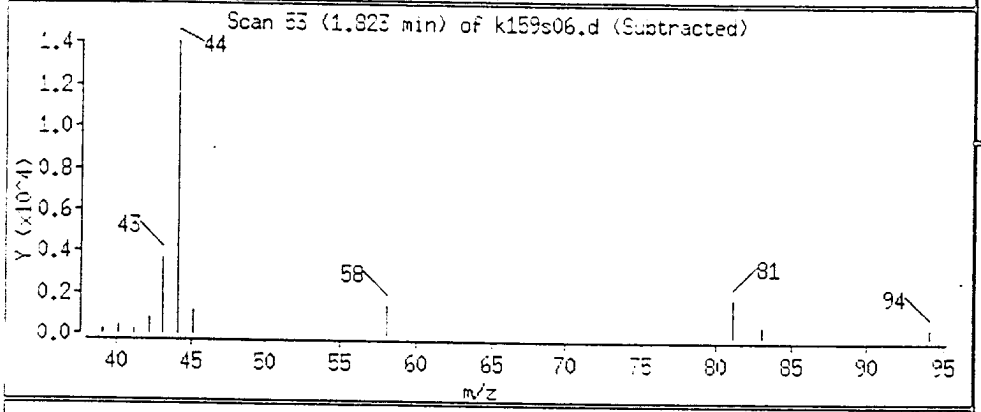
Column diameter : 0.25

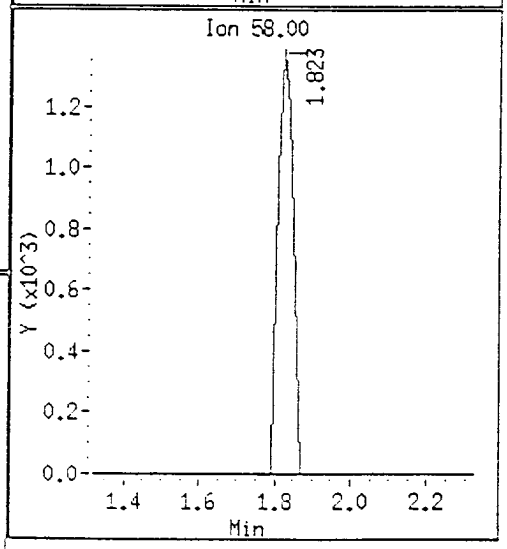
Volume Injected (uL) : 0.0

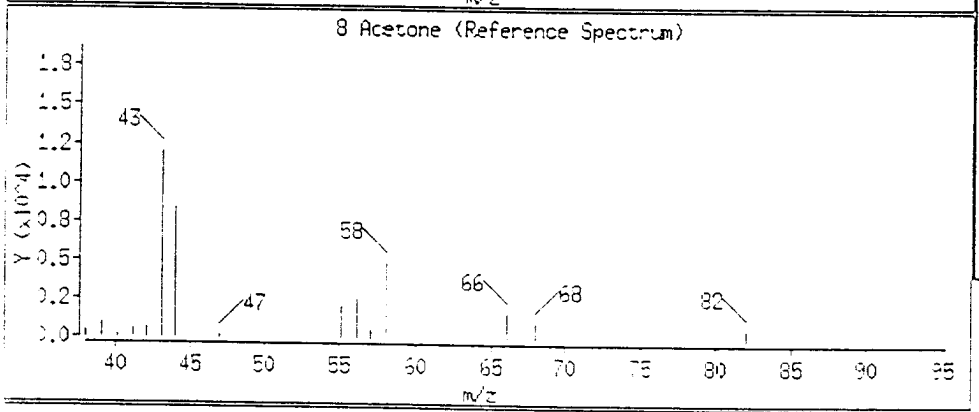
8 Acetone

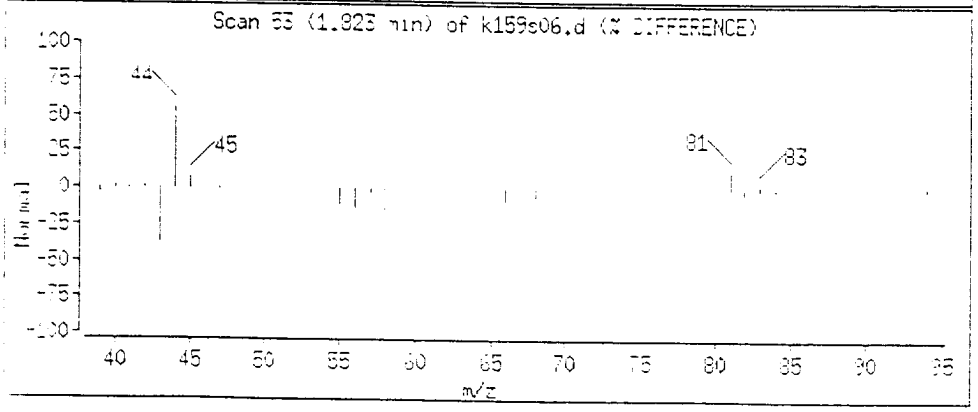












Data File: /chem/k.1/k060894.b/k159s06.d

Date : 08-JUN-1994 22:46

Instrument : K.1

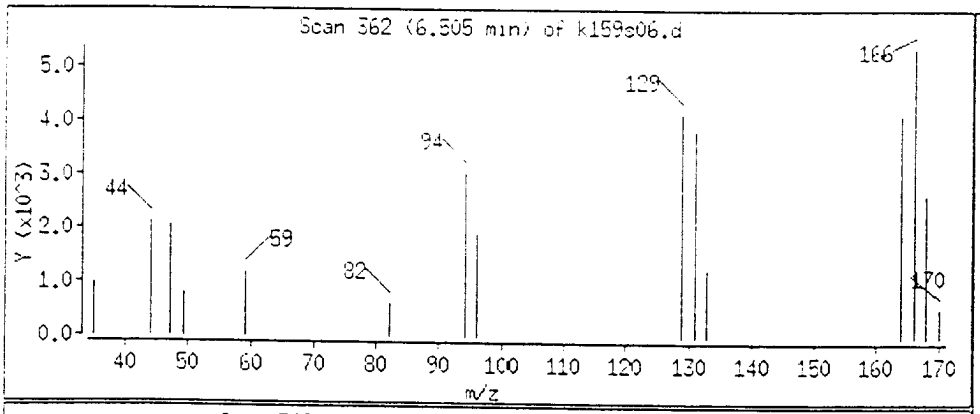
Sample ID :

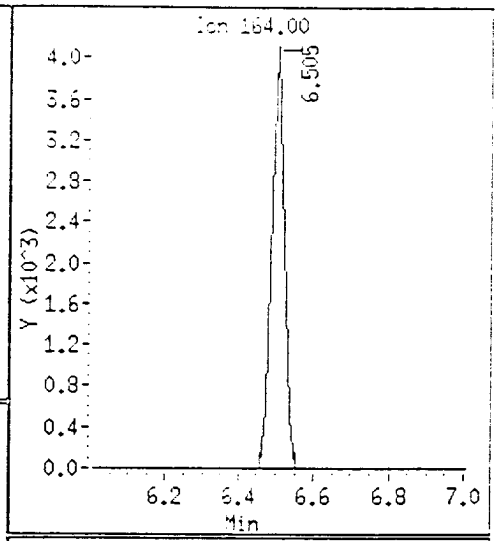
Column phase :

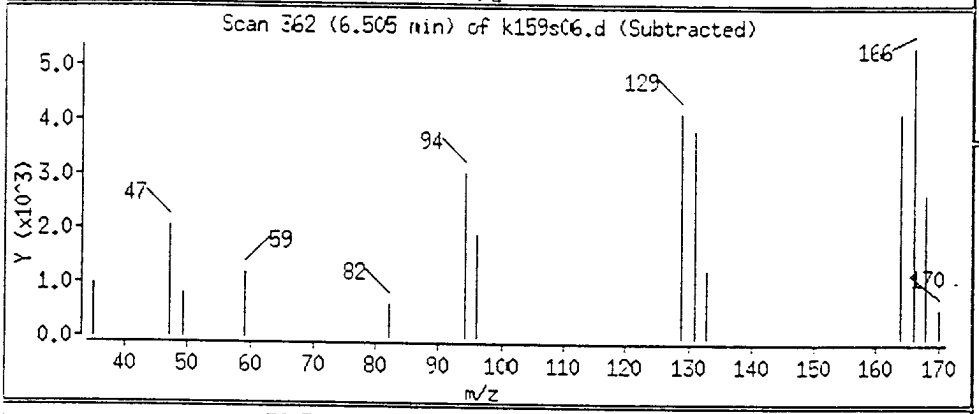
Column diameter : 0.25

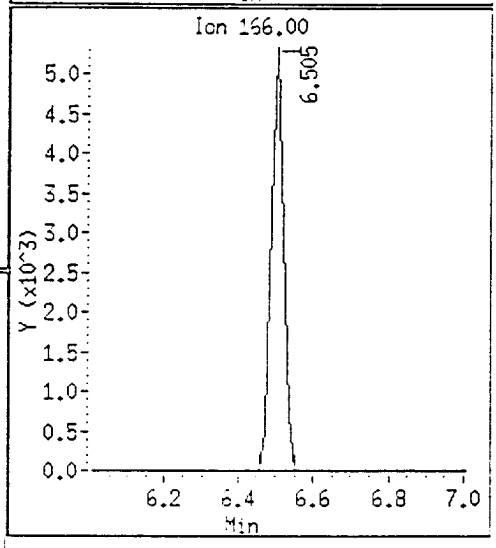
Volume Injected (uL) : 0.0

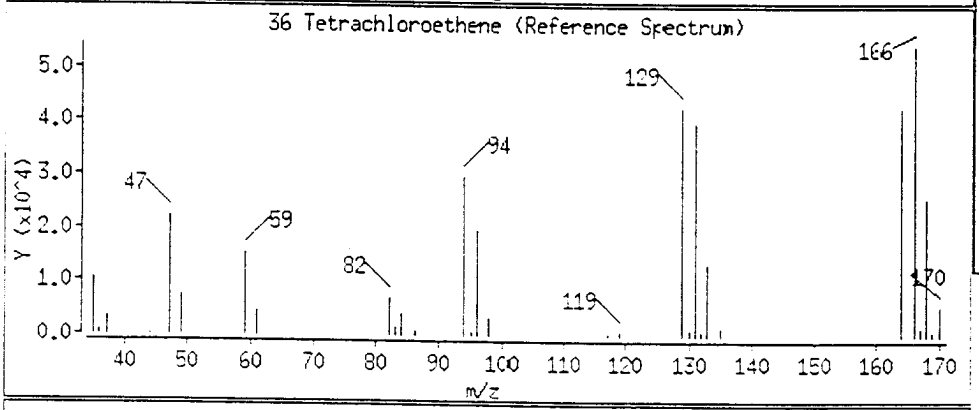
36 Tetrachloroethene

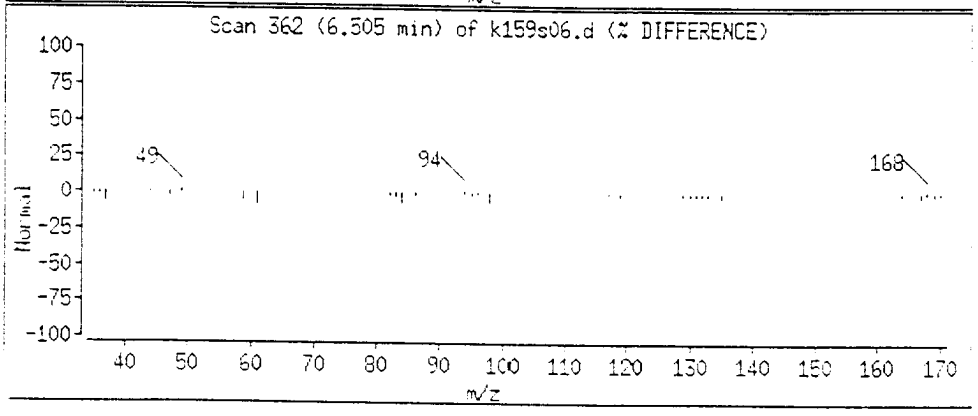












Certificate of Analysis No. 9406119-06

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 14:10:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 20	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-06

Operational Tech

SAMPLE ID: A-06 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS

ANALYZED BY: HLB DATE/TIME: 06/08/94 23:10:00

METHOD: 8240, Volatile Organics - Soil

NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed
B = Compound present in Method Blank D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-08

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:07:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 11	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-08

Operational Tech

SAMPLE ID: A-07 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS

ANALYZED BY: HLW DATE/TIME: 06/08/94 23:58:00
METHOD: 8240, Volatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed
B = Compound present in Method Blank D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k060894.b/k159s09.d
Lab. Id. :
Inj Date : 08-JUN-1994 23:58
Operator :
Smp Info : 9406119-8240S-08A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01
Als bottle: 26
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: (
Inst ID: k.i

Cal File: k159cc3.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
* 1 Bromochloromethane	128.00	2.536	(1.000)	52746	50	(Q)
8 Acetone	43.00	1.823	(0.719)	9270	11	11
$ 16 1,2-Dichloroethane-d4	65.00	2.839	(1.119)	137760	47	47
* 18 1,4-Difluorobenzene	114.00	3.339	(1.000)	403004	50	
* 33 Chlorobenzene-d5	117.00	7.445	(1.000)	317644	50	
$ 38 Toluene-d8	98.00	5.263	(0.707)	446120	53	53
$ 42 Bromofluorobenzene	95.00	9.521	(1.279)	174813	49	49

HLOW

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Client SDG: k060894.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	47	94.25	70-121
$ 38 Toluene-d8	50	53	105.38	84-138
$ 42 Bromofluorobenzene	50	49	98.16	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s09.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

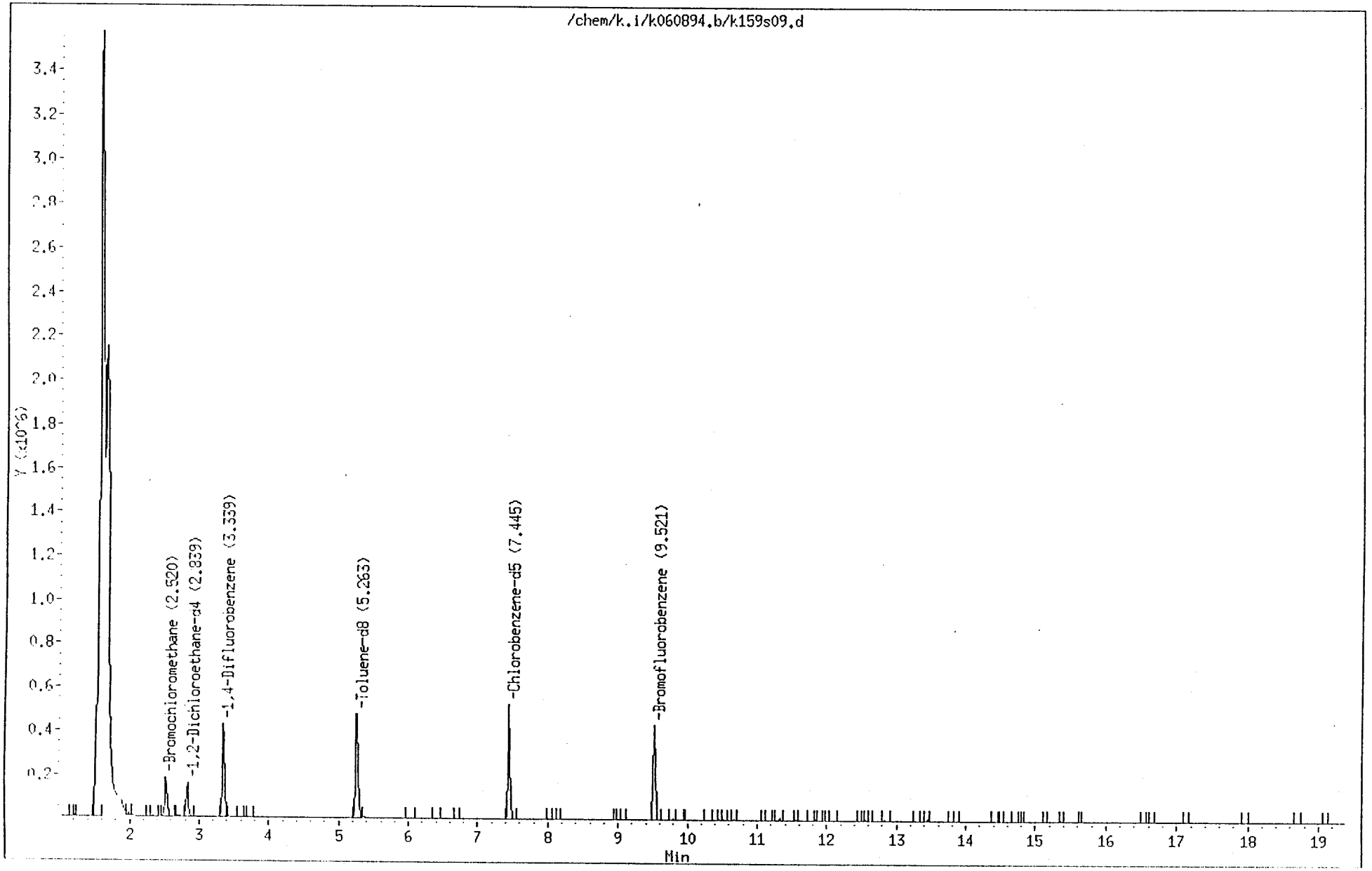
Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	62390	31195	124780	52746	-15.46
18 1,4-Difluorobenzene	436788	218394	873576	403004	-7.73
33 Chlorobenzene-d5	349737	174868	699474	317644	-9.18

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.54	0.59
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.01
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s09.d
Date : 08-JUN-1994 23:58
Instrument : k.i
Sample ID :
Column phase :
Column diameter : 0.25
Volume Injected (uL) : 0.0



Data File: /chem/k.i/k060894.b/k159s09.d

Date : 08-JUN-1994 23:58

Instrument : k.i

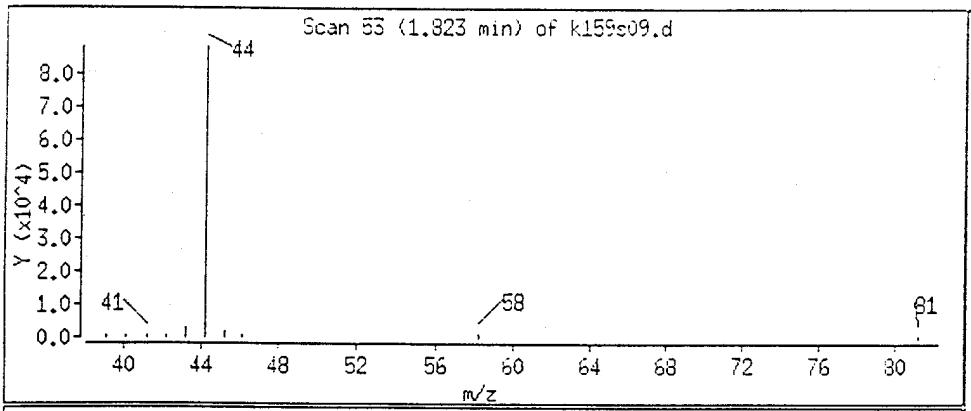
Sample ID :

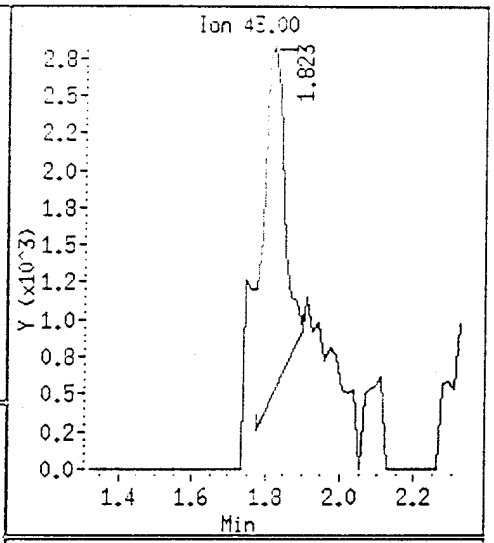
Column phase :

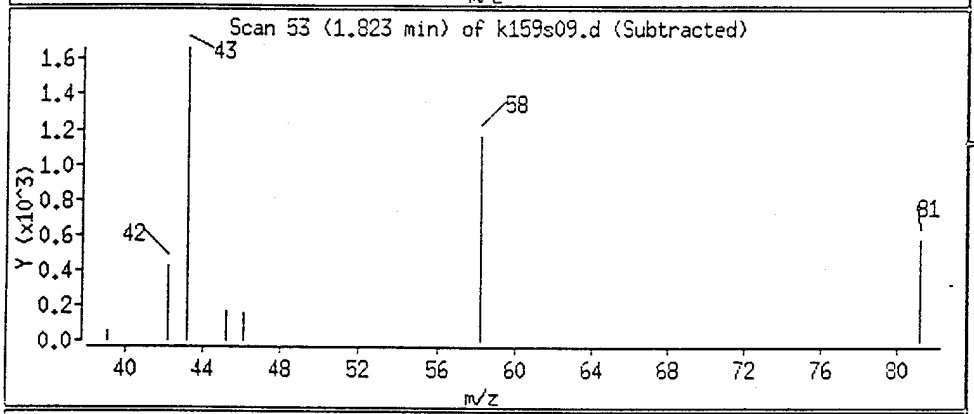
Column diameter : 0.25

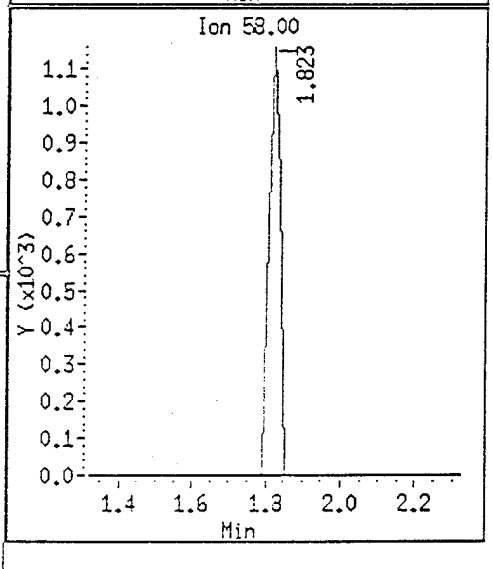
Volume Injected (uL) : 0.0

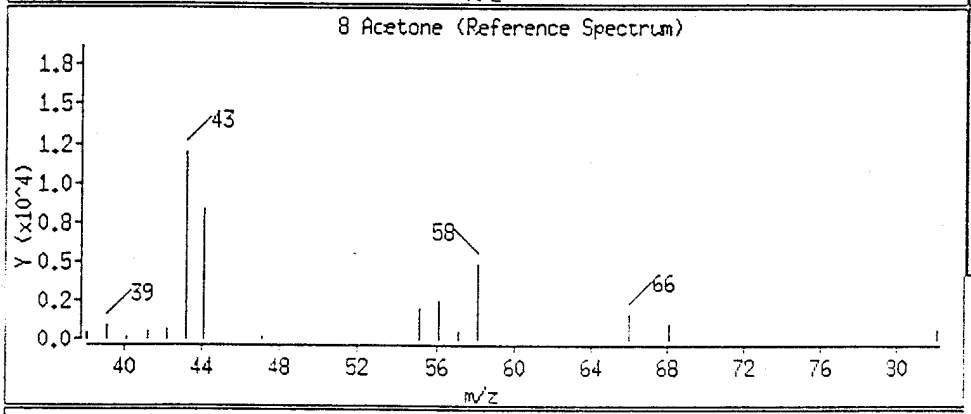
8 Acetone

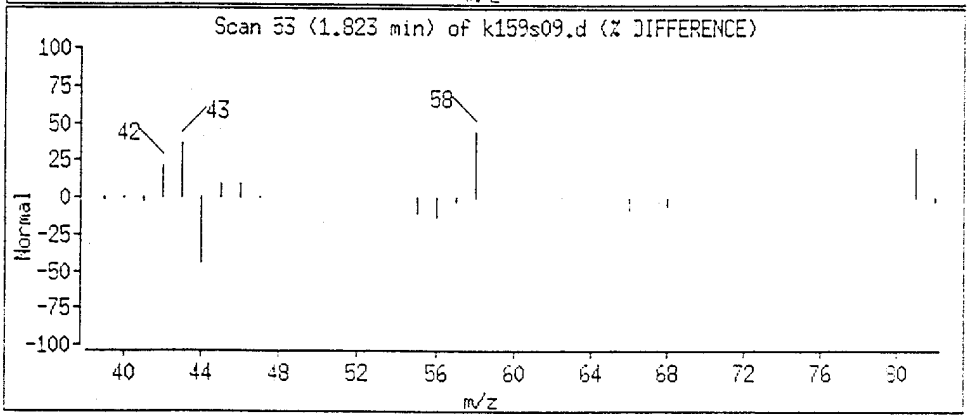












2B

SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406119

Level:(low/med) LOW

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	A-01_BH_INT_	102	100	94	0	0
02	A-01_BH_INT_	100	100	94	0	0
03	A-02_BH_INT_	104	112	94	0	0
04	A-02_BH_INT_	100	100	92	0	0
05	A-03_BH_INT_	112	92	92	0	0
06	A-03_BH_INT_	114	92	92	0	0
07	A-04_BH_INT_	102	102	96	0	0
08	A-04_BH_INT_	106	98	96	0	0
09	A-05_BH_INT_	118	86	98	0	0
10	A-05_BH_INT_	100	102	98	0	0
11	A-06_BH_INT_	116	88	96	0	0
12	A-06_BH_INT_	100	100	98	0	0
13	A-07_BH_INT_	114	88	98	0	0
14	A-07_BH_INT_	106	98	94	0	0
15	VSBLK02	98	102	104	0	0
16	VSBLK02	100	102	100	0	0

	QC LIMITS
SMC1 (TOL) = Toluene-d8	(84-138)
SMC2 (BFB) = Bromofluorobenzene	(59-113)
SMC3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406119

Matrix Spike - EPA Sample No.: A-01_BH_INT_1 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.00	0	51.00	102	59-172
Trichloroethene	50.00	0	46.00	92	62-137
Benzene	50.00	0	47.00	94	66-142
Toluene	50.00	0	47.00	94	59-139
Chlorobenzene	50.00	0	46.00	92	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.00	54.00	108	6	22	59-172
Trichloroethene	50.00	46.00	92	0	24	62-137
Benzene	50.00	47.00	94	0	21	66-142
Toluene	50.00	47.00	94	0	21	59-139
Chlorobenzene	50.00	47.00	94	2	21	60-133

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

* Values outside of QC limits

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

COMMENTS: 8240S,9406119,,A-01 BH INT.1,L,S,9406119-11A,V,E,5.0G,
CAP,K165CC1,K165BF1,K165B02,,,,35/4-150@8,INST K,

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
VSBLK02

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406119

Lab File ID: K159B02 Lab Sample ID: VSBLK020608

Date Analyzed: 06/08/94 Time Analyzed: 1956

GC Column: CAP ID: _____(mm) Heated Purge: (Y/N) Y

Instrument ID: K

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	A-03_BH_INT_	9406119-09A	K159S10	0022
02	A-03_BH_INT_	9406119-10A	K159S11	0046
03	A-04_BH_INT_	9406119-01A	K159S02	2109
04	A-04_BH_INT_	9406119-02A	K159S03	2133
05	A-05_BH_INT_	9406119-03A	K159S04	2157
06	A-05_BH_INT_	9406119-04A	K159S05	2246
07	A-06_BH_INT_	9406119-05A	K159S06	2310
08	A-06_BH_INT_	9406119-06A	K159S07	2310
09	A-07_BH_INT_	9406119-07A	K159S08	2334
10	A-07_BH_INT_	9406119-08A	K159S09	2358

COMMENTS: SPL,BLANK,,VSBLK02,L,S,VSBLK020608,V,B,X1,
CAP,K159CC3,K159BF2,K159B02,,,,45/3-220@8,INST K,

SPL Blank QC Report

Matrix: Soil
Sample ID: VSBLK020608
Batch: VOK940608124900

Reported on: 06/16/94 15:45
Analyzed on: 06/08/94 19:56
Analyst: HLB

Compound	Result	Detection Limit	Units
Chloromethane	ND	10	µg/Kg
Bromomethane	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Chloroethane	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
Acetone	24	10	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
Chloroform	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
2-Butanone	ND	20	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Benzene	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Bromoform	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
2-Hexanone	ND	10	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg

Notes
ND - Not detected.

Idel'is Williams, QC Officer

Matrix: Soil
Sample ID: VSBLK020608
Batch: VOK940608124900

Reported on: 06/16/94 15:45
Analyzed on: 06/08/94 19:56
Analyst: HLB

Compound	Result	Detection Limit	Units
Styrene	ND	5	µg/Kg
Xylene (total)	ND	5	µg/Kg

Surrogate	Result	QC Criteria	Units
Toluene-d8	98	84-138	% Recovery
4-Bromofluorobenzene	102	59-113	% Recovery
1,2-Dichloroethane-d4	104	70-121	% Recovery

Samples in Batch 9406119-01 9406119-02 9406119-03 9406119-04 9406119-05 9406119-06 9406119-07 9406119-08 9406119-09 9406119-10

Notes
ND - Not detected.

Idelis Williams, QC Officer

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VSBLK02

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406119

Lab File ID: K165B02 Lab Sample ID: VSBLK020614A

Date Analyzed: 06/14/94 Time Analyzed: 1211

GC Column: CAP ID: _____(mm) Heated Purge: (Y/N) Y

Instrument ID: K

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	A-01_BH_INT_	9406119-11A	K165S01	1236
02	A-01_BH_INT_	9406119-12A	K165S02	1350
03	A-02_BH_INT_	9406119-13A	K165S03	1414
04	A-02_BH_INT_	9406119-14A	K165S04	1236

COMMENTS: SPL,BLANK,,VSBLK02,L,S,VSBLK020614A,V,B,X1,
CAP,K165CC1,K165BF1,K165B02,,,,45/3-220@8,INST K,

Matrix: Soil
Sample ID: VSBLK020614
Batch: VOK940614095800

Reported on: 06/16/94 15:45
Analyzed on: 06/14/94 12:11
Analyst: HLW

Compound	Result	Detection Limit	Units
Chloromethane	ND	10	µg/Kg
Bromomethane	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Chloroethane	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
Acetone	ND	10	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
Chloroform	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
2-Butanone	ND	20	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Benzene	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Bromoform	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
2-Hexanone	ND	10	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg

Notes
ND - Not detected.

Idell's Williams, QC Officer

SPL Blank QC Report

Matrix: Soil
Sample ID: VSBLK020614
Batch: VOK940614095800

Reported on: 06/16/94 15:45
Analyzed on: 06/14/94 12:11
Analyst: HLW

Compound	Result	Detection Limit	Units
Styrene	ND	5	µg/Kg
Xylene (total)	ND	5	µg/Kg

Surrogate	Result	QC Criteria	Units
Toluene-d8	100	84-138	% Recovery
4-Bromofluorobenzene	102	59-113	% Recovery
1,2-Dichloroethane-d4	100	70-121	% Recovery

Samples in Batch 9406119-11 9406119-12 9406119-13 9406119-14

Notes

ND - Not detected.

Idelis Williams, QC Officer

Data File: /chem/k.i/k060894.b/k159bf2.d

Date : 08-JUN-94 12:49

Instrument : k.i

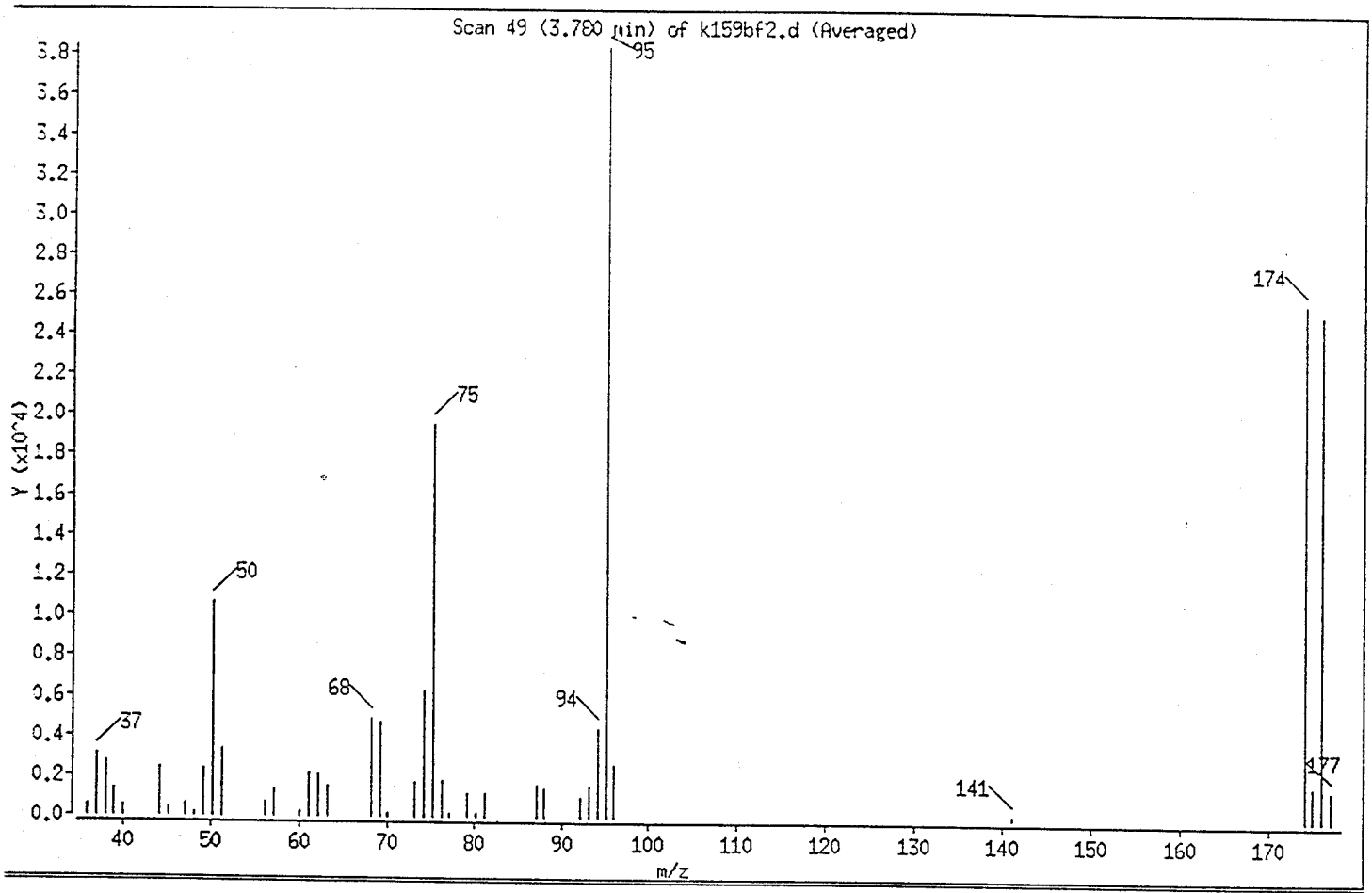
Sample ID :

Column phase :

Column diameter : 2.00

Volume Injected (uL) : 0.0

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.0
50	8.00 - 40.00% of mass 95	27.6
75	30.00 - 66.00% of mass 95	51.1
96	5.00 - 9.00% of mass 95	6.9
173	Less than 2.00% of mass 174	0.0
174	50.00 - 120.00% of mass 95	67.3
175	4.00 - 9.00% of mass 174	6.6
176	93.00 - 101.00% of mass 174	97.9
177	5.00 - 9.00% of mass 176	6.1

Data File: /chem/k.i/k060894.b/k159bf2.d
Date : 08-JUN-94 12:49
Instrument : k.i
Sample ID :
Column phase :
Column diameter : 2.00
Volume Injected (uL) : 0.0

Spectrum: Scans 49-51 (3.780 min), Subtraction Scan 47
Location of Maximum: 95.00
Number of points: 41

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	583	51.00	3357	74.00	6273	94.00	4450
37.00	3069	56.00	762	75.00	19614	95.00	38354
38.00	2734	57.00	1385	76.00	1853	96.00	2628
39.00	1349	60.00	244	77.00	175	141.00	176
40.00	41	61.00	2137	79.00	1182	174.00	25820
44.00	190	62.00	2110	80.00	190	175.00	1695
45.00	492	63.00	1514	81.00	1173	176.00	25289
47.00	674	68.00	4904	87.00	1658	177.00	1542
48.00	196	69.00	4730	88.00	1465		
49.00	2392	70.00	186	92.00	1006		
50.00	10567	73.00	1745	93.00	1542		

SPL Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: k.i
Lab File ID: k159cc3.d
Analysis Type: SOIL
Lab Sample ID:
Quant Type: ISTD

Injection Date: 08-JUN-1994 16:01
Init. Calibration Date(s): 06/08/94 06/08/94
Init. Calibration Times: 16:01 16:28
Method File: /chem/k.i/k060894.b/kclps.m

				MIN		MAX	
	COMPOUND	RRF	RF50	RRF	%D	%D	
	2 Chloromethane	2.565	3.041	0.010	18.6	25.0	
	3 Bromomethane	1.805	2.077	0.100	15.1	25.0	
	4 Vinyl Chloride	2.430	2.869	0.100	18.1	25.0	
	5 Chloroethane	1.492	1.688	0.010	13.1	25.0	
	6 Trichlorofluoromethane	2.337	2.679	0.010	14.6	25.0	
	7 Methylene Chloride	1.938	1.948	0.010	0.5	25.0	
	8 Acetone	1.333	0.826	0.010	38.0	25.0	
	9 Carbon Disulfide	6.351	6.976	0.010	9.8	25.0	
	10 1,1-Dichloroethene	1.720	1.909	0.100	11.0	25.0	
	11 1,1-Dichloroethane	3.924	4.216	0.200	7.4	25.0	
	12 trans-1,2Dichloroethene	1.644	1.796	0.010	9.3	25.0	
	13 cis-1,2-Dichloroethene	1.805	1.968	0.010	9.0	25.0	
M	14 1,2-Dichloroethene (total)	++++	++++	0.010	++++	25.0	
	15 Chloroform	3.935	3.875	0.200	1.5	25.0	
$	16 1,2-Dichloroethane-d4	3.033	2.771	0.010	8.6	25.0	
	17 1,2-Dichloroethane	3.104	2.996	0.100	3.5	25.0	
	19 2-Butanone	0.277	0.177	0.010	36.0	25.0	
	20 1,1,1-Trichloroethane	0.421	0.420	0.100	0.3	25.0	
	21 Carbon Tetrachloride	0.371	0.379	0.100	2.2	25.0	
	22 Vinyl Acetate	0.103	0.152	0.010	47.5	25.0	
	23 Bromodichloromethane	0.385	0.365	0.200	5.2	25.0	
	24 1,2-Dichloropropane	0.334	0.315	0.010	5.6	25.0	
	25 cis-1,3-Dichloropropene	0.313	0.258	0.200	17.6	25.0	
	26 Trichloroethene	0.267	0.266	0.300	0.6	25.0	<-
	27 Benzene	1.102	1.098	0.500	0.3	25.0	
	28 Dibromochloromethane	0.247	0.217	0.100	12.1	25.0	
	29 trans-1,3-Dichloropropene	0.436	0.390	0.100	10.7	25.0	
	30 1,1,2-Trichloroethane	0.200	0.166	0.100	16.8	25.0	
	31 2-Chloroethylvinylether	0.615	0.602	0.010	2.0	25.0	
	32 Bromoform	0.142	0.114	0.100	19.9	25.0	
	34 4-Methyl-2-Pentanone	0.471	0.452	0.010	4.1	25.0	
	35 2-Hexanone	0.349	0.541	0.010	39.4	25.0	
	36 Tetrachloroethene	0.257	0.262	0.200	1.8	25.0	
	37 1,1,2,2-Tetrachloroethane	0.347	0.264	0.500	24.0	25.0	<-
$	38 Toluene-d8	1.398	1.333	0.010	4.7	25.0	
	39 Toluene	0.820	0.803	0.400	2.1	25.0	
	40 Chlorobenzene	0.861	0.852	0.500	1.0	25.0	
	41 Ethylbenzene	0.479	0.478	0.100	0.2	25.0	
$	42 Bromofluorobenzene	0.605	0.561	0.200	7.3	25.0	
	43 Styrene	0.599	0.541	0.300	9.7	25.0	

SPL Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: k.i
Lab File ID: k159cc3.d
Analysis Type: SOIL
Lab Sample ID:
Quant Type: ISTD

Injection Date: 08-JUN-1994 16:01
Init. Calibration Date(s): 06/08/94 06/08/94
Init. Calibration Times: 16:01 16:28
Method File: /chem/k.i/k060894.b/kclps.m

	COMPOUND	RRF	RF50	MIN RRF	%D	MAX %D
	44 m&p-Xylene	1.148	1.119	0.300	2.5	25.0
	45 o-Xylene	0.545	0.540	0.300	0.9	25.0
M	46 Xylenes (total)	++++	++++	0.300	++++	25.0

SPL Labs

Data file : /chem/k.i/k060894.b/k159cc3.d
Lab. Id. :
Inj Date : 08-JUN-1994 16:01
Operator :
Smp Info : 50 STD
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01
Als bottle: 8
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: k.i

Cal File: k159cc3.d
Continuing Calibration Sample
Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
*	1 Bromochloromethane	128.00	2.521	(1.000)	62390	50	
	2 Chloromethane	50.00	1.612	(0.639)	189744	59	59
	3 Bromomethane	94.00	1.702	(0.675)	129573	58	58
	4 Vinyl Chloride	62.00	1.657	(0.657)	179003	59	59
	5 Chloroethane	64.00	1.718	(0.681)	105308	57	57
	6 Trichlorofluoromethane	101.00	1.839	(0.729)	167124	57	57
	7 Methylene Chloride	84.00	1.975	(0.784)	121505	50	50
	8 Acetone	43.00	1.809	(0.717)	51554	31	31
	9 Carbon Disulfide	76.00	2.036	(0.808)	435211	55	55
	10 1,1-Dichloroethene	96.00	1.930	(0.766)	119114	56	56
	11 1,1-Dichloroethane	63.00	2.203	(0.874)	263046	54	54
	12 trans-1,2Dichloroethene	96.00	2.127	(0.844)	112064	55	55
	13 cis-1,2-Dichloroethene	96.00	2.445	(0.970)	122778	55	55
	15 Chloroform	83.00	2.521	(1.000)	241773	49	49
$	16 1,2-Dichloroethane-d4	65.00	2.824	(1.120)	172880	46	46
	17 1,2-Dichloroethane	62.00	2.869	(1.138)	186903	48	48
*	18 1,4-Difluorobenzene	114.00	3.339	(1.000)	436788	50	
	19 2-Butanone	43.00	2.339	(0.700)	77459	32	32
	20 1,1,1-Trichloroethane	97.00	2.854	(0.855)	183384	50	50
	21 Carbon Tetrachloride	117.00	3.066	(0.918)	165687	51	51
	22 Vinyl Acetate	43.00	2.218	(0.664)	66280	74	74
	23 Bromodichloromethane	83.00	3.824	(1.145)	159271	47	47
	24 1,2-Dichloropropane	63.00	3.672	(1.100)	137753	47	47
	25 cis-1,3-Dichloropropene	75.00	5.354	(1.604)	112828	41	41
	26 Trichloroethene	130.00	3.687	(1.104)	115992	50	50
	27 Benzene	78.00	3.036	(0.909)	479791	50	50
	28 Dibromochloromethane	129.00	6.097	(1.826)	94717	44	44
	29 trans-1,3-Dichloropropene	75.00	4.657	(1.395)	170245	45	45
	30 1,1,2-Trichloroethane	97.00	5.491	(1.644)	72689	42	42

SPL Labs

Data file : /chem/k.i/k060894.b/k159s07.d
Lab. Id. :
Inj Date : 08-JUN-1994 23:10
Operator :
Smp Info : 9406119-8240S-06A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01
Als bottle: 24
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: k.i

Cal File: k159cc3.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)	
* 1 Bromochloromethane	128.00	2.520	(1.000)	43566	50		(Q)
8 Acetone	43.00	1.823	(0.723)	14323	20	20	
$ 16 1,2-Dichloroethane-d4	65.00	2.838	(1.126)	119008	49	49	
* 18 1,4-Difluorobenzene	114.00	3.338	(1.000)	291190	50		
* 33 Chlorobenzene-d5	117.00	7.444	(1.000)	241989	50		
$ 38 Toluene-d8	98.00	5.247	(0.705)	321285	50	50	
$ 42 Bromofluorobenzene	95.00	9.520	(1.279)	136149	50	50	

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Client SDG: k060894.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	49	98.58	70-121
$ 38 Toluene-d8	50	50	99.62	84-138
$ 42 Bromofluorobenzene	50	50	100.35	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s07.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

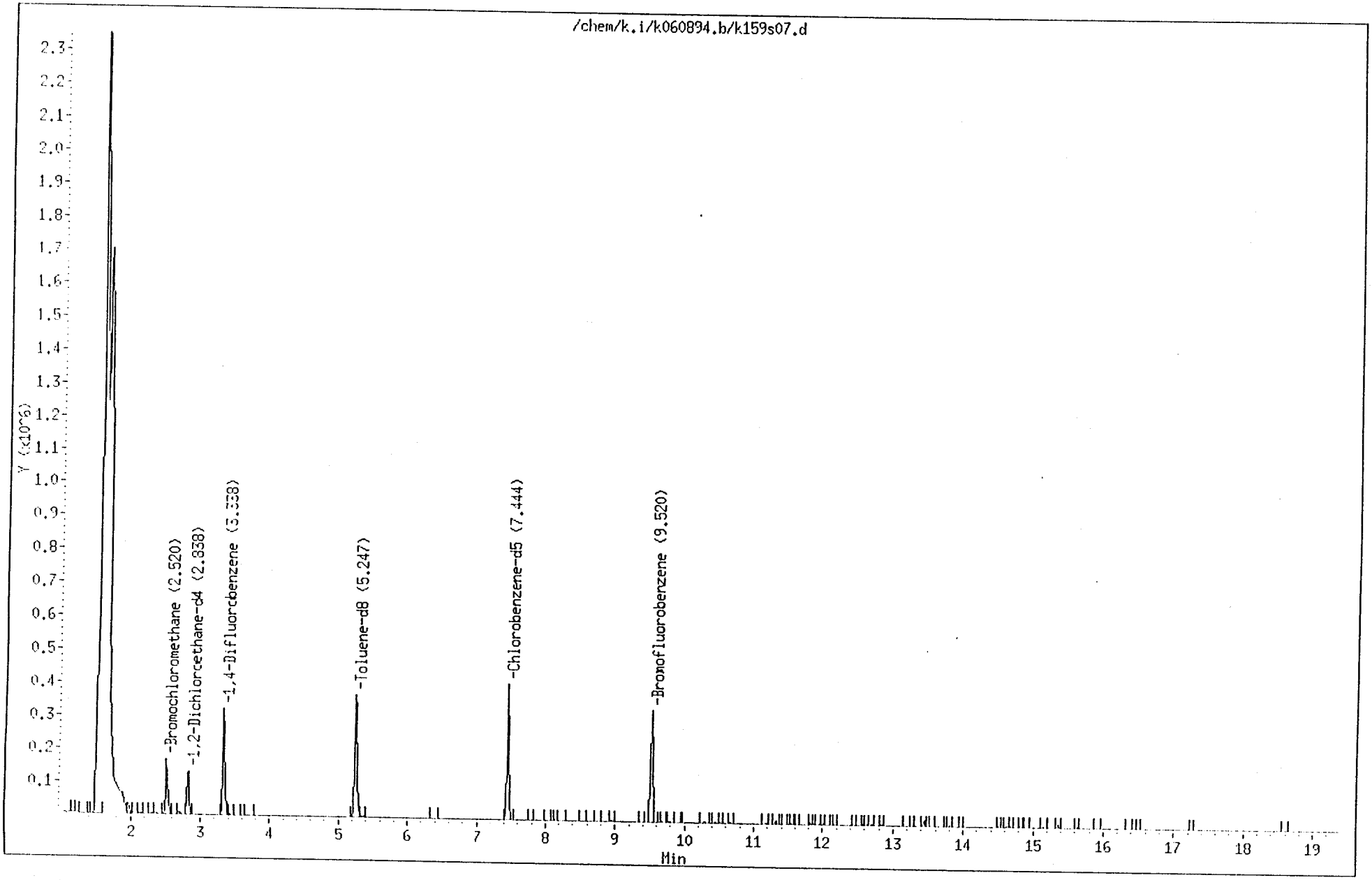
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	62390	31195	124780	43566	-30.17
18 1,4-Difluorobenzene	436788	218394	873576	291190	-33.33
33 Chlorobenzene-d5	349737	174868	699474	241989	-30.81

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.05
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.03
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159s07.d
Date : 08-JUN-1994 23:10
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



Data File: /chem/k.i/k060894.b/k159s07.d

Date : 08-JUN-1994 23:10

Instrument : k.i

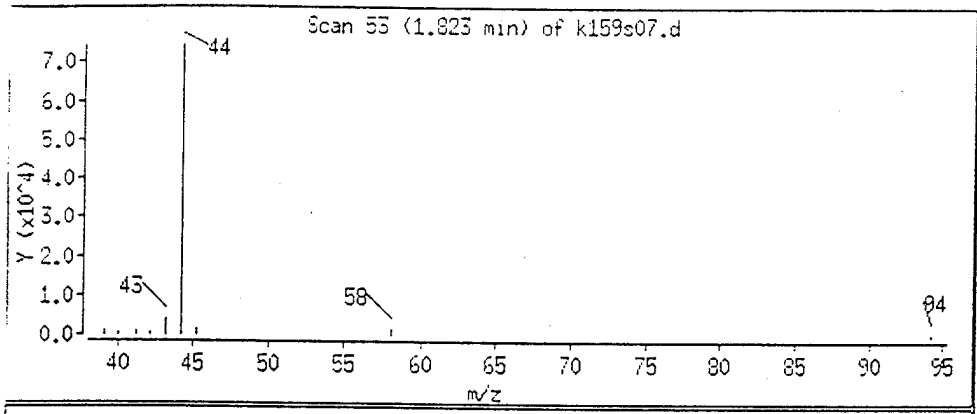
Sample ID :

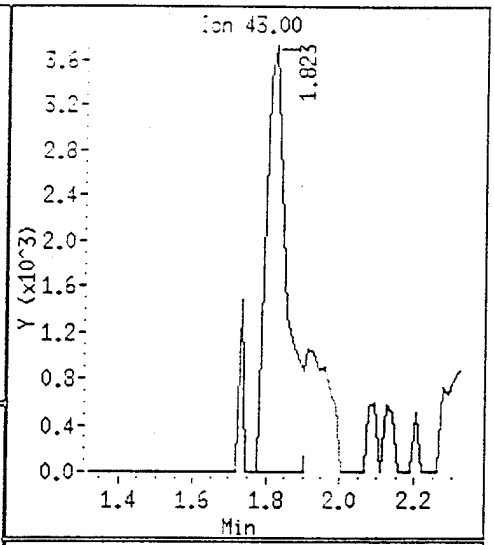
Column phase :

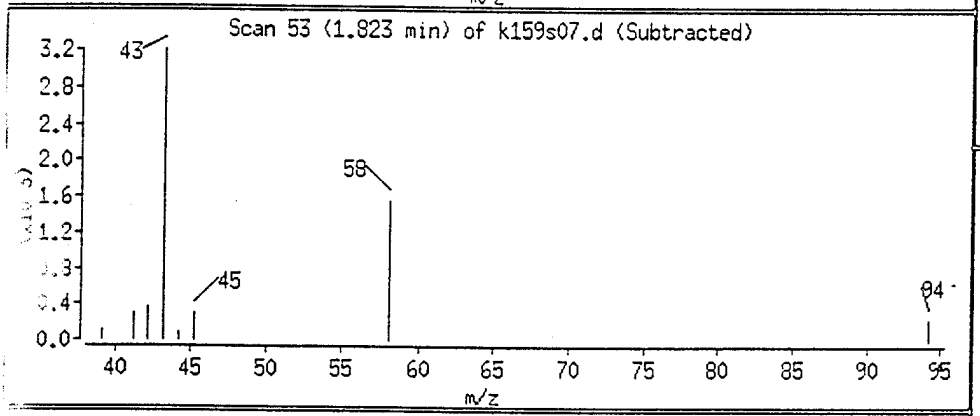
Column diameter : 0.25

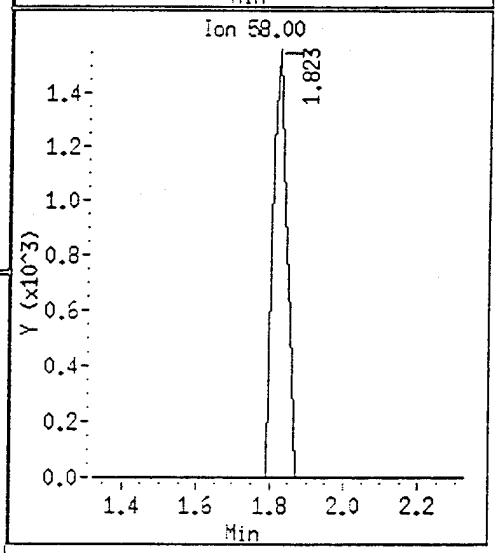
Volume Injected (uL) : 0.0

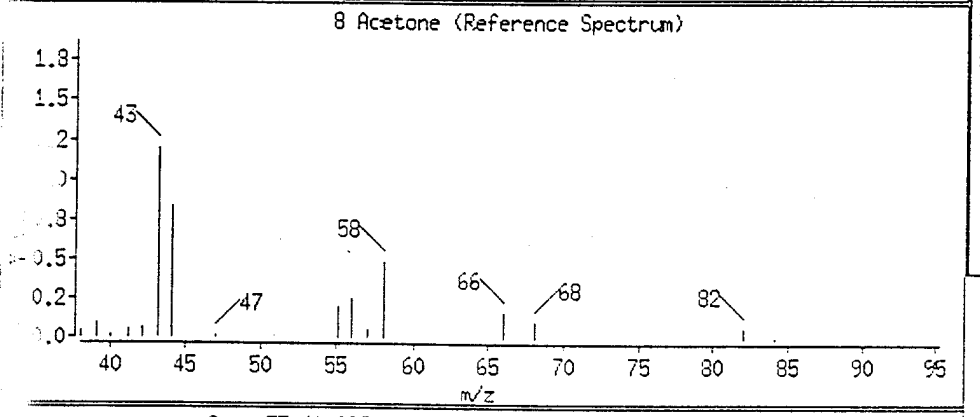
8 Acetone

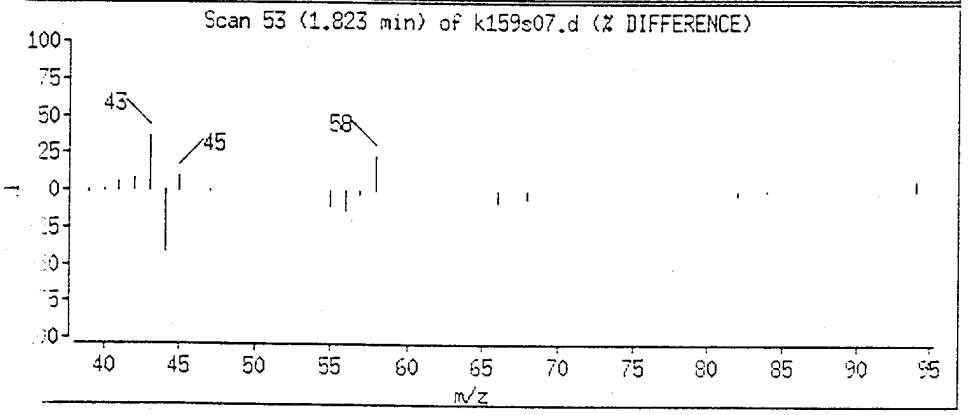












Certificate of Analysis No. 9406119-07

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:00:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acetone	B 19	10	µg/Kg
Benzene	ND	5	µg/Kg
Bromodichloromethane	ND	5	µg/Kg
Bromoform	ND	5	µg/Kg
Bromomethane	ND	10	µg/Kg
2-Butanone	ND	20	µg/Kg
Carbon Disulfide	ND	5	µg/Kg
Carbon Tetrachloride	ND	5	µg/Kg
Chlorobenzene	ND	5	µg/Kg
Chloroethane	ND	10	µg/Kg
2-Chloroethylvinylether	ND	10	µg/Kg
Chloroform	ND	5	µg/Kg
Chloromethane	ND	10	µg/Kg
Dibromochloromethane	ND	5	µg/Kg
1,1-Dichloroethane	ND	5	µg/Kg
1,1-Dichloroethene	ND	5	µg/Kg
1,2-Dichloroethane	ND	5	µg/Kg
total-1,2-Dichloroethene	ND	5	µg/Kg
1,2-Dichloropropane	ND	5	µg/Kg
cis-1,3-Dichloropropene	ND	5	µg/Kg
trans-1,3-Dichloropropene	ND	5	µg/Kg
Ethylbenzene	ND	5	µg/Kg
2-Hexanone	ND	10	µg/Kg
Methylene Chloride	ND	5	µg/Kg
4-Methyl-2-Pentanone	ND	10	µg/Kg
Styrene	ND	5	µg/Kg
1,1,2,2-Tetrachloroethane	ND	5	µg/Kg
Tetrachloroethene	ND	5	µg/Kg
Toluene	ND	5	µg/Kg
1,1,1-Trichloroethane	ND	5	µg/Kg
1,1,2-Trichloroethane	ND	5	µg/Kg
Trichloroethene	ND	5	µg/Kg
Trichlorofluoromethane	ND	5	µg/Kg
Vinyl Acetate	ND	10	µg/Kg
Vinyl Chloride	ND	10	µg/Kg
Xylenes (total)	ND	5	µg/Kg

METHOD: 8240, Volatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-07

Operational Tech

SAMPLE ID: A-07 BH Int.1

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS

ANALYZED BY: HLW DATE/TIME: 06/08/94 23:34:00
METHOD: 8240, Volatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed
B = Compound present in Method Blank D - Surr. diluted out.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Labs

Data file : /chem/k.i/k060894.b/k159s08.d
Lab. Id. :
Inj Date : 08-JUN-1994 23:34
Operator :
Smp Info : 9406119-8240S-07A X1
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01
Als bottle: 25
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: (
Inst ID: k.i

Cal File: k159cc3.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)	
* 1 Bromochloromethane	128.00	2.520	(1.000)	50280	50		(Q)
8 Acetone	43.00	1.823	(0.723)	15947	19	19	HRBW
$ 16 1,2-Dichloroethane-d4	65.00	2.838	(1.126)	136960	49	49	
* 18 1,4-Difluorobenzene	114.00	3.338	(1.000)	374344	50		
* 33 Chlorobenzene-d5	117.00	7.444	(1.000)	267379	50		
$ 38 Toluene-d8	98.00	5.247	(0.705)	405080	57	57	
$ 42 Bromofluorobenzene	95.00	9.520	(1.279)	131871	44	44	

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Client SDG: k060894.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	49	98.30	70-121
$ 38 Toluene-d8	50	57	113.67	84-138
$ 42 Bromofluorobenzene	50	44	87.97	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159s08.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Methcd File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	% DIFF
1 Bromochloromethane	62390	31195	124780	50280	-19.41
18 1,4-Difluorobenzene	436788	218394	873576	374344	-14.30
33 Chlorobenzene-d5	349737	174868	699474	267379	-23.55

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.52	-0.04
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	-0.03
33 Chlorobenzene-d5	7.45	6.95	7.95	7.44	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.1/k060894.b/k159s08.d

Date : 08-JUN-1994 23:34

Instrument : k.:

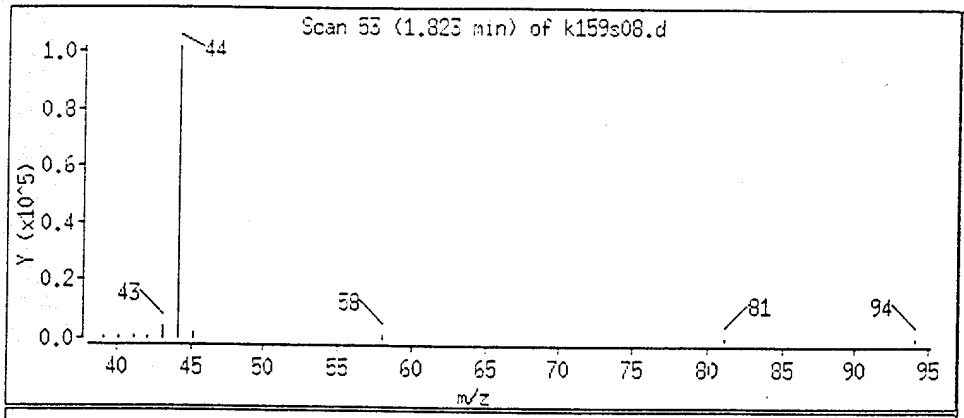
Sample ID :

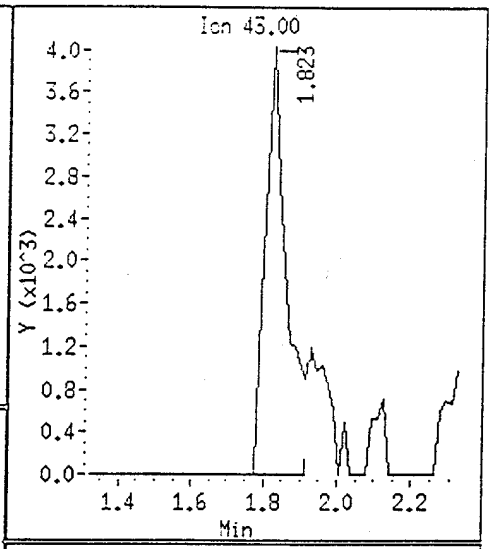
Column phase :

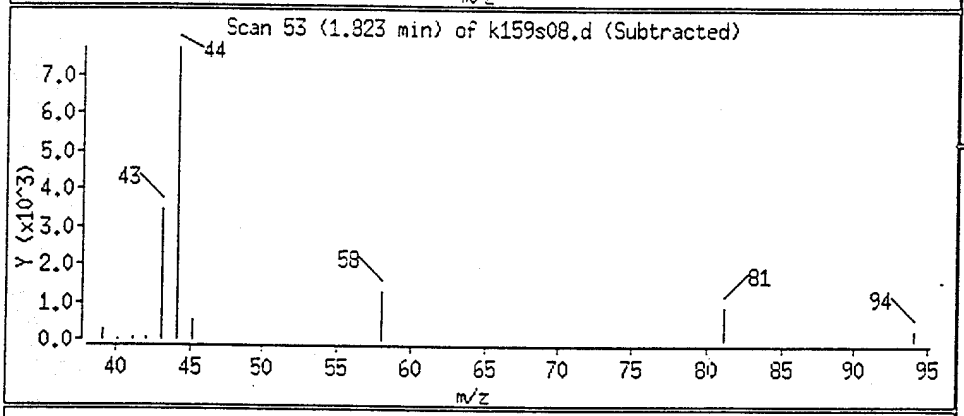
Column diameter : 0.25

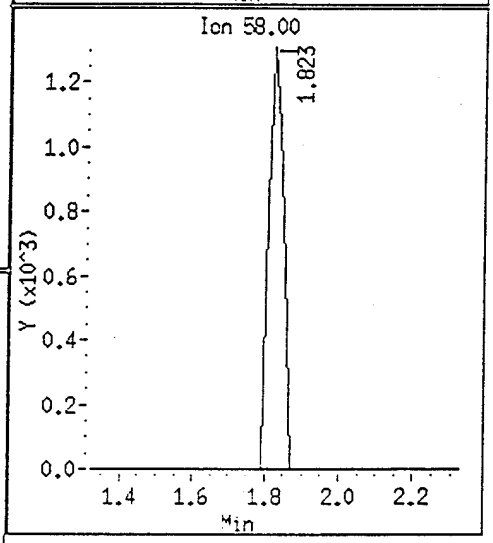
Volume Injected (uL) : 0.)

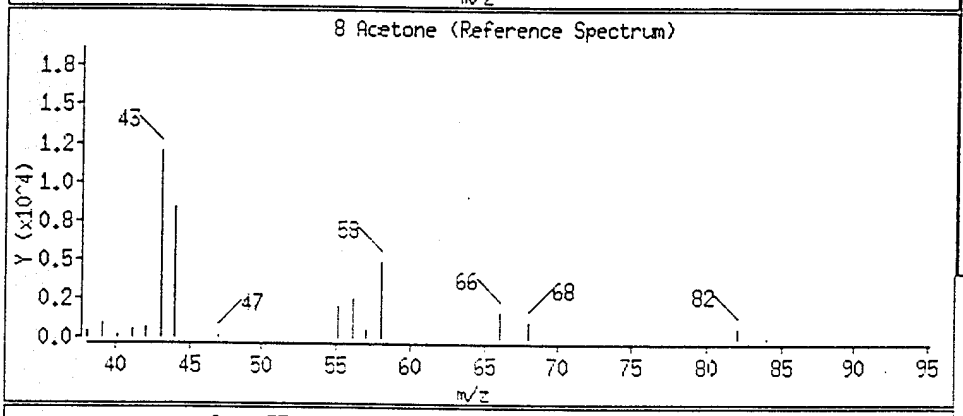
8 Acetone

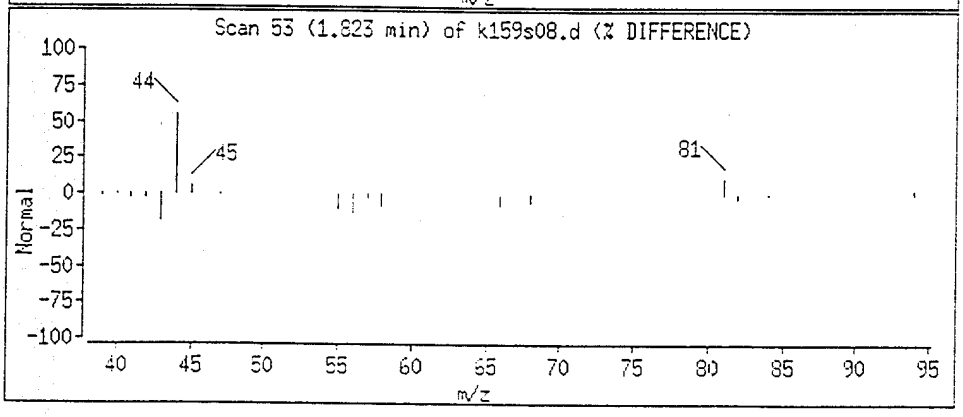




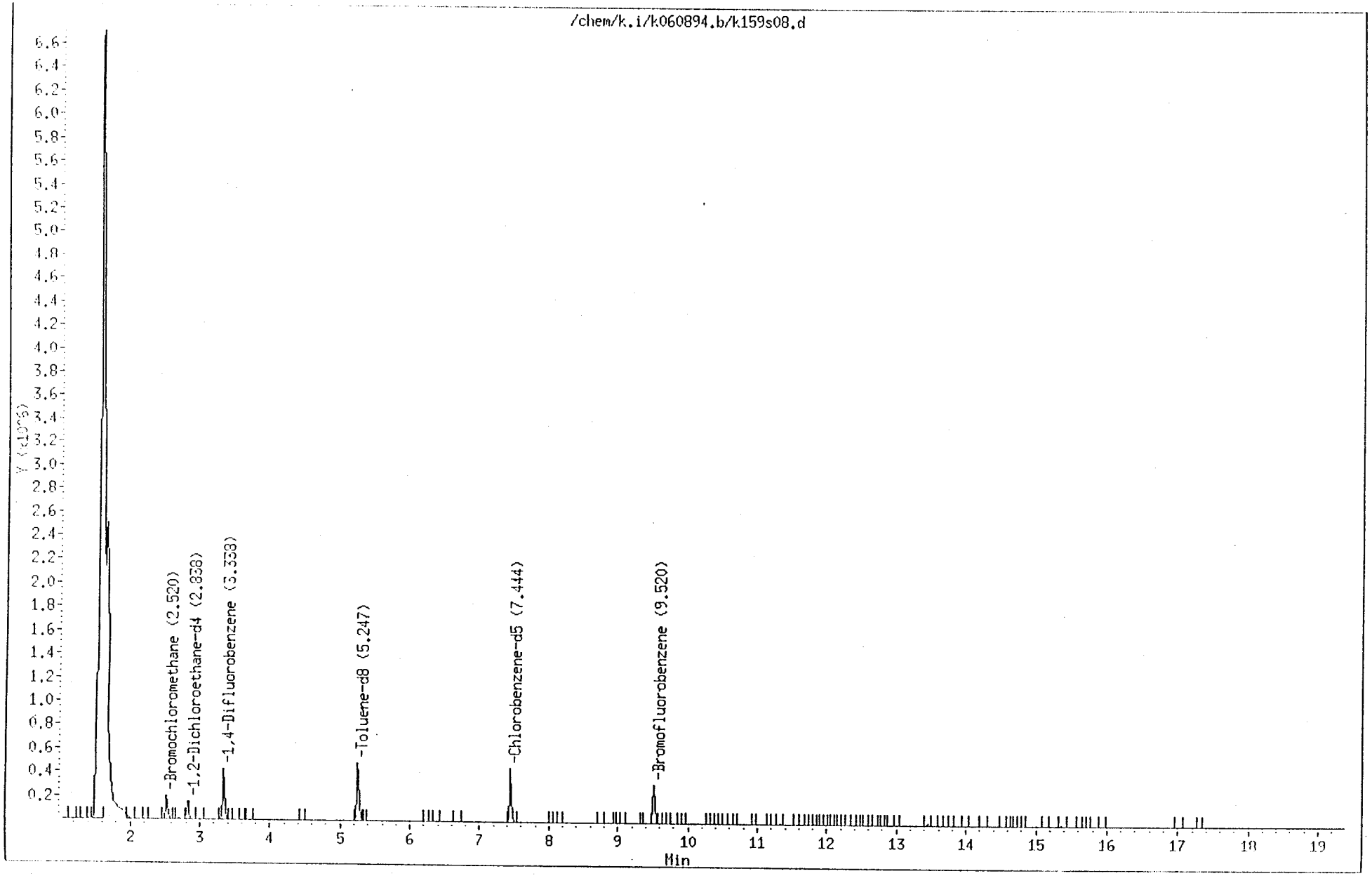








Data File: /chem/k.i/k060894.b/k159s08.d
Date : 08-JUN-1994 23:34
Instrument : k.i
Sample ID :
Column phase :
Column diameter : 0.25
Volume Injected (ul) : 0.0



	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/Kg)
	31 2-Chloroethylvinylether	63.00	2.203	(0.660)	263046	49	49
	32 Bromoform	173.00	8.506	(2.547)	49628	40	40
*	33 Chlorobenzene-d5	117.00	7.445	(1.000)	349737	50	
	34 4-Methyl-2-Pentanone	43.00	4.733	(0.636)	157938	48	48
	35 2-Hexanone	43.00	6.066	(0.815)	189242	77	77
	36 Tetrachloroethene	164.00	6.491	(0.872)	91570	51	51
	37 1,1,2,2-Tetrachloroethane	83.00	9.263	(1.244)	92365	38	38
$	38 Toluene-d8	98.00	5.248	(0.705)	466127	48	48
	39 Toluene	92.00	5.339	(0.717)	280715	49	49
	40 Chlorobenzene	112.00	7.491	(1.006)	298104	49	49
	41 Ethylbenzene	106.00	7.915	(1.063)	167141	50	50
$	42 Bromofluorobenzene	95.00	9.521	(1.279)	196076	46	46
	43 Styrene	104.00	8.688	(1.167)	189137	45	45
	44 m&p-Xylene	106.00	8.127	(1.092)	391490	49	49
	45 o-Xylene	106.00	8.733	(1.173)	188893	50	50

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159cc3.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SCIL
Level: LOW

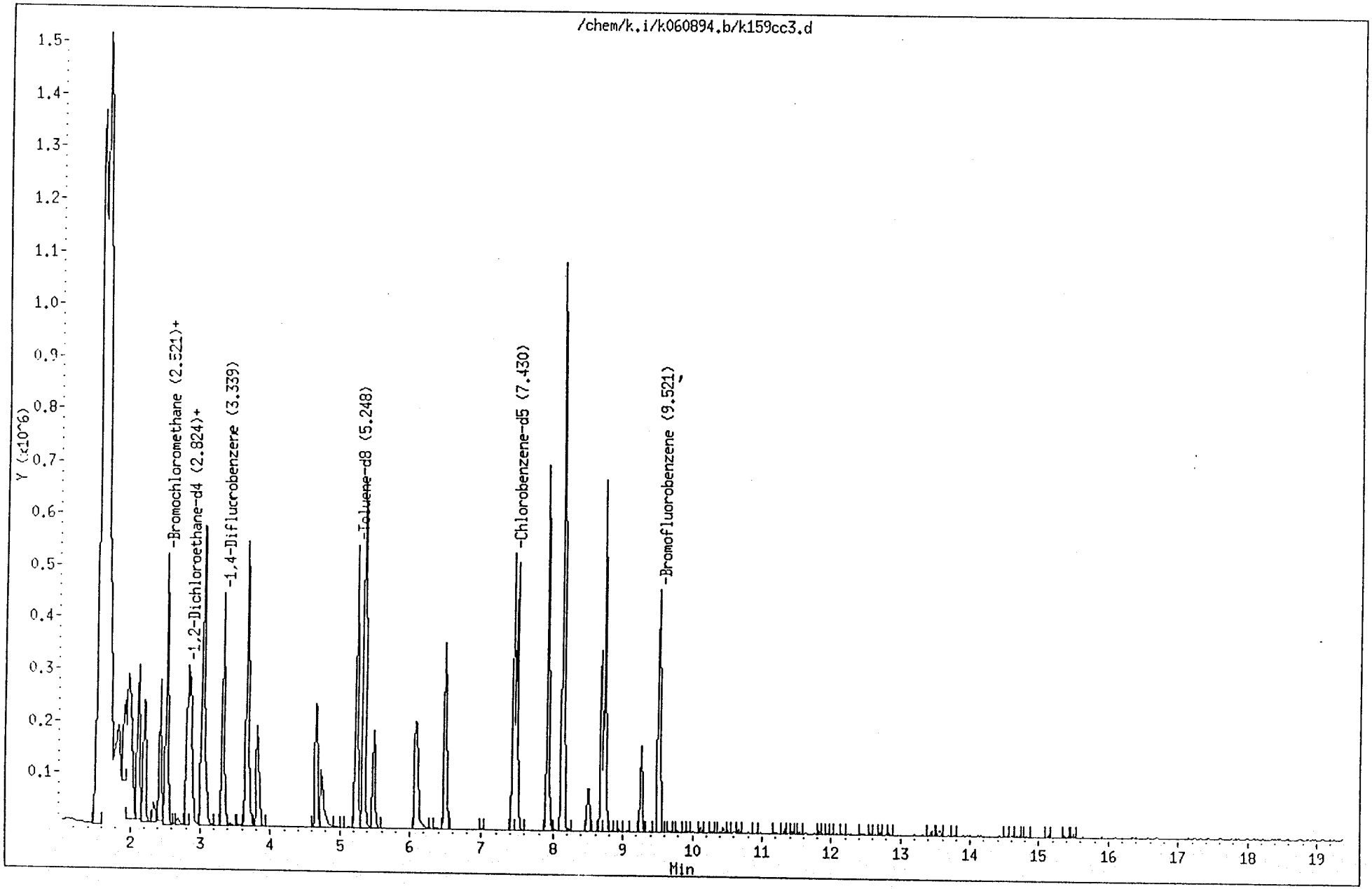
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	62390	31195	124780	62390	0.00
18 1,4-Difluorobenzene	436788	218394	873576	436788	0.00
33 Chlorobenzene-d5	349737	174868	699474	349737	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.52	0.00
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.34	0.00
33 Chlorobenzene-d5	7.45	6.95	7.95	7.45	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159cc3.d
Date : 08-JUN-1994 16:01
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



SPL Labs

Data file : /chem/k.i/k060894.b/k159b02.d
Lab. Id. :
Inj Date : 08-JUN-1994 19:56
Operator :
Smp Info : METHOD BLANK
Misc Info :
Comment :
Method : /chem/k.i/k060894.b/kclps.m
Meth Date : 09-Jun-1994 11:53 hillery
Cal Date : 08-JUN-1994 16:01
Als bottle: 16
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: (
Inst ID: k.i

Cal File: k159cc3.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)	
* 1 Bromochloromethane	128.00	2.534	(1.000)	70363	50	(Q)	
8 Acetone	43.00	1.822	(0.719)	27816	24	24	HLBW
$ 16 1,2-Dichloroethane-d4	65.00	2.837	(1.120)	202877	52	52	
* 18 1,4-Difluorobenzene	114.00	3.353	(1.000)	392626	50		
* 33 Chlorobenzene-d5	117.00	7.459	(1.000)	326424	50		
$ 38 Toluene-d8	98.00	5.262	(0.705)	429469	49	49	
$ 42 Bromofluorobenzene	95.00	9.520	(1.276)	188131	51	51	

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: /chem/k.i/k060894.b/k159b02.d
Report Date: 10-Jun-1994 10:13

SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Client SDG: k060894.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	52	104.05	70-121
$ 38 Toluene-d8	50	49	98.72	84-138
$ 42 Bromofluorobenzene	50	51	102.80	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k159b02.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k060894.b/kclps.m
Misc Info:

Calibration Date: 06/08/94
Calibration Time: 1601
Sample Type: SOIL
Level: LOW

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	% DIFF
1 Bromochloromethane	62390	31195	124780	70363	12.78
18 1,4-Difluorobenzene	436788	218394	873576	392626	-10.11
33 Chlorobenzene-d5	349737	174868	699474	326424	-6.67

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.53	0.55
18 1,4-Difluorobenzene	3.34	2.84	3.84	3.35	0.41
33 Chlorobenzene-d5	7.45	6.95	7.95	7.46	0.18

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k060894.b/k159b02.d

Date : 08-JUN-1994 19:56

Instrument : k.i

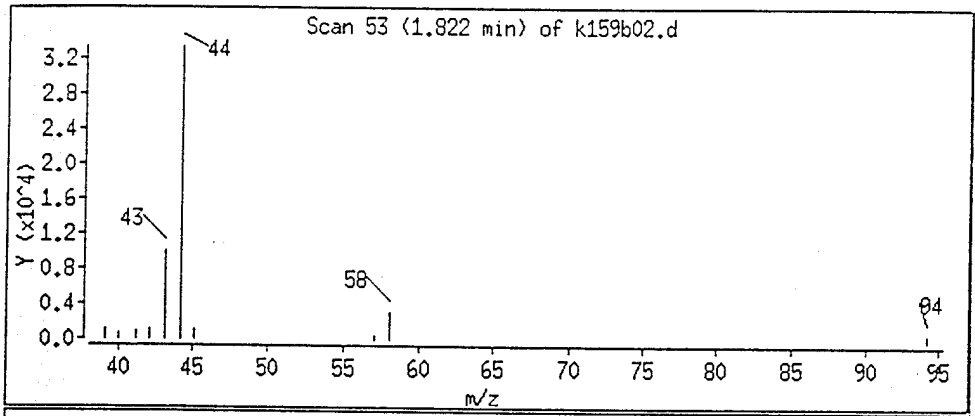
Sample ID :

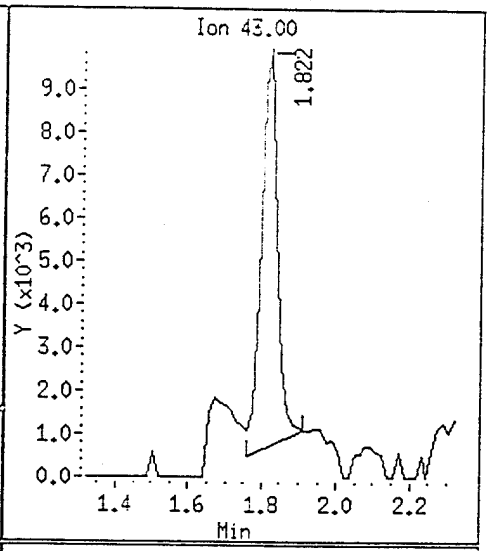
Column phase :

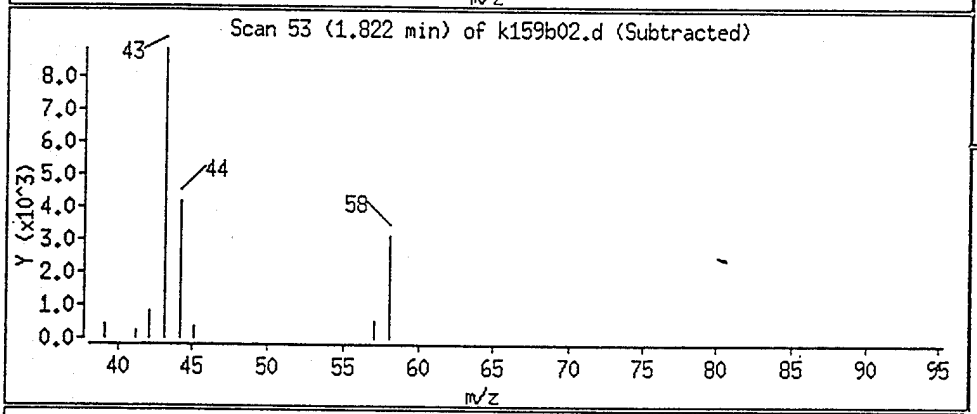
Column diameter : 0.25

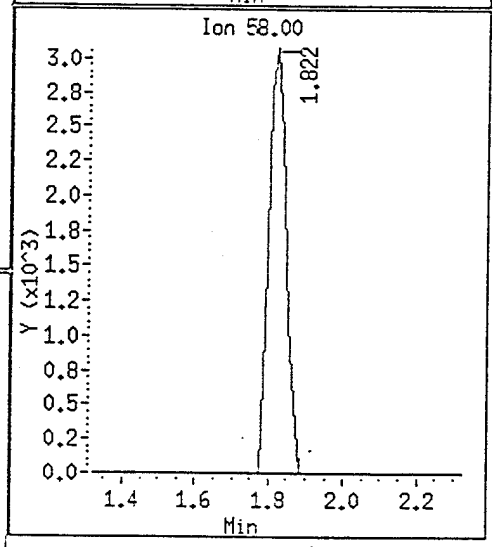
Volume Injected (uL) : 0.0

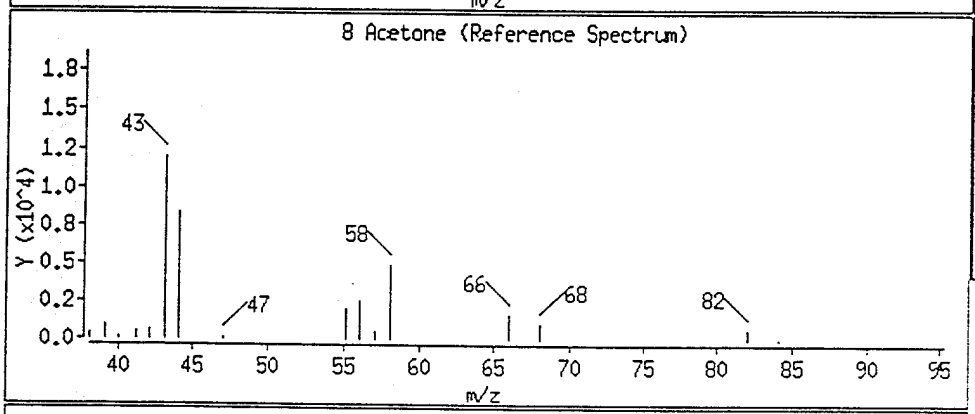
8 Acetone

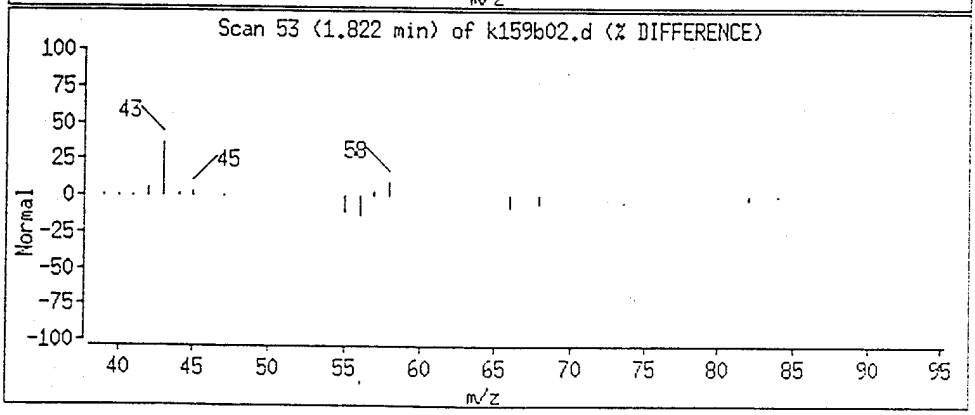






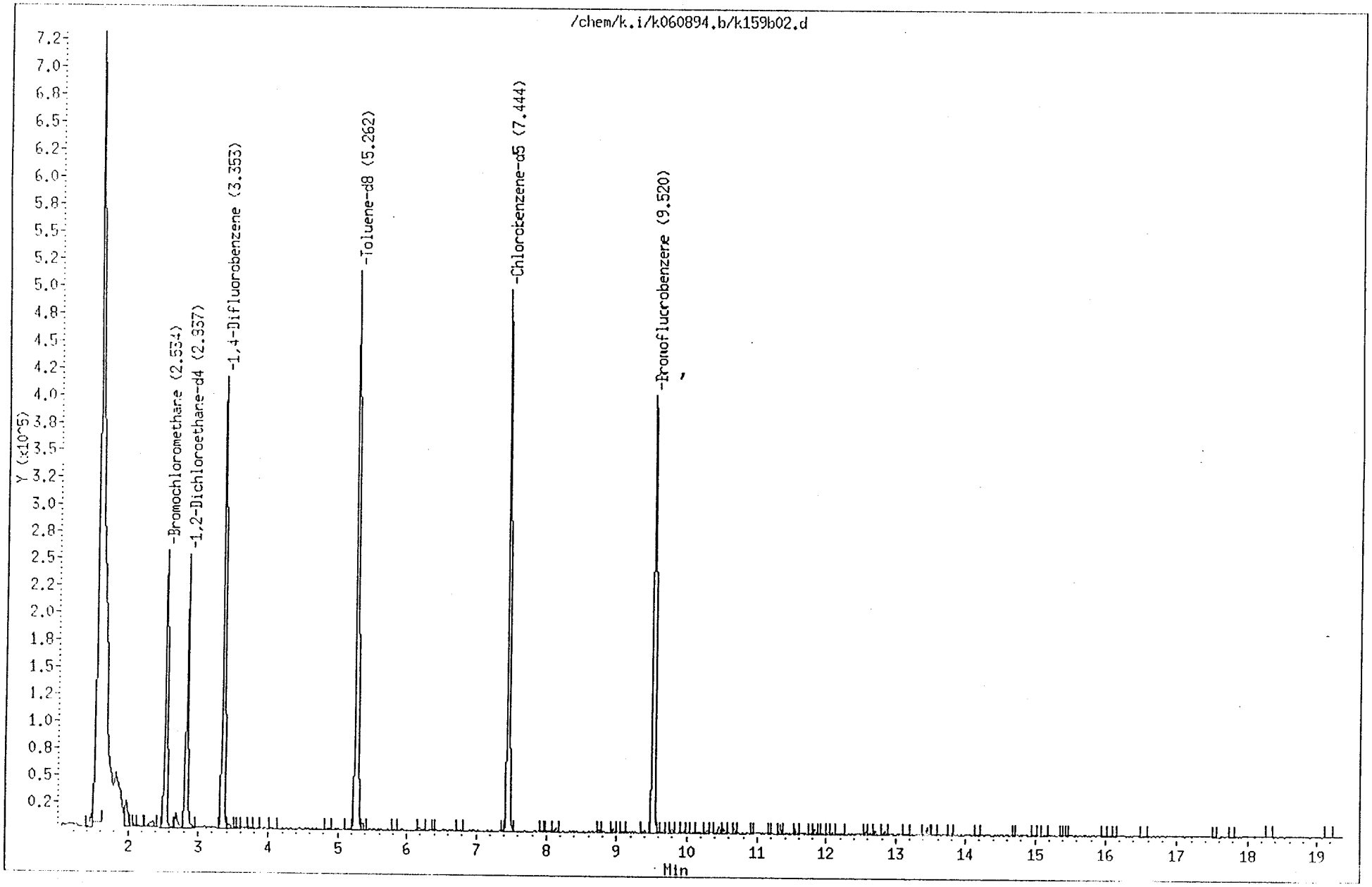






Data File: /chem/k.i/k060894.b/k159b02.d
Date : 08-JUN-1994 19:56
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



Data File: /chem/k.i/k061494.b/k165bf1.d

Date : 14-JUN-94 09:58

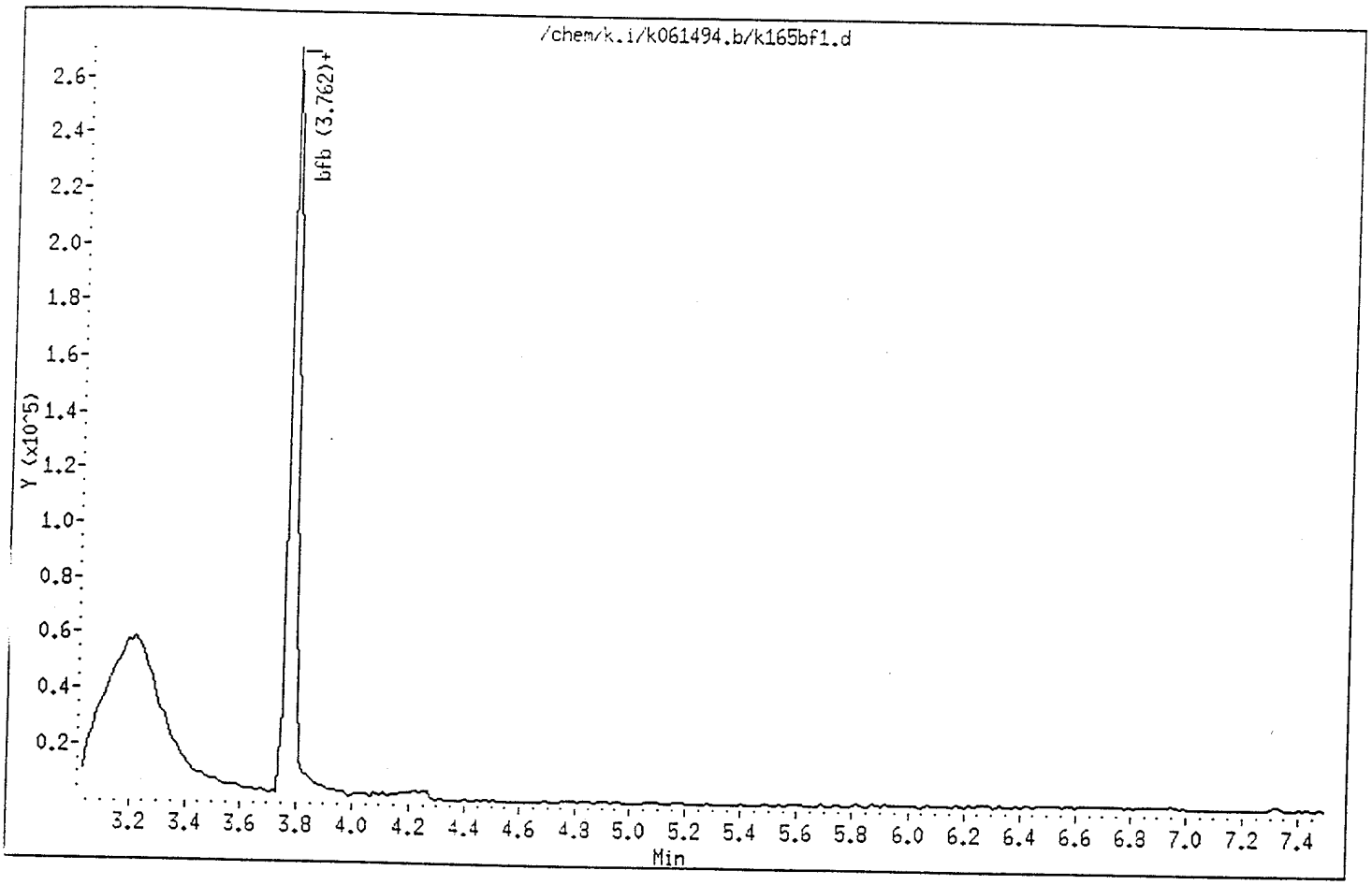
Instrument : k.i

Sample ID :

Column phase :

Column diameter : 2.00

Volume Injected (uL) : 0.0



Data File: /chem/k.i/k061494.b/k165bf1.d

Date : 14-JUN-94 09:58

Instrument : k.i

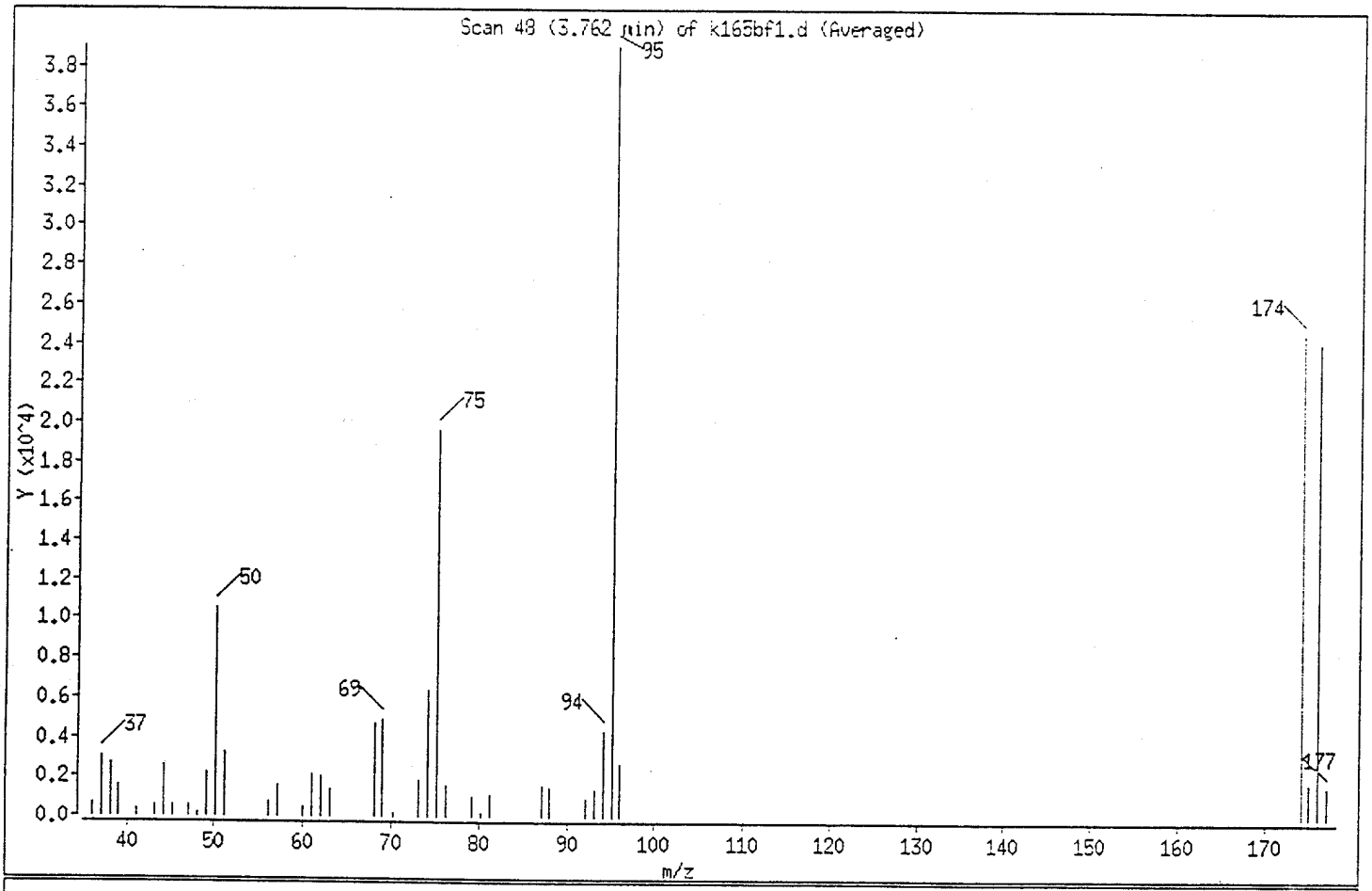
Sample ID :

Column phase :

Column diameter : 2.00

Volume Injected (uL) : 0.0

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.0
50	8.00 - 40.00% of mass 95	26.9
75	30.00 - 66.00% of mass 95	50.3
96	5.00 - 9.00% of mass 95	6.9
173	Less than 2.00% of mass 174	0.0
174	50.00 - 120.00% of mass 95	63.1
175	4.00 - 9.00% of mass 174	7.0
176	93.00 - 101.00% of mass 174	98.1
177	5.00 - 9.00% of mass 176	6.4

SPL Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: k.i
Lab File ID: k165cc1.d
Analysis Type: SOIL
Lab Sample ID:
Quant Type: ISTD

Injection Date: 14-JUN-1994 10:26
Init. Calibration Date(s): 05/19/94 05/19/94
Init. Calibration Times: 16:32 23:28
Method File: /chem/k.i/k061494.b/kclps.m

				MIN		MAX	
	COMPOUND	RRF	RF50	RRF	%D	%D	
	2 Chloromethane	3.668	2.731	0.010	25.5	25.0	
	3 Bromomethane	2.216	1.814	0.100	18.2	25.0	
	4 Vinyl Chloride	3.332	2.632	0.100	21.0	25.0	
	5 Chloroethane	1.870	2.270	0.010	21.4	25.0	
	6 Trichlorofluoromethane	3.108	2.064	0.010	33.6	25.0	<-
	7 Methylene Chloride	2.099	1.857	0.010	11.5	25.0	
	8 Acetone	2.520	0.462	0.010	81.7	25.0	
	9 Carbon Disulfide	6.641	6.455	0.010	2.8	25.0	
	10 1,1-Dichloroethene	1.837	1.583	0.100	13.8	25.0	
	11 1,1-Dichloroethane	3.929	3.348	0.200	14.8	25.0	
	12 trans-1,2Dichloroethene	1.678	1.552	0.010	7.5	25.0	
	13 cis-1,2-Dichloroethene	1.814	1.734	0.010	4.4	25.0	
M	14 1,2-Dichloroethene (total)	++++	++++	0.010	++++	25.0	
	15 Chloroform	3.729	3.083	0.200	17.3	25.0	
$	16 1,2-Dichloroethane-d4	2.851	2.812	0.010	1.4	25.0	
	17 1,2-Dichloroethane	3.640	2.910	0.100	20.1	25.0	
	19 2-Butanone	0.458	0.232	0.010	49.4	25.0	
	20 1,1,1-Trichloroethane	0.491	0.402	0.100	18.0	25.0	
	21 Carbon Tetrachloride	0.434	0.335	0.100	22.8	25.0	
	22 Vinyl Acetate	1.309	1.116	0.010	14.7	25.0	
	23 Bromodichloromethane	0.435	0.391	0.200	10.1	25.0	
	24 1,2-Dichloropropane	0.355	0.338	0.010	4.8	25.0	
	25 cis-1,3-Dichloropropene	0.489	0.433	0.200	11.3	25.0	
	26 Trichloroethene	0.270	0.257	0.300	4.7	25.0	<-
	27 Benzene	1.164	1.092	0.500	6.1	25.0	
	28 Dibromochloromethane	0.273	0.262	0.100	3.9	25.0	
	29 trans-1,3-Dichloropropene	0.504	0.464	0.100	7.9	25.0	
	30 1,1,2-Trichloroethane	0.214	0.213	0.100	0.5	25.0	
	31 2-Chloroethylvinylether	0.642	0.556	0.010	13.4	25.0	
	32 Bromoform	0.166	0.163	0.100	1.9	25.0	
	34 4-Methyl-2-Pentanone	0.751	0.547	0.010	27.2	25.0	
	35 2-Hexanone	0.772	0.417	0.010	46.0	25.0	
	36 Tetrachloroethene	0.251	0.239	0.200	4.9	25.0	
	37 1,1,2,2-Tetrachloroethane	0.373	0.369	0.500	1.1	25.0	<-
$	38 Toluene-d8	1.139	1.311	0.010	15.1	25.0	
	39 Toluene	0.872	0.762	0.400	12.7	25.0	
	40 Chlorobenzene	0.864	0.829	0.500	4.0	25.0	
	41 Ethylbenzene	0.474	0.440	0.100	7.3	25.0	
$	42 Bromofluorobenzene	0.520	0.572	0.200	10.1	25.0	
	43 Styrene	0.934	0.930	0.300	0.4	25.0	

SPL Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: k.i
Lab File ID: k165cc1.d
Analysis Type: SOIL
Lab Sample ID:
Quant Type: ISTD

Injection Date: 14-JUN-1994 10:26
Init. Calibration Date(s): 05/19/94 05/19/94
Init. Calibration Times: 16:32 23:28
Method File: /chem/k.i/k061494.b/kclps.m

	COMPOUND	RRF	RFSD	MIN RRF	%D	MAX %D
	44 m&p-Xylene	0.604	0.543	0.300	10.1	25.0
	45 o-Xylene	0.569	0.529	0.300	7.0	25.0
M	46 Xylenes (total)	++++	----	0.300	++++	25.0

SPL Labs

Data file : /chem/k.i/k061494.b/k165cc1.d
Lab. Id. :
Inj Date : 14-JUN-1994 10:26
Operator :
Smp Info : 50 STD
Misc Info :
Comment :
Method : /chem/k.i/k061494.b/kclps.m
Meth Date : 14-Jun-1994 17:20 hillery
Cal Date : 14-JUN-1994 10:26
Als bottle: 3
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: k.i

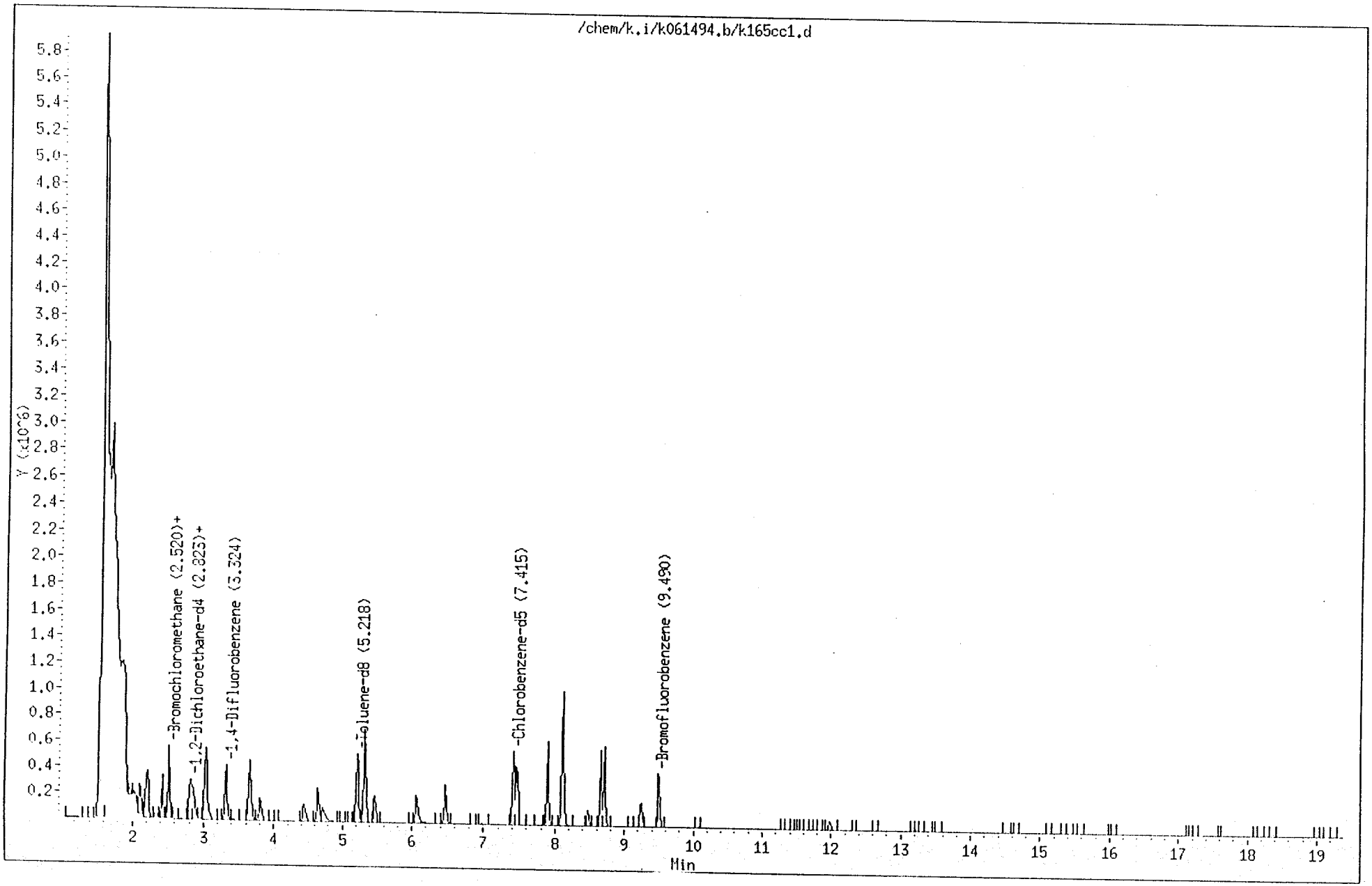
Cal File: k165cc1.d
Continuing Calibration Sample
Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/Kg)
*	1 Bromochloromethane	128.00	2.520	(1.000)	65375	50	
	2 Chloromethane	50.00	1.657	(0.657)	178522	37	37
	3 Bromomethane	94.00	1.733	(0.687)	118561	41	41
	4 Vinyl Chloride	62.00	1.687	(0.669)	172074	40	40
	5 Chloroethane	64.00	1.717	(0.681)	148428	61	61
	6 Trichlorofluoromethane	101.00	1.839	(0.729)	134959	33	33
	7 Methylene Chloride	84.00	1.975	(0.784)	121415	44	44
	8 Acetone	43.00	1.808	(0.717)	30197	9	9
	9 Carbon Disulfide	76.00	2.051	(0.814)	422005	48	48
	10 1,1-Dichloroethene	96.00	1.929	(0.766)	103516	43	43
	11 1,1-Dichloroethane	63.00	2.202	(0.874)	219843	42	42
	12 trans-1,2Dichloroethene	96.00	2.126	(0.844)	101444	46	46
	13 cis-1,2-Dichloroethene	96.00	2.430	(0.964)	113368	48	48
	15 Chloroform	83.00	2.520	(1.000)	201535	41	41
S	16 1,2-Dichloroethane-d4	65.00	2.823	(1.120)	183865	49	49
	17 1,2-Dichloroethane	62.00	2.869	(1.138)	190257	40	40
*	18 1,4-Difluorobenzene	114.00	3.324	(1.000)	393488	50	
	19 2-Butanone	43.00	2.339	(0.704)	91199	25	25
	20 1,1,1-Trichloroethane	97.00	2.839	(0.854)	158288	41	41
	21 Carbon Tetrachloride	117.00	3.051	(0.918)	131848	39	39
	22 Vinyl Acetate	43.00	2.217	(0.667)	439086	43	43
	23 Bromodichloromethane	83.00	3.808	(1.146)	153705	45	45
	24 1,2-Dichloropropane	63.00	3.657	(1.100)	133038	48	48
	25 cis-1,3-Dichloropropene	75.00	5.324	(1.602)	170531	44	44
	26 Trichloroethene	130.00	3.572	(1.105)	101091	48	48
	27 Benzene	78.00	3.036	(0.913)	429770	47	47
	28 Dibromochloromethane	129.00	6.081	(1.830)	103267	48	48
	29 trans-1,3-Dichloropropene	75.00	4.642	(1.397)	182598	46	46
	30 1,1,2-Trichloroethane	97.00	5.475	(1.647)	83825	50	50

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN ng.	CONCENTRATIONS FINAL (ug/Kg)
	31 2-Chloroethylvinylether	63.00	8.202	(0.663)	218843	43	43
	32 Bromoform	173.00	8.475	(0.550)	63960	49	49
*	33 Chlorobenzene-d5	117.00	7.415	(1.000)	337452	50	
	34 4-Methyl-2-Pentanone	43.00	4.717	(0.636)	184551	36	36
	35 2-Hexanone	43.00	6.051	(0.816)	140740	27	27
	36 Tetrachloroethene	164.00	6.475	(0.873)	80568	48	48
	37 1,1,2,2-Tetrachloroethane	83.00	9.248	(1.247)	124638	49	49
$	38 Toluene-d8	98.00	5.218	(0.704)	442263	58	58
	39 Toluene	92.00	5.324	(0.718)	257006	44	44
	40 Chlorobenzene	112.00	7.475	(1.008)	279844	48	48
	41 Ethylbenzene	106.00	7.899	(1.065)	148313	46	46
$	42 Bromofluorobenzene	95.00	9.490	(1.280)	193120	55	55
	43 Styrene	104.00	8.657	(1.168)	313894	50	50
	44 m&p-Xylene	106.00	8.112	(1.094)	366349	90	90
	45 o-Xylene	106.00	8.718	(1.176)	178565	46	46

Data File: /chem/k.i/k061494.b/k165cc1.d
Date : 14-JUN-94 10:26
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



SPL Labs

Data file : /chem/k.i/k061494.b/k165b02.d
Lab. Id. :
Inj Date : 14-JUN-1994 12:11
Operator :
Smp Info : METHOD BLANK
Misc Info :
Comment :
Method : /chem/k.i/k061494.b/kclps.m
Meth Date : 14-Jun-1994 17:20 hillery
Cal Date : 14-JUN-1994 10:26
Als bottle: 6
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date:
Inst ID: k.i

Cal File: k165cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIC MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
* 1 Bromochloromethane	128.00	2.520	(1.000)	74285	50	(Q)
$ 16 1,2-Dichloroethane-d4	65.00	2.823	(1.120)	207078	50	50
* 18 1,4-Difluorobenzene	114.00	3.324	(1.000)	421757	50	
* 33 Chlorobenzene-d5	117.00	7.415	(1.000)	356804	50	
$ 38 Toluene-d8	98.00	8.218	(0.704)	465567	50	50
$ 42 Bromofluorobenzene	95.00	9.506	(1.282)	207189	51	51

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

Client SDG: k061494.b
Fraction: VOA
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 16 1,2-Dichloroethane	50	50	99.12	70-121
$ 38 Toluene-d8	50	50	99.56	84-138
$ 42 Bromofluorobenzene	50	51	101.47	59-113

* - Values outside of QC limits
Spike Recovery: 0 out of 3 outside limits
0 out of 3 not found

SPL Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: k.i
Lab File ID: k165b02.d
Lab Sample ID:
Analysis Type: VOA
Quant Type: ISTD
Method File: /chem/k.i/k061494.b/kclps.m
Misc Info:

Calibration Date: 06/14/94
Calibration Time: 1026
Sample Type: SOIL
Level: LOW

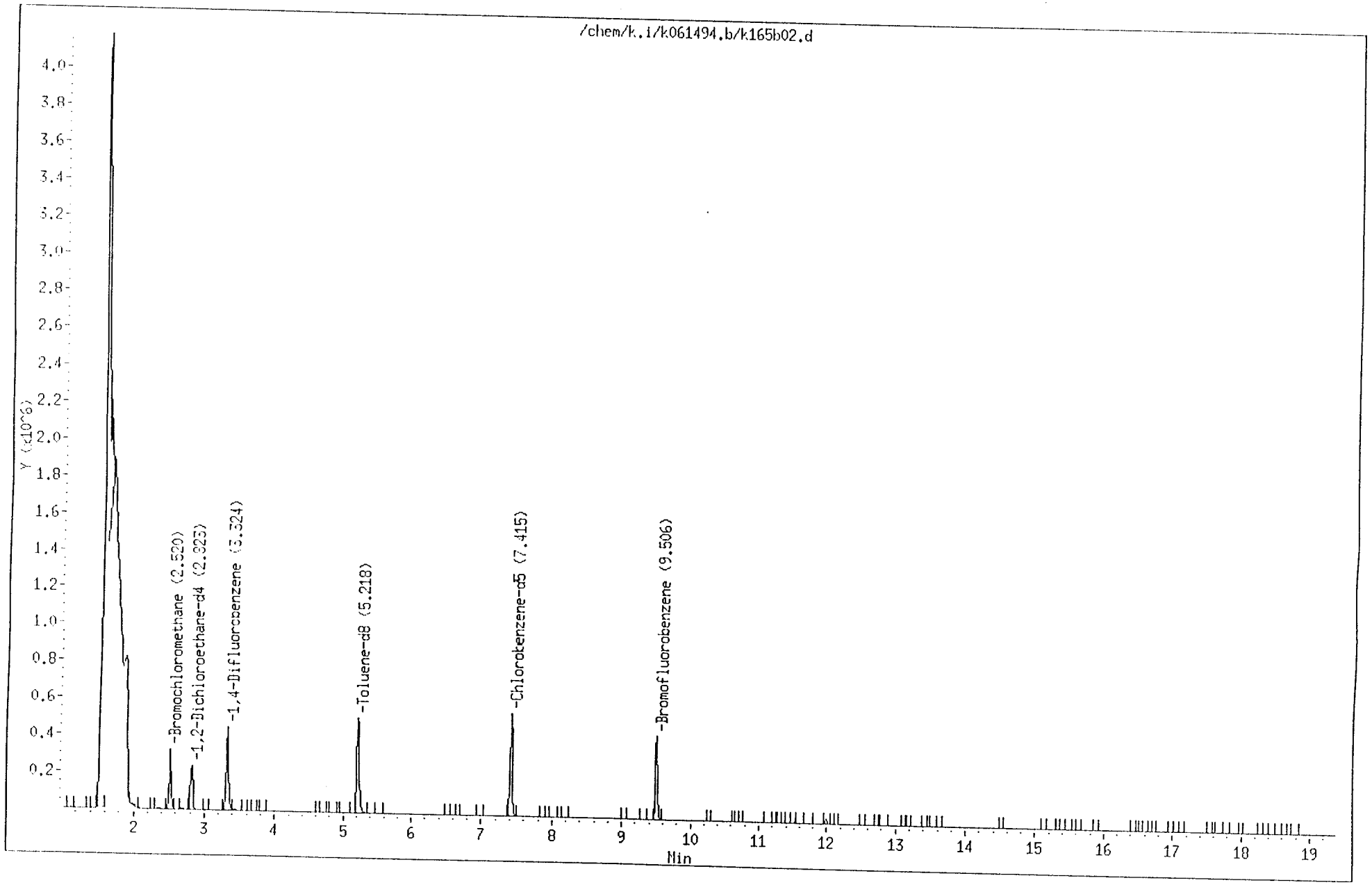
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	65375	32687	130750	74285	13.63
18 1,4-Difluorobenzene	393488	196744	786976	421757	7.18
33 Chlorobenzene-d5	337452	168726	674904	356804	5.73

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
1 Bromochloromethane	2.52	2.02	3.02	2.52	0.00
18 1,4-Difluorobenzene	3.32	2.82	3.82	3.32	0.00
33 Chlorobenzene-d5	7.41	6.91	7.91	7.41	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/k.i/k061494.b/k165b02.d
Date : 14-JUN-1994 12:11
Instrument : k.i
Sample ID :
Column phase :
Volume Injected (uL) : 0.0

Column diameter : 0.25



Certificate of Analysis No. 9406119-11

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-11

Operational Tech

SAMPLE ID: A-01 BH Int.1

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd)Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH DATE/TIME: 06/17/94 17:10:00
EXTRACTED BY: LJ DATE/TIME: 06/08/94
METHOD: 8270, Semivolatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s08.d
Lab. Id. :
Inj Date : 17-JUN-1994 17:10
Operator : LH
Smp Info : 9406119-11B
Misc Info : 9406119-11B
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 22-Jun-1994 13:38 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 15
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/Kg
$ 3 2-Fluorophenol	112.00	3.689	(0.770)	614941	140	2300
$ 5 Phenol-d5	99.00	4.486	(0.936)	734765	130	2100
$ 8 2-Chlorophenol-d4	132.00	4.617	(0.963)	646641	130	2100
* 11 1,4-Dichlorobenzene-d4	152.00	4.781	(1.000)	120315	40	
$ 13 1,2-Dichlorobenzene-d4	152.00	4.978	(0.614)	290945	97	1600
$ 23 Nitrobenzene-d5	82.00	5.361	(0.875)	493066	100	1800
* 32 Naphthalene-d8	136.00	6.115	(1.000)	382259	40	
$ 40 2-Fluorobiphenyl	172.00	7.330	(0.904)	803734	110	1800
* 48 Acenaphthene-d10	164.00	8.098	(1.000)	224485	40	
$ 61 2,4,6-Tribromophenol	329.70	9.021	(0.920)	141485	150	2400
* 65 Phenanthrene-d10	188.00	9.770	(1.000)	296683	40	
$ 72 Terphenyl-d14	244.00	11.636	(0.879)	469898	90	1500
* 76 Chrysene-d12	240.00	13.232	(1.000)	153243	40	
* 83 Perylene-d12	264.00	16.205	(1.000)	187014	40	

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168s08.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-11B

Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

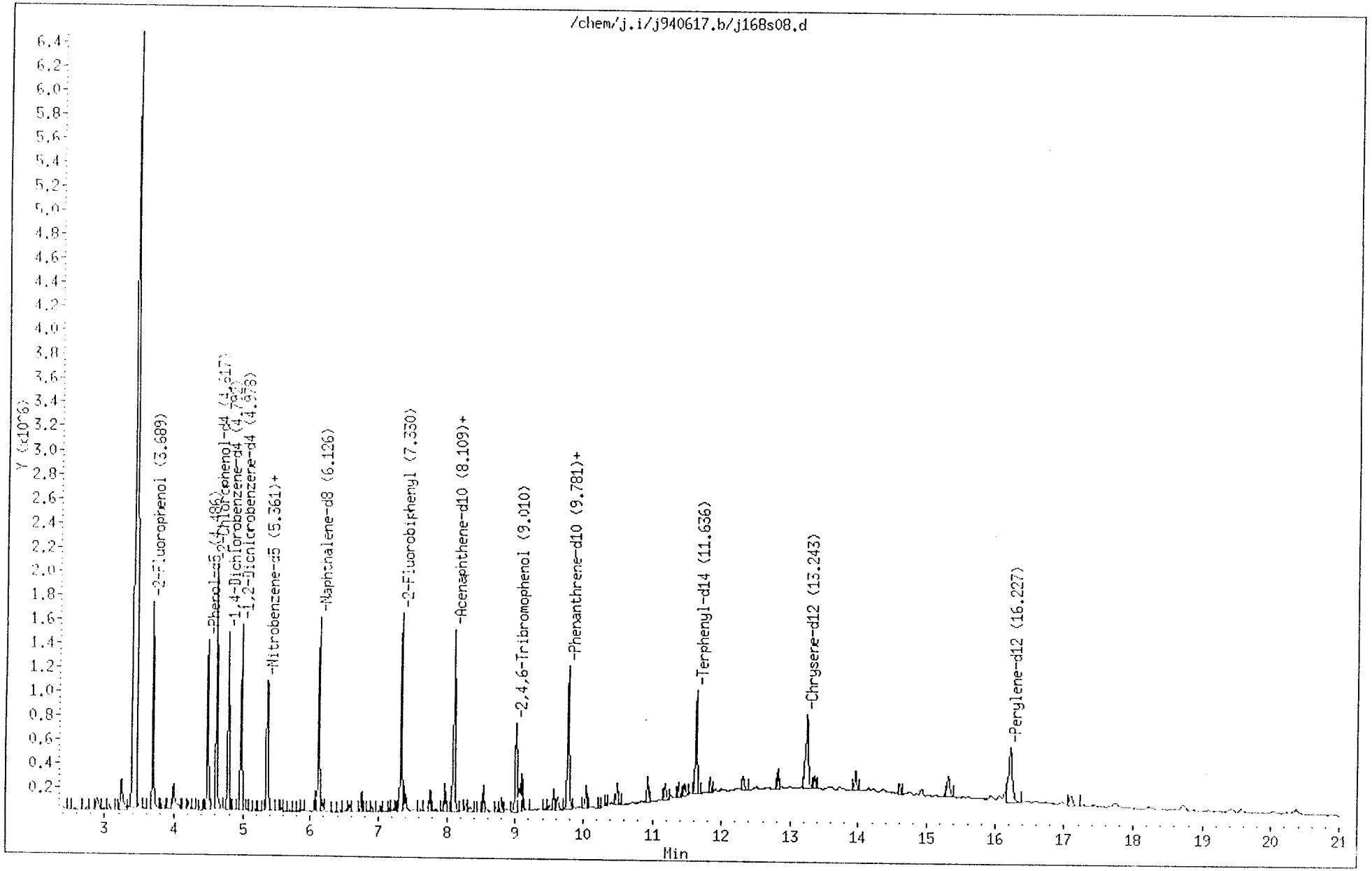
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	121206	60603	242412	120315	-0.74
32 Naphthalene-d8	445390	222695	890780	382259	-14.17
48 Acenaphthene-d10	275750	137875	551500	224485	-18.59
65 Phenanthrene-d10	336972	168486	673944	296683	-11.96
76 Chrysene-d12	146532	73266	293064	153243	4.58
83 Perylene-d12	160474	80237	320948	187014	16.54

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.78	-0.41
32 Naphthalene-d8	6.13	5.63	6.63	6.11	-0.32
48 Acenaphthene-d10	8.12	7.62	8.62	8.10	-0.33
65 Phenanthrene-d10	9.79	9.29	10.29	9.77	-0.20
76 Chrysene-d12	13.26	12.76	13.76	13.23	-0.18
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.b/j168s08.d
Date : 17-JUN-1994 17:10
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Volume Injected (uL) : 2.0

Column diameter : 0.25



Certificate of Analysis No. 9406119-12

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:28:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-12

Operational Tech

SAMPLE ID: A-01 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd)Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH DATE/TIME: 06/17/94 16:43:00
EXTRACTED BY: LJ DATE/TIME: 06/08/94
METHOD: 8270, Semivolatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s07.d
Lab. Id. :
Inj Date : 17-JUN-94 16:43
Operator : LH
Smp Info : 9406119-12B
Misc Info : 9406119-12B
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 17-Jun-1994 14:44 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 14
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: (
Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
$	3 2-Fluorophenol	112.00	3.686	(0.770)	517396	100	1700
$	5 Phenol-d5	99.00	4.483	(0.936)	483937	95	1600
$	8 2-Chlorophenol-d4	132.00	4.614	(0.963)	568876	97	1600
*	11 1,4-Dichlorobenzene-d4	152.00	4.789	(1.000)	138384	40	
$	13 1,2-Dichlorobenzene-d4	152.00	4.985	(0.615)	249648	63	1000
	21 N-Nitroso-di-n-propylamine	70.00	5.367	(1.121)	64731	17	290(aQ)
$	23 Nitrobenzene-d5	82.00	5.367	(0.877)	414755	66	1100
*	32 Naphthalene-d8	136.00	6.119	(1.000)	508080	40	
	40 2-Fluorobiphenyl	172.00	7.328	(0.904)	701786	73	1200
	46 Acenaphthene-d10	164.00	8.102	(1.000)	297323	40	
-	61 2,4,6-Tribromophenol	330.00	9.018	(0.923)	108343	83	1400(Q)
*	65 Phenanthrene-d10	188.00	9.772	(1.000)	401643	40	
$	72 Terphenyl-d14	244.00	11.634	(0.879)	592825	71	1200
*	76 Chrysene-d12	240.00	13.236	(1.000)	244505	40	
*	83 Perylene-d12	264.00	16.199	(1.000)	245189	40	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168s07.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-12B

Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

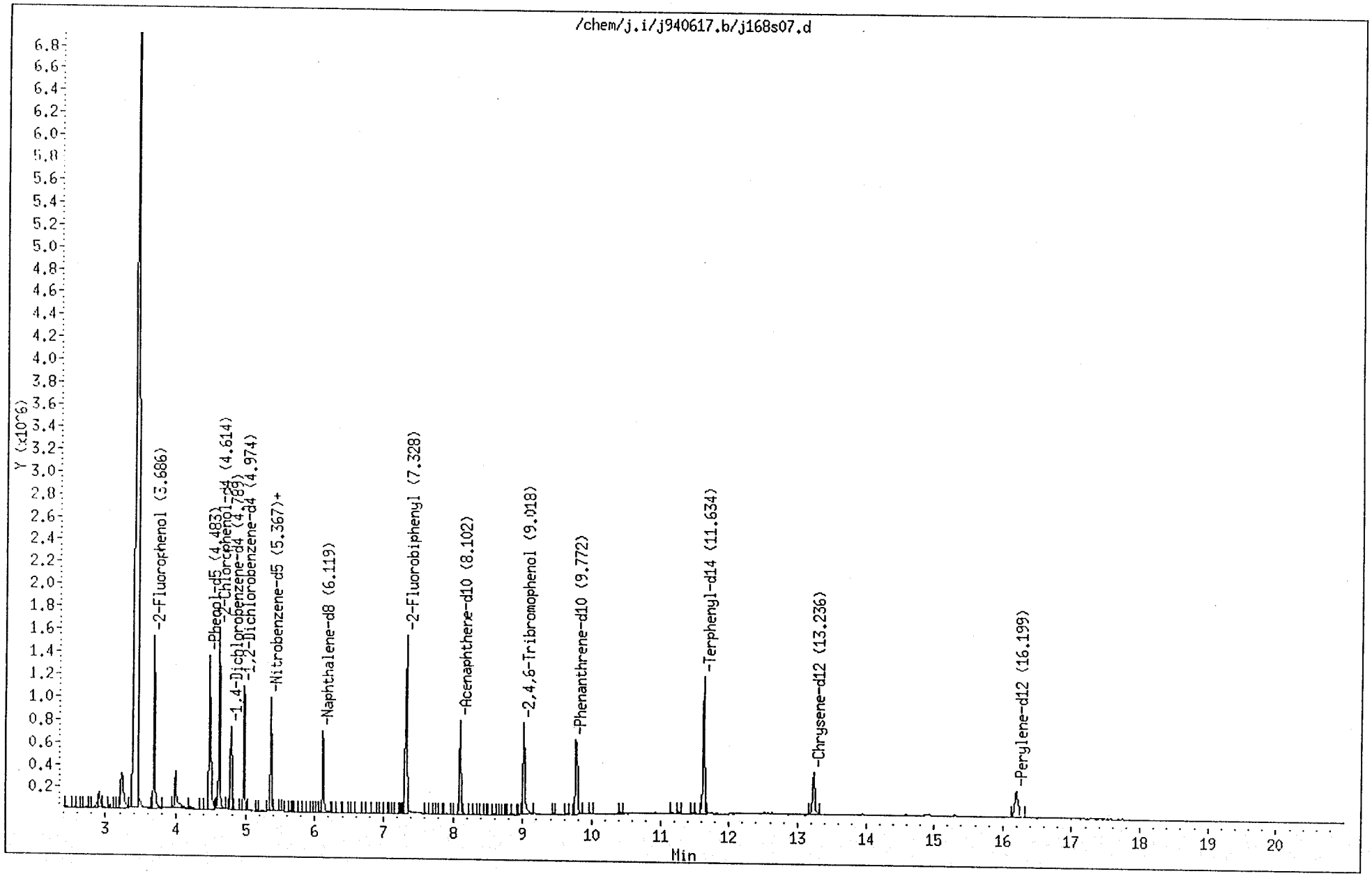
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	121206	60603	242412	138384	14.17
32 Naphthalene-d8	445390	222695	890780	508080	14.08
48 Acenaphthene-d10	275750	137875	551500	297323	7.82
65 Phenanthrene-d10	336972	168486	673944	401643	19.19
76 Chrysene-d12	146532	73266	293064	244505	66.86
83 Perylene-d12	160474	80237	320948	245189	52.79

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.25
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.25
48 Acenaphthene-d10	8.12	7.62	8.62	8.10	-0.27
65 Phenanthrene-d10	9.79	9.29	10.29	9.77	-0.17
76 Chrysene-d12	13.26	12.76	13.76	13.24	-0.15
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.b/j168s07.d
Date : 17-JUN-1994 16:43
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Volume Injected (uL) : 2.0

Column diameter : 0.25



[illegible]

[illegible]

[illegible] Weight: 1.000

[illegible] Acct No.

[illegible]

[illegible]

[illegible]

[illegible] →INTSTD→

[illegible] →INTSTD→

[illegible] →INTSTD→

[illegible] →INTSTD→

[illegible] →INTSTD→

[illegible] →INTSTD→

[illegible] →SURR→

[illegible] →SURR→

[illegible] →SURR

					Area(Hght)	Amount		%Tot
				BB	25884	20.000	NG/UL	6.29
				BB	30167	20.000	NG/UL	6.29
				BB	47356.	20.000	NG/UL	6.29
				BB	78177	20.000	NG/UL	6.29
				VB	78362.	20.000	NG/UL	6.29
				BB	123423.	20.000	NG/UL	6.29
				BB	26660.	15.765	NG/UL	4.96
				BB	33030.	19.896	NG/UL	6.25
				BB	37112.	19.496	NG/UL	6.13
				BB	82745.	24.119	NG/UL	7.58
				BB	63816.	29.497	NG/UL	9.27
				BB	57769.	24.124	NG/UL	7.58
				BV	61449.	23.039	NG/UL	7.24
				BB	10490.	24.097	NG/UL	7.57
				BB	96.	0.023	NG/UL	0.01
				BB	96.	0.035	NG/UL	0.01
				BB	4340.	3.224	NG/UL	1.01
				BB	990.	0.204	NG/UL	0.06
				BB	954.	0.312	NG/UL	0.10

| | | |

		Time					Area/Hght	Amount		%Tot
							82.	0.011	NG/UL	0.00
							172.	0.061	NG/UL	0.02
							242.	0.068	NG/UL	0.02

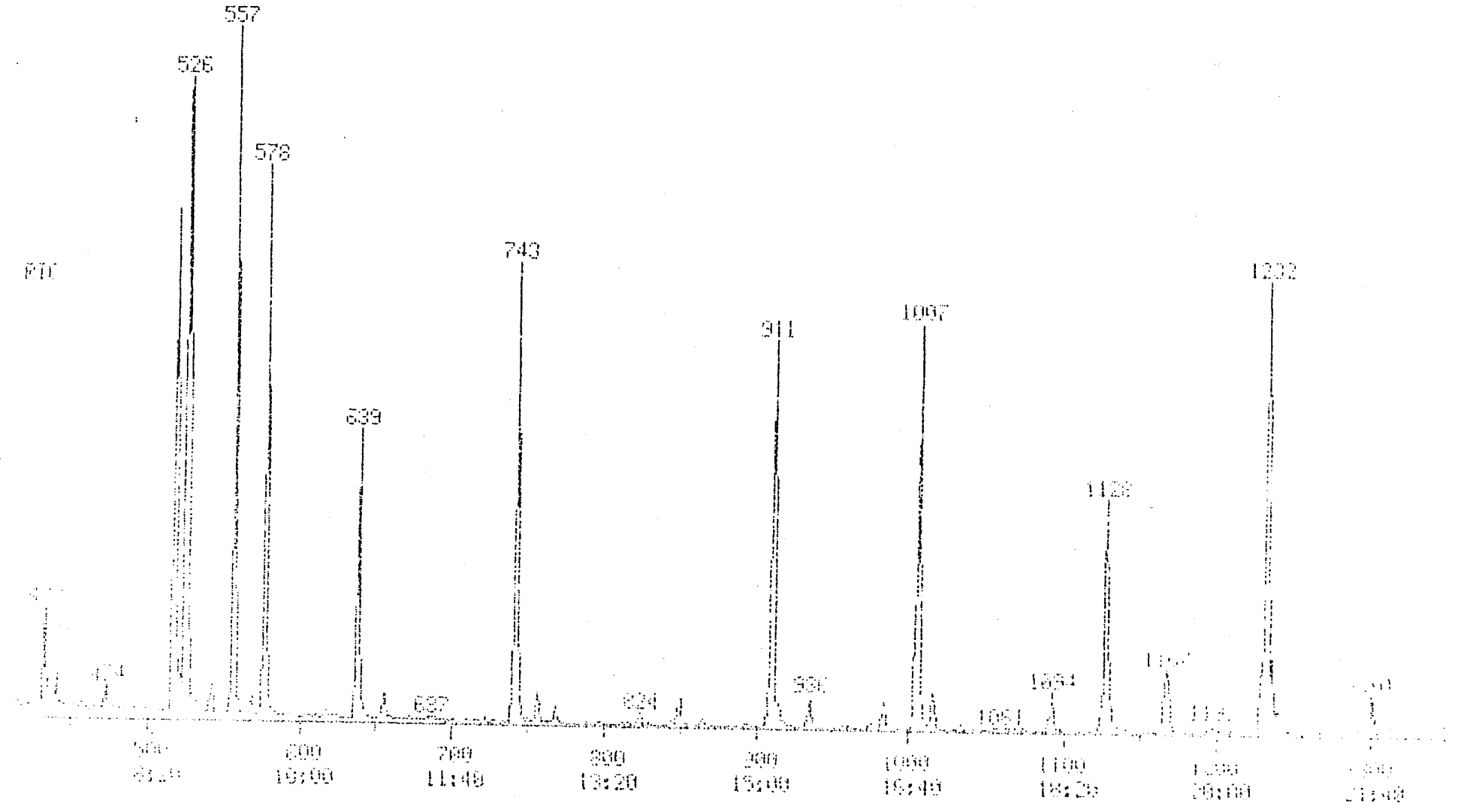
| | | |

| | | |

RIC
06-20-94 23:19:00
DAT+: B611911 #1
CALI: B611911 #3
SCANS 1350 TO 2300
OUT OF 400 TO 2300
SAMPLE: 8270,940611S,,n-01,L,S,940611S-118,0,E,30-1,06/13 DE-2UL
COMDS.: CAP,052052D1,052000FD1,,,,,40-4--360@10,INST D1
RANGE: G 1.2310 LABEL: H 0. 4.0 QUAN: A 0. 1.0 J 0 BASE: U 20. 5
100.0
1841
1636
1482
1773

RIC
06/20/94 23:19:00 DATA: B611911 #1 SCANS 400 TO 1350
CALI: B611911 #3 OUT OF 400 TO 2300
SAMPLE: 8270,406113,,A-01,L,S,9406119-11B,B,E,30-1.0,06/13 DE-2UL
CONDS.: CAP,0620S2D1,0620DFD1,,,,,40/4--300@10,INST D1
RANGE: G 1,2310 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

100.0



Certificate of Analysis No. 9406119-13

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-13

Operational Tech

SAMPLE ID: A-02 BH Int.1

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd)Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH DATE/TIME: 06/17/94 16:15:00
EXTRACTED BY: LJ DATE/TIME: 06/08/94
METHOD: 8270, Semivolatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s06.d
Lab. Id. :
Inj Date : 17-JUN-94 16:15
Operator : LH
Smp Info : 9406119-13B
Misc Info : 9406119-13B
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 17-Jun-1994 14:44 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 13
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
$	3 2-Fluorophenol	112.00	3.698	(0.772)	549394	110	1900
$	5 Phenol-d5	99.00	4.485	(0.936)	627265	100	1700
$	8 2-Chlorophenol-d4	132.00	4.616	(0.963)	577768	100	1700
*	11 1,4-Dichlorobenzene-d4	152.00	4.792	(1.000)	130676	40	
$	13 1,2-Dichlorobenzene-d4	152.00	4.989	(0.615)	240596	62	1000
	15 Benzyl alcohol	108.00	4.989	(1.041)	3857	4	61(aQ)
	19 meta,para-Cresol	108.00	5.538	(1.156)	16719	3	55(aQ)
	20 4-Methylphenol	108.00	5.538	(1.156)	16719	3	55(aQ)
	21 N-Nitroso-di-n-propylamine	70.00	5.329	(1.112)	195142	55-1)	910(Q)
$	23 Nitrobenzene-d5	82.00	5.373	(0.876)	464612	83	1400
	24 Nitrobenzene	77.00	5.461	(0.891)	64051	12	200(aQ)
	25 Isophorone	82.00	5.647	(0.921)	30966	3	50(a)
	26 2-Nitrophenol	139.00	5.735	(0.935)	13497	4	74(aQ)
	27 2,4-Dimethylphenol	107.00	5.757	(0.939)	25902	5	84(a)
	28 bis(2-Chloroethoxy)methane	93.00	5.900	(0.962)	17354	3	54(aQ)
	29 Benzoic acid	122.00	5.757	(0.939)	15754	4	67(aQ)
*	32 Naphthalene-d8	136.00	6.131	(1.000)	453795	40	
	33 Naphthalene	128.00	6.153	(1.004)	42996	3	54(a)
	34 4-Chloroaniline	127.00	5.845	(0.953)	36693	6	100(aQ)
$	40 2-Fluorobiphenyl	172.00	7.328	(0.904)	719038	77	1300
	46 2,6-Dinitrotoluene	165.00	8.108	(1.000)	38288	14	240(aQ)
*	48 Acenaphthene-d10	164.00	8.108	(1.000)	290298	40	
	52 2,4-Dinitrotoluene	165.00	8.108	(1.000)	38288	12	190(aQ)
$	61 2,4,6-Tribromophenol	330.00	9.021	(0.922)	93760	77	1300(Q)
*	65 Phenanthrene-d10	188.00	9.781	(1.000)	375877	40	
$	72 Terphenyl-d14	244.00	11.637	(0.879)	469942	67	1100
*	76 Chrysene-d12	240.00	13.245	(1.000)	204015	40	
*	83 Perylene-d12	264.00	16.205	(1.000)	250008	40	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168s06.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-13B

Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

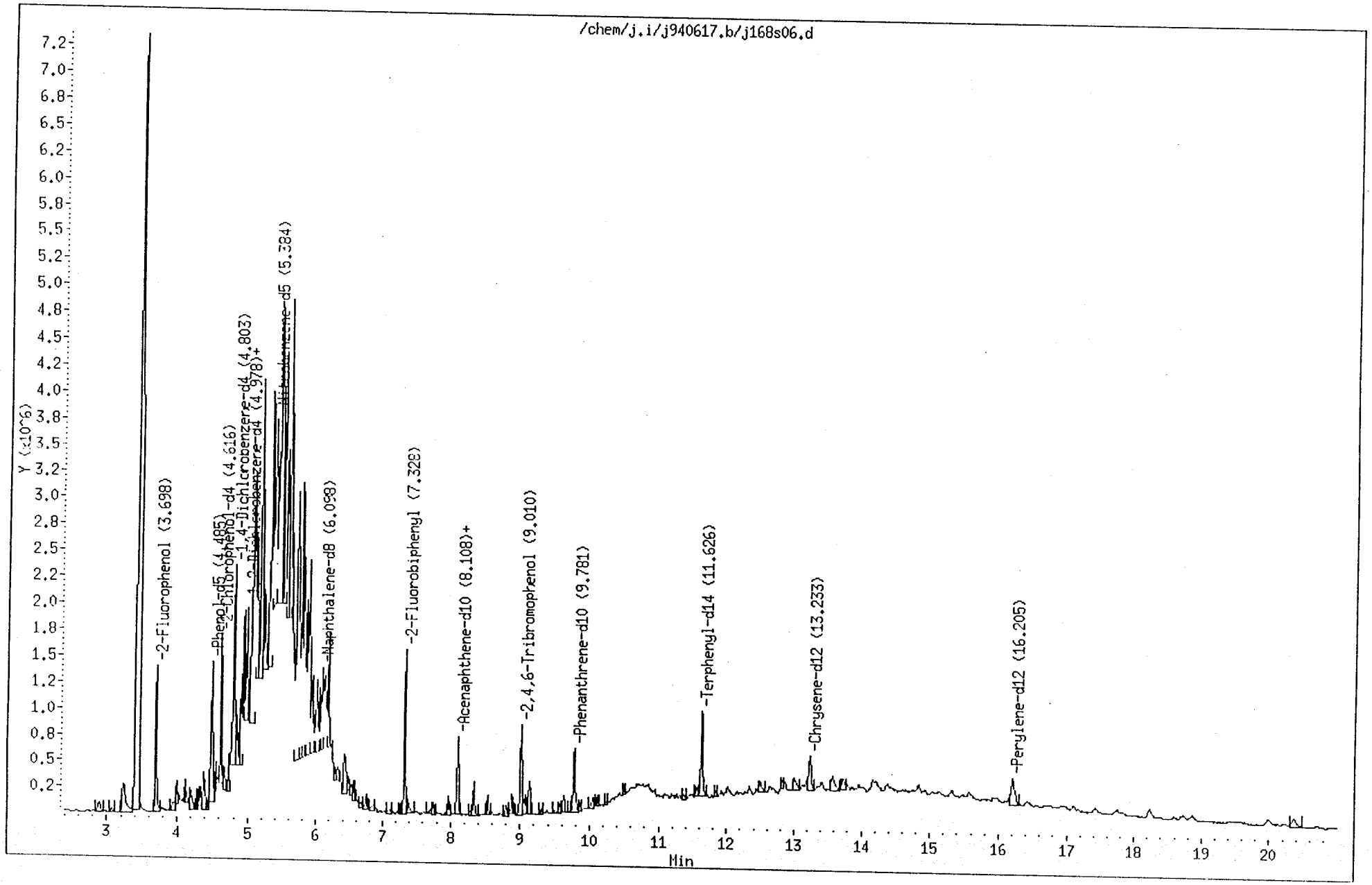
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	121206	60603	242412	130676	7.81
32 Naphthalene-d8	445390	222695	890780	453795	1.89
48 Acenaphthene-d10	275750	137875	551500	290298	5.28
65 Phenanthrene-d10	336972	168486	673944	375877	11.55
76 Chrysene-d12	146532	73266	293064	204015	39.23
83 Perylene-d12	160474	80237	320948	250008	55.79

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.20
32 Naphthalene-d8	6.13	5.63	6.63	6.13	-0.05
48 Acenaphthene-d10	8.12	7.62	8.62	8.11	-0.20
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.08
76 Chrysene-d12	13.26	12.76	13.76	13.24	-0.08
83 Perylene-d12	16.21	15.71	16.71	16.21	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.b/j168s06.d
Date : 17-JUN-1994 16:15
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Volume Injected (uL) : 2.0

Column diameter : 0.25



Certificate of Analysis No. 9406119-14

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 17:08:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-14

Operational Tech

SAMPLE ID: A-02 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd)Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH DATE/TIME: 06/17/94 15:48:00
EXTRACTED BY: LJ DATE/TIME: 06/08/94
METHOD: 8270, Semivolatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s05.d
Lab. Id. :
Inj Date : 17-JUN-94 15:48
Operator : LH
Smp Info : 9406119-14B
Misc Info : 9406119-14B
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 17-Jun-1994 14:44 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 12
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
$	3 2-Flucrophenol	112.00	3.698	(0.772)	518566	110	1800
$	5 Phenol-d5	99.00	4.483	(0.936)	630928	100	1700
$	8 2-Chlorophenol-d4	132.00	4.614	(0.963)	566516	100	1700
*	11 1,4-Dichlorobenzene-d4	152.00	4.789	(1.000)	129775	40	
$	13 1,2-Dichlorobenzene-d4	152.00	4.975	(0.614)	251198	68	1100
	21 N-Nitroso-di-n-propylamine	70.00	5.367	(1.121)	64030	18	300(aQ)
$	23 Nitrobenzene-d5	82.00	5.367	(0.877)	415441	71	1200
*	32 Naphthalene-d8	136.00	6.119	(1.000)	473372	40	
$	40 2-Flucrobiphenyl	172.00	7.328	(0.904)	703615	80	1300
*	48 Acenaphthene-d10	164.00	8.101	(1.000)	275429	40	
$	61 2,4,6-Tribromophenol	330.00	9.016	(0.922)	81952	61	1000(Q)
*	65 Phenanthrene-d10	188.00	9.779	(1.000)	412579	40	
	69 Di-n-butylphthalate	149.00	10.422	(1.066)	71459	4	71(a)
$	72 Terphenyl-d14	244.00	11.632	(0.879)	673220	74	1200
*	76 Chrysene-d12	240.00	13.237	(1.000)	266257	40	
*	83 Perylene-d12	264.00	16.198	(1.000)	247378	40	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168s05.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-14B

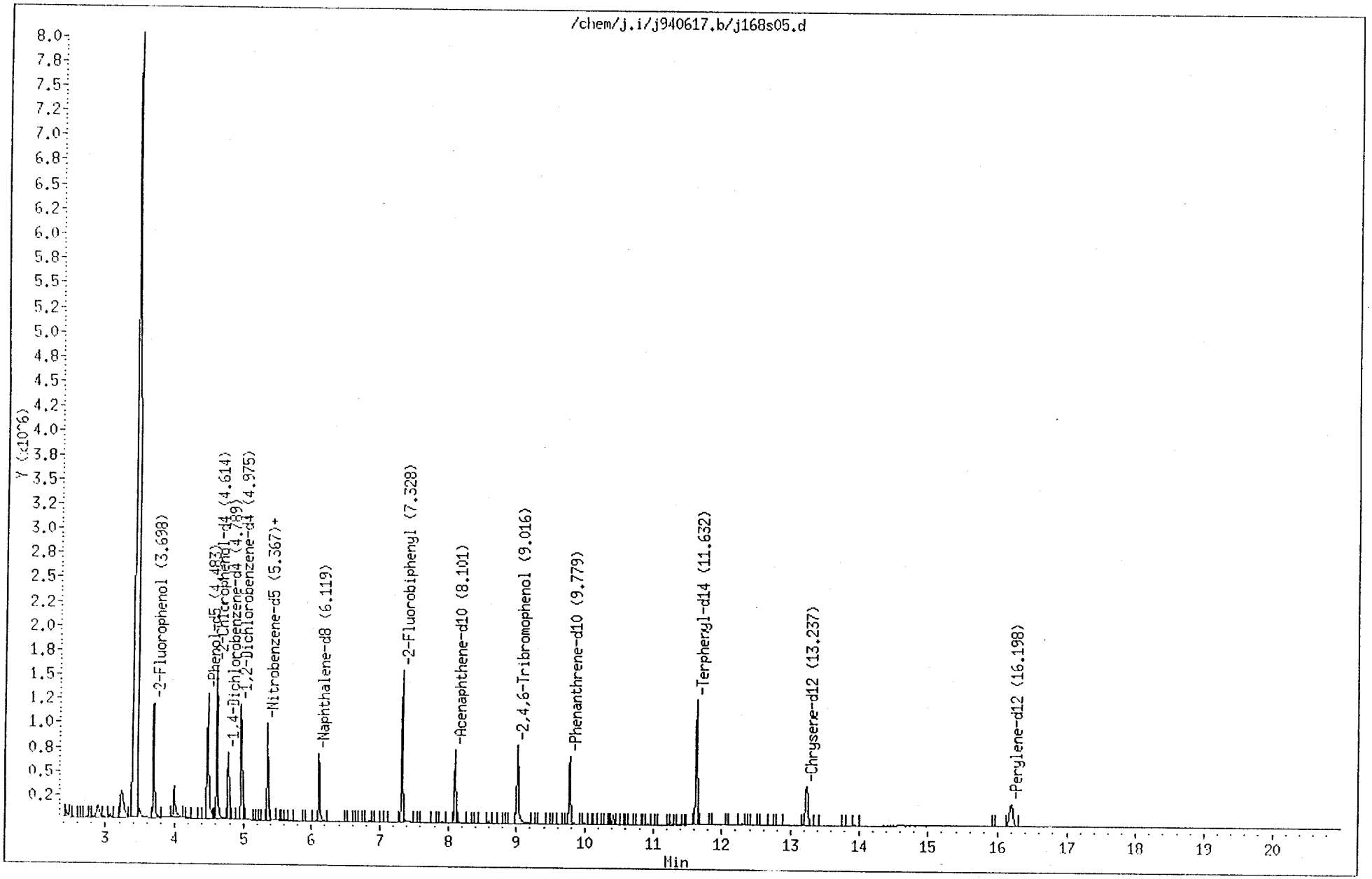
Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	121206	60603	242412	129775	7.07
32 Naphthalene-d8	445390	222695	890780	473372	6.28
48 Acenaphthene-d10	275750	137875	551500	275429	-0.12
65 Phenanthrene-d10	336972	168486	673944	412579	22.44
76 Chrysene-d12	146532	73266	293064	266257	81.71
83 Perylene-d12	160474	80237	320948	247378	54.15

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.25
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.25
48 Acenaphthene-d10	8.12	7.62	8.62	8.10	-0.28
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.10
76 Chrysene-d12	13.26	12.76	13.76	13.24	-0.14
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.b/j168s05.d
Date : 17-JUN-1994 15:48
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Column diameter : 0.25
Volume Injected (uL) : 2.0



Certificate of Analysis No. 9406119-09

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-09

Operational Tech

SAMPLE ID: A-03 BH Int.1

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd)Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH DATE/TIME: 06/17/94 17:38:00
EXTRACTED BY: LJ DATE/TIME: 06/08/94
METHOD: 8270, Semivolatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s09.d
Lab. Id. :
Inj Date : 17-JUN-94 17:38
Operator : LH
Smp Info : 9406119-09B
Misc Info : 9406119-09B
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 17-Jun-1994 14:44 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 16
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: (
Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN ng)	FINAL (ug/Kg)
S	3 2-Fluorophenol	112.00	3.698	(0.772)	514162	100	1700
S	5 Phenol-d5	99.00	4.483	(0.936)	623987	94	1600
S	8 2-Chlorophenol-d4	132.00	4.614	(0.963)	566234	96	1600
*	11 1,4-Dichlorobenzene-d4	152.00	4.789	(1.000)	138972	40	
S	13 1,2-Dichlorobenzene-d4	152.00	4.986	(0.615)	254255	64	1100
	21 N-Nitroso-di-n-propylamine	70.00	5.367	(1.121)	64106	17	280(aQ)
S	23 Nitrobenzene-d5	82.00	5.367	(0.877)	417315	68	1100
*	32 Naphthalene-d8	136.00	6.119	(1.000)	499294	40	
S	40 2-Fluorobiphenyl	172.00	7.329	(0.904)	707135	74	1200
*	48 Acenaphthene-d10	164.00	8.103	(1.000)	295630	40	
S	61 2,4,6-Tribromophenol	330.00	9.018	(0.922)	102156	77	1300(Q)
*	65 Phenanthrene-d10	188.00	9.783	(1.000)	410268	40	
S	72 Terphenyl-d14	244.00	11.633	(0.879)	617124	69	1200
*	76 Chrysene-d12	240.00	13.234	(1.000)	261395	40	
*	83 Perylene-d12	264.00	16.197	(1.000)	255275	40	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

SPL Houston Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File: 8270s.spk
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-09B

Client SDG: j940617.b
Fraction: SV
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

	SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$	3 2-Fluorophenol	150	100	66.51	25-121
$	5 Phenol-d5	150	94	62.56	24-113
$	8 2-Chlorophenol-d4	150	96	64.37	20-130
$	13 1,2-Dichlorobenzen	100	64	64.45	20-130
$	23 Nitrobenzene-d5	100	68	68.09	23-120
$	40 2-Fluorobiphenyl	100	74	74.48	30-115
$	61 2,4,6-Tribromophen	150	77	51.08	19-122
$	72 Terphenyl-d14	100	69	69.02	18-137

* - Values outside of QC limits
Spike Recovery: 0 out of 8 outside limits
0 out of 8 not found

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168s09.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-09B

Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

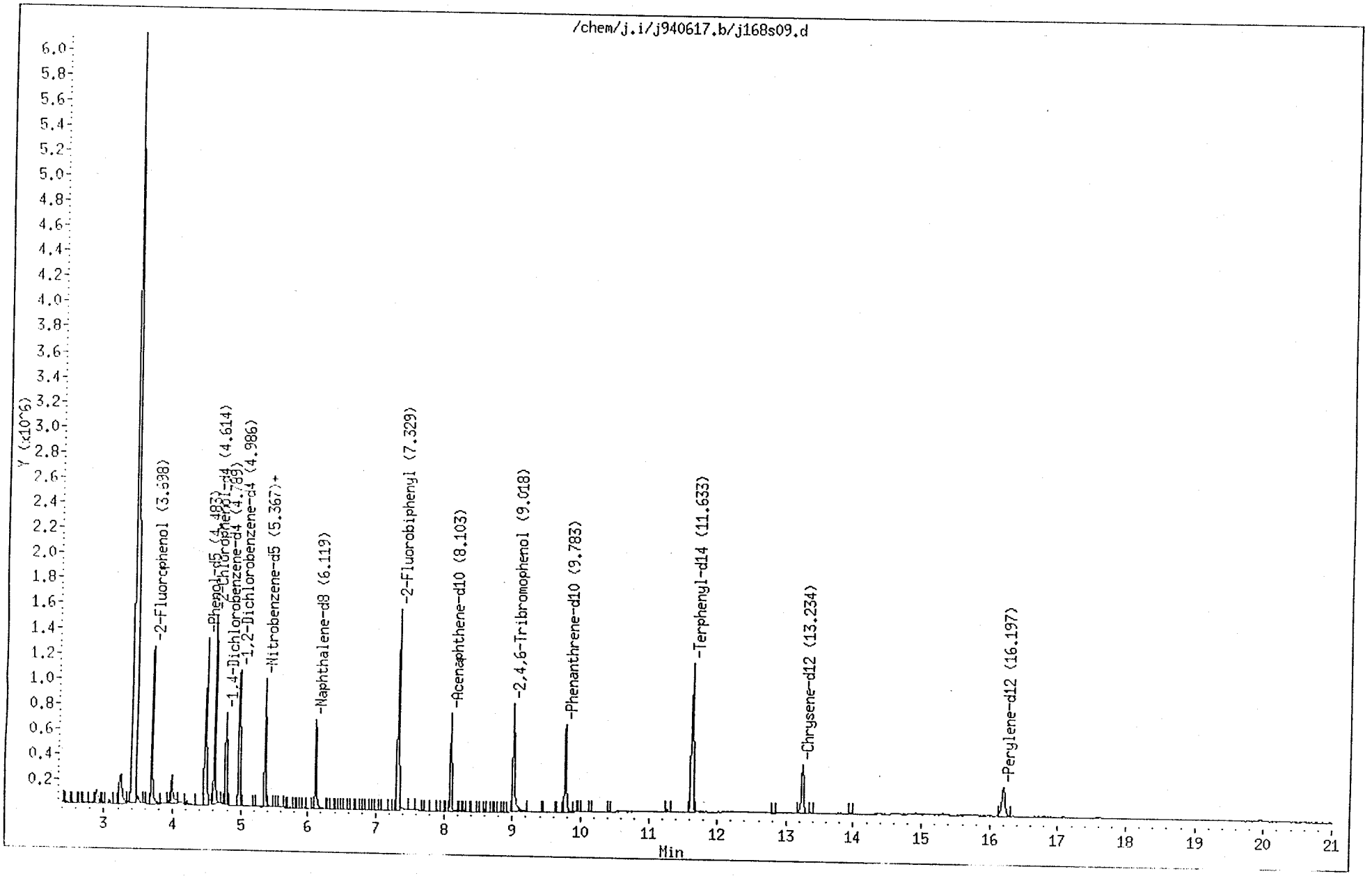
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	121206	60603	242412	138972	14.66
32 Naphthalene-d8	445390	222695	890780	499294	12.10
48 Acenaphthene-d10	275750	137875	551500	295630	7.21
65 Phenanthrene-d10	336972	168486	673944	410268	21.75
76 Chrysene-d12	146532	73266	293064	261395	78.39
83 Perylene-d12	160474	80237	320948	255275	59.08

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.24
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.24
48 Acenaphthene-d10	8.12	7.62	8.62	8.10	-0.27
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.06
76 Chrysene-d12	13.26	12.76	13.76	13.23	-0.16
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.07

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.b/j168s09.d
Date : 17-JUN-1994 17:38
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Volume Injected (uL) : 2.0

Column diameter : 0.25



Certificate of Analysis No. 9406119-10

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-10

Operational Tech

SAMPLE ID: A-03 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd)Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH DATE/TIME: 06/17/94 14:25:00
EXTRACTED BY: LJ DATE/TIME: 06/08/94
METHOD: 8270, Semivolatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s02.d
Lab. Id. :
Inj Date : 17-JUN-1994 14:25
Operator : LH
Smp Info : 9406119-10B
Misc Info : 9406119-10B
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 17-Jun-1994 14:44 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 9
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
$	3 2-Fluorophenol	112.00	3.687	(0.770)	494661	100	1700
$	5 Phenol-d5	99.00	4.483	(0.936)	596514	96	1600
$	8 2-Chlorophenol-d4	132.00	4.614	(0.964)	521651	95	1600
*	11 1,4-Dichlorobenzene-d4	152.00	4.789	(1.000)	129585	40	
$	13 1,2-Dichlorobenzene-d4	152.00	4.975	(0.614)	239706	64	1000
	21 N-Nitroso-di-n-propylamine	70.00	5.367	(1.121)	64327	18	300(aQ)
$	23 Nitrobenzene-d5	82.00	5.367	(0.877)	396371	68	1100
*	32 Naphthalene-d8	136.00	6.119	(1.000)	474412	40	
$	40 2-Fluorobiphenyl	172.00	7.328	(0.904)	671901	74	1200
*	48 Acenaphthene-d10	164.00	8.102	(1.000)	282546	40	
$	61 2,4,6-Tribromophenol	330.00	9.017	(0.922)	137201	100	1700
*	65 Phenanthrene-d10	188.00	9.780	(1.000)	420180	40	
$	72 Terphenyl-d14	244.00	11.535	(0.879)	631251	72	1200
*	76 Chrysene-d12	240.00	13.230	(1.000)	256217	40	
*	83 Perylene-d12	264.00	16.195	(1.000)	240113	40	

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

SPL Houston Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File: 8270s.spk
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-10B

Client SDG: j940617.b
Fraction: SV
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

	SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 3	2-Fluorophenol	150	100	68.62	25-121
$ 5	Phenol-d5	150	96	64.14	24-113
$ 8	2-Chlorophenol-d4	150	95	63.60	20-130
$ 13	1,2-Dichlorobenzen	100	64	63.57	20-130
$ 23	Nitrobenzene-d5	100	68	68.06	23-120
$ 40	2-Fluorobiphenyl	100	74	74.04	30-115
$ 61	2,4,6-Tribromophen	150	100	66.98	19-122
$ 72	Terphenyl-d14	100	72	72.03	18-137

* - Values outside of QC limits
Spike Recovery: 0 out of 8 outside limits
0 out of 8 not found

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168s02.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-10B

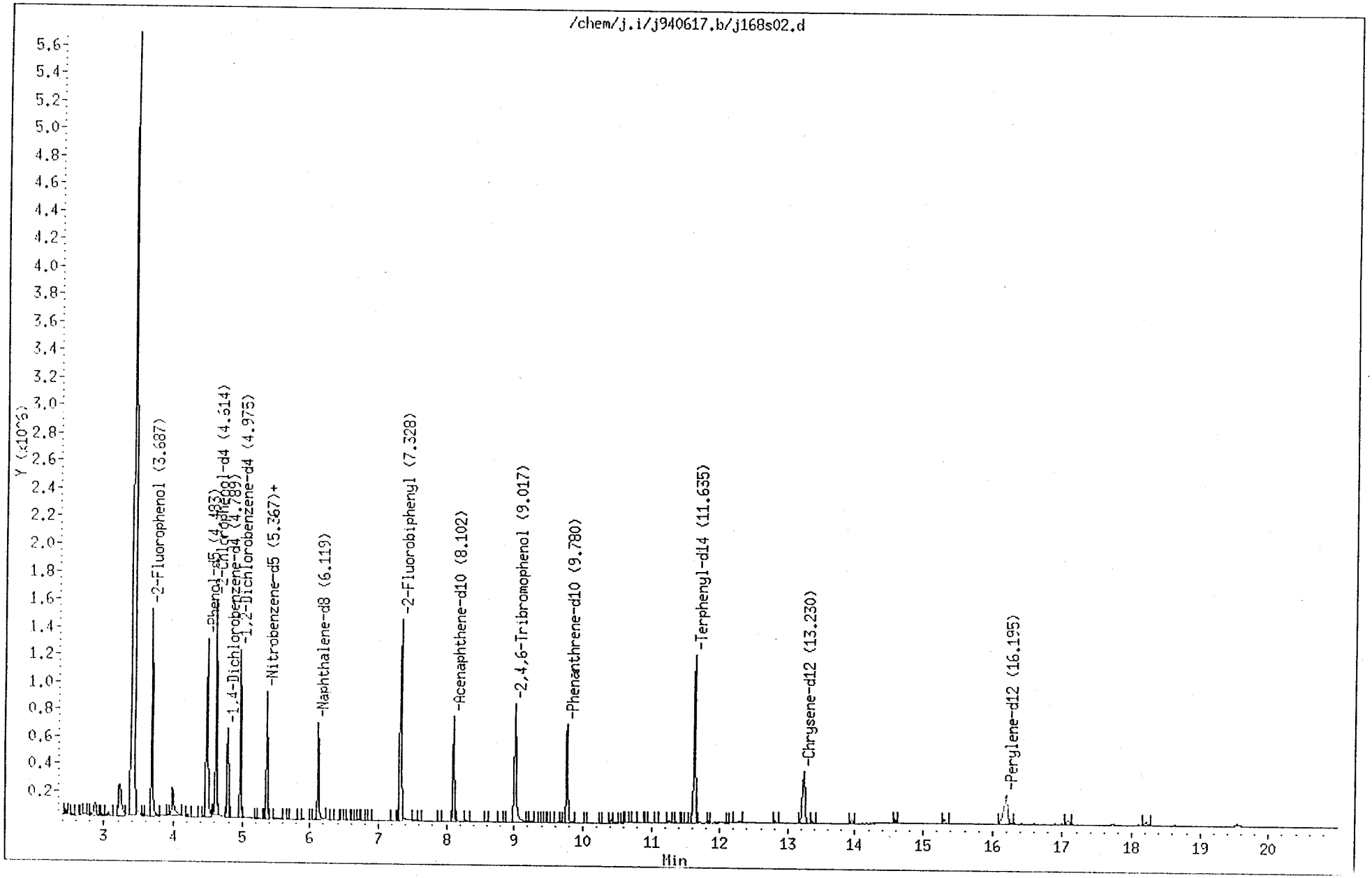
Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	121206	60603	242412	129585	6.91
32 Naphthalene-d8	445390	222695	890780	474412	6.52
48 Acenaphthene-d10	275750	137875	551500	282546	2.46
65 Phenanthrene-d10	336972	168486	673944	420180	24.69
76 Chrysene-d12	146532	73266	293064	256217	74.85
83 Perylene-d12	160474	80237	320948	240113	49.63

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.25
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.25
48 Acenaphthene-d10	8.12	7.62	8.62	8.10	-0.28
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.09
76 Chrysene-d12	13.26	12.76	13.76	13.23	-0.19
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.08

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.b/j168s02.d
Date : 17-JUN-1994 14:25
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Column diameter : 0.25
Volume Injected (uL) : 2.0



Certificate of Analysis No. 9406119-01

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	1600	µg/Kg
Acenaphthylene	ND	1600	µg/Kg
Aniline	ND	1600	µg/Kg
Anthracene	ND	1600	µg/Kg
Benzo(a)Anthracene	ND	1600	µg/Kg
Benzo(b)Fluoranthene	ND	1600	µg/Kg
Benzo(k)Fluoranthene	ND	1600	µg/Kg
Benzo(a)Pyrene	ND	1600	µg/Kg
Benzoic Acid	ND	8000	µg/Kg
Benzo(g,h,i)Perylene	ND	1600	µg/Kg
Benzyl alcohol	ND	1600	µg/Kg
4-Bromophenylphenyl ether	ND	1600	µg/Kg
Butylbenzylphthalate	ND	1600	µg/Kg
di-n-Butyl phthalate	ND	1600	µg/Kg
Carbazole	ND	1600	µg/Kg
4-Chloroaniline	ND	1600	µg/Kg
bis(2-Chloroethoxy)Methane	ND	1600	µg/Kg
bis(2-Chloroethyl)Ether	ND	1600	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	1600	µg/Kg
4-Chloro-3-Methylphenol	ND	1600	µg/Kg
2-Chloronaphthalene	ND	1600	µg/Kg
2-Chlorophenol	ND	1600	µg/Kg
4-Chlorophenylphenyl ether	ND	1600	µg/Kg
Chrysene	ND	1600	µg/Kg
Dibenz(a,h)Anthracene	ND	1600	µg/Kg
Dibenzofuran	ND	1600	µg/Kg
1,2-Dichlorobenzene	ND	1600	µg/Kg
1,3-Dichlorobenzene	ND	1600	µg/Kg
1,4-Dichlorobenzene	ND	1600	µg/Kg
3,3'-Dichlorobenzidine	ND	1600	µg/Kg
2,4-Dichlorophenol	ND	1600	µg/Kg
Diethylphthalate	ND	1600	µg/Kg
2,4-Dimethylphenol	ND	1600	µg/Kg
Dimethyl Phthalate	ND	1600	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	4000	µg/Kg
2,4-Dinitrophenol	ND	4000	µg/Kg
2,4-Dinitrotoluene	ND	1600	µg/Kg
2,6-Dinitrotoluene	ND	1600	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-01

Operational Tech

SAMPLE ID: A-04 BH Int.1

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	1600	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	1600	µg/Kg
Fluoranthene	ND	1600	µg/Kg
Fluorene	ND	1600	µg/Kg
Hexachlorobenzene	ND	1600	µg/Kg
Hexachlorobutadiene	ND	1600	µg/Kg
Hexachloroethane	ND	1600	µg/Kg
Hexachlorocyclopentadiene	ND	1600	µg/Kg
Indeno(1,2,3-cd)Pyrene	ND	1600	µg/Kg
Isophorone	ND	1600	µg/Kg
2-Methylnaphthalene	ND	1600	µg/Kg
2-Methylphenol	ND	1600	µg/Kg
4-Methylphenol	ND	1600	µg/Kg
Naphthalene	ND	1600	µg/Kg
2-Nitroaniline	ND	4000	µg/Kg
3-Nitroaniline	ND	4000	µg/Kg
4-Nitroaniline	ND	4000	µg/Kg
Nitrobenzene	ND	1600	µg/Kg
2-Nitrophenol	ND	1600	µg/Kg
4-Nitrophenol	ND	4000	µg/Kg
N-Nitrosodiphenylamine (1)	ND	1600	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	1600	µg/Kg
Di-n-Octyl Phthalate	ND	1600	µg/Kg
Pentachlorophenol	ND	4000	µg/Kg
Phenanthrene	ND	1600	µg/Kg
Phenol	ND	1600	µg/Kg
Pyrene	ND	1600	µg/Kg
Pyridine	ND	1600	µg/Kg
1,2,4-Trichlorobenzene	ND	1600	µg/Kg
2,4,5-Trichlorophenol	ND	4000	µg/Kg
2,4,6-Trichlorophenol	ND	1600	µg/Kg

ANALYZED BY: LH DATE/TIME: 06/17/94 20:22:00
EXTRACTED BY: LJ DATE/TIME: 06/08/94
METHOD: 8270, Semivolatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s15.d
Lab. Id. :
Inj Date : 17-JUN-1994 20:22
Operator : LH
Smp Info : 9406119-01B 5X
Misc Info : 9406119-01B 5X
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 17-Jun-1994 14:44 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 22
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
$ 3 2-Fluorophenol	112.00	3.685	(0.768)	109379	23	380
$ 5 Phenol-d5	99.00	4.492	(0.936)	141000	23	380
$ 8 2-Chlorophenol-d4	132.00	4.623	(0.964)	127874	23	390
* 11 1,4-Dichlorobenzene-d4	152.00	4.798	(1.000)	129620	40	
$ 13 1,2-Dichlorobenzene-d4	152.00	4.984	(0.614)	55829	19	310(a)
$ 23 Nitrobenzene-d5	82.00	5.367	(0.875)	81636	16	260(a)
* 32 Naphthalene-d8	136.00	6.134	(1.000)	426664	40	
$ 40 2-Fluorobiphenyl	172.00	7.330	(0.904)	150142	21	350
* 48 Acenaphthene-d10	164.00	8.111	(1.000)	224780	40	
$ 61 2,4,6-Tribromophenol	330.00	9.029	(0.000)	8990	12	200(aM)
* 65 Phenanthrene-d10	188.00	9.795	(1.000)	225618	40	
$ 72 Terphenyl-d14	244.00	11.645	(0.877)	101295	12	190(a)
* 76 Chrysene-d12	240.00	13.281	(1.000)	256043	40	
* 83 Perylene-d12	264.00	16.284	(1.000)	285481	40	
84 Indeno(1,2,3-cd)pyrene	276.00	19.498	(1.197)	47917	4	76(a)
86 Benzo(g,h,i)perylene	276.00	20.466	(1.257)	52268	6	96(a)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168s15.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-01B 5X

Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

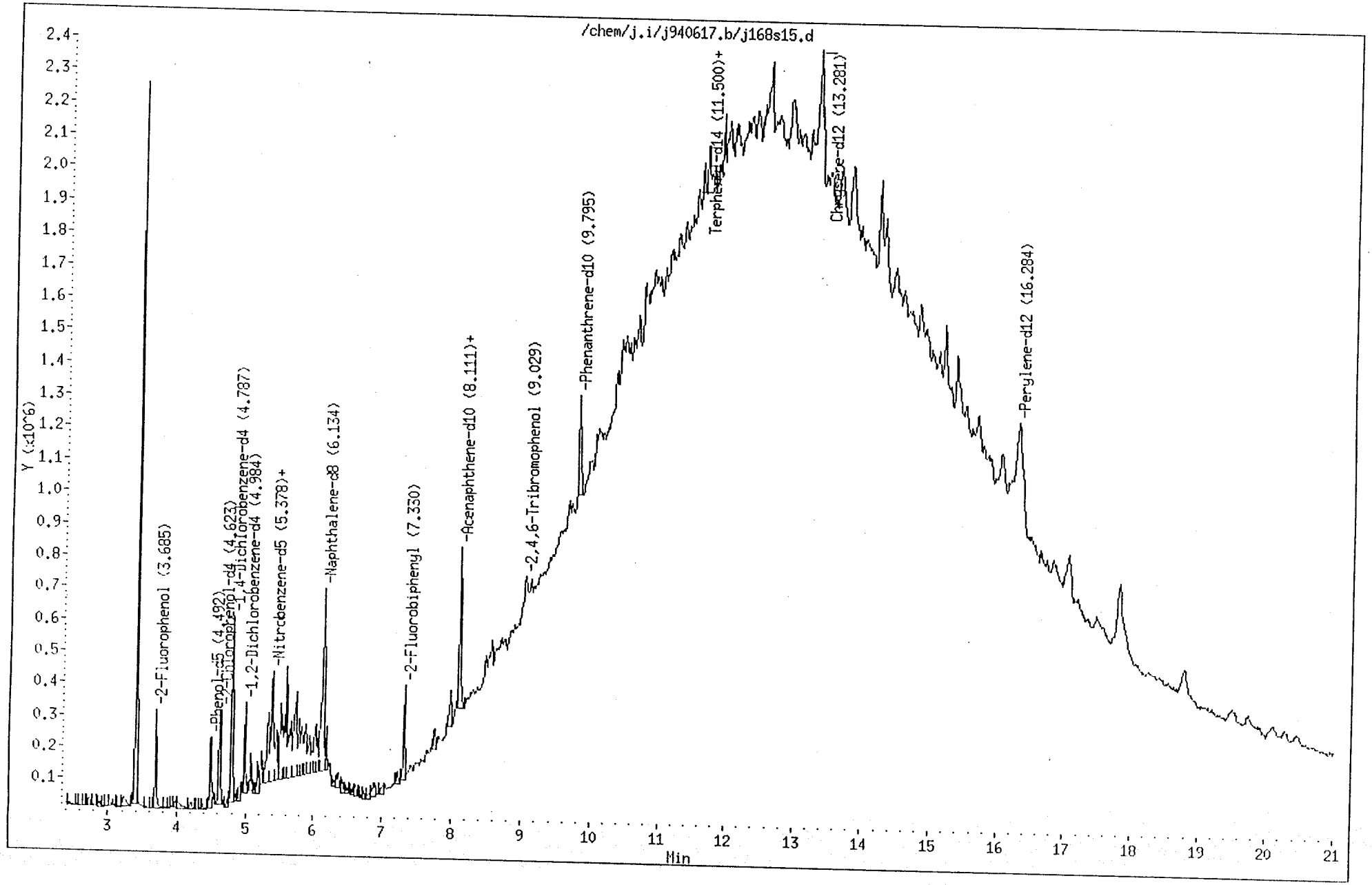
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	121206	60603	242412	129620	6.94
32 Naphthalene-d8	445390	222695	890780	426664	-4.20
48 Acenaphthene-d10	275750	137875	551500	224780	-18.48
65 Phenanthrene-d10	336972	168486	673944	225618	-33.05
76 Chrysene-d12	146532	73266	293064	256043	74.74
83 Perylene-d12	160474	80237	320948	285481	77.90

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.80	-0.06
32 Naphthalene-d8	6.13	5.63	6.63	6.13	0.00
48 Acenaphthene-d10	8.12	7.62	8.62	8.11	-0.16
65 Phenanthrene-d10	9.79	9.29	10.29	9.79	0.06
76 Chrysene-d12	13.26	12.76	13.76	13.28	0.19
83 Perylene-d12	16.21	15.71	16.71	16.28	0.47

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.b/j168s15.d
Date : 17-JUN-1994 20:22
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Volume Injected (uL) : 2.0

Column diameter : 0.25



Certificate of Analysis No. 9406119-02

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:40:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)

Certificate of Analysis No. 9406119-02

Operational Tech

SAMPLE ID: A-04 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd)Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH
DATE/TIME: 06/13/94 18:13:00
EXTRACTED BY: LJ
DATE/TIME: 06/08/94
METHOD: 8270, Semivolatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940613.b/j164s05.d
Lab. Id. :
Inj Date : 13-JUN-94 18:13
Operator : LH
Smp Info : 9406113-02B
Misc Info : 9406113-02B
Comment :
Method : /chem/j.i/j940613.b/jbna8.m
Meth Date : 13-Jun-1994 16:11 csadmin
Cal Date : 13-JUN-1994 14:28
Als bottle: 8
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: WATER

Quant Type: ISTD
Autotune Date: (
Inst ID: j.i

Cal File: j164cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$ 3 2-Fluorophenol	112.00	3.074	(0.740)	379162	100	51
$ 5 Phenol-d5	99.00	3.880	(0.934)	499658	110	55
$ 8 2-Chlorophenol-d4	132.00	3.979	(0.958)	446785	100	51
* 11 1,4-Dichlorobenzene-d4	152.00	4.153	(1.000)	107236	40	
$ 13 1,2-Dichlorobenzene-d4	152.00	4.339	(0.586)	214915	77	38
$ 23 Nitrobenzene-d5	82.00	4.720	(0.864)	320676	73	37
* 32 Naphthalene-d8	136.00	5.460	(1.000)	369157	40	
$ 40 2-Fluorobiphenyl	172.00	6.657	(0.899)	583705	81	41
* 48 Acenaphthene-d10	164.00	7.409	(1.000)	228978	40	
$ 61 2,4,6-Tribromophenol	330.00	8.301	(0.918)	144027	120	58
* 65 Phenanthrene-d10	188.00	9.042	(1.000)	326726	40	
$ 72 Terphenyl-d14	244.00	10.829	(0.886)	570145	80	40
* 76 Chrysene-d12	240.00	12.226	(1.000)	207212	40	
* 83 Perylene-d12	264.00	14.750	(1.000)	200442	40	

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j164s05.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940613.b/jbna8.m
Misc Info: 9406119-02B

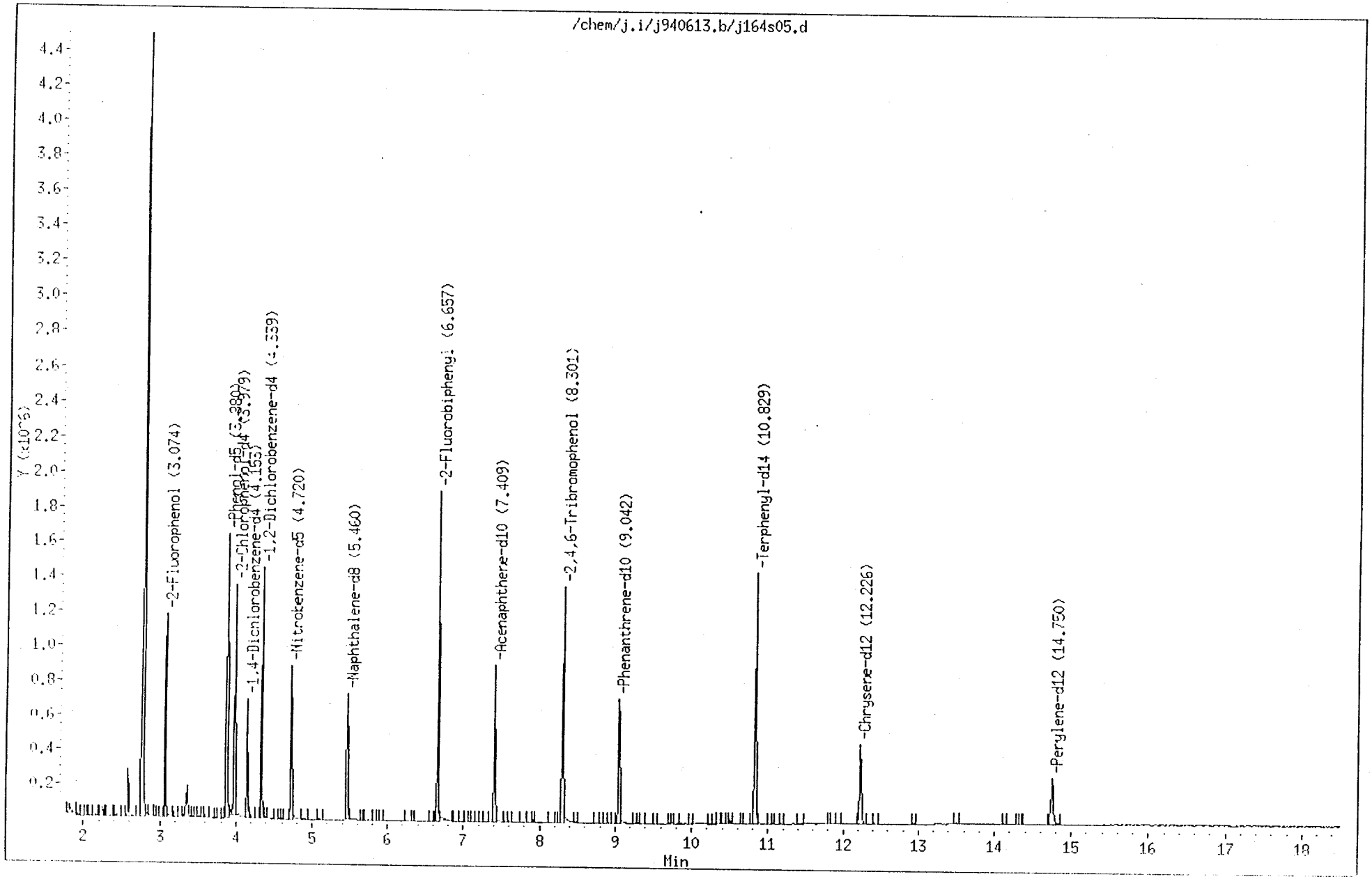
Calibration Date: 06/13/94
Calibration Time: 1428
Sample Type: WATER
Level: LOW

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	85780	42890	171560	107236	25.01
32 Naphthalene-d8	329103	164551	658206	369157	12.17
48 Acenaphthene-d10	208681	104340	417362	228978	9.73
65 Phenanthrene-d10	281650	140825	563300	326726	16.00
76 Chrysene-d12	142982	71491	285964	207212	44.92
83 Perylene-d12	150259	75129	300518	200442	33.40

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.15	3.65	4.65	4.15	0.05
32 Naphthalene-d8	5.47	4.97	5.97	5.46	-0.22
48 Acenaphthene-d10	7.42	6.92	7.92	7.41	-0.09
65 Phenanthrene-d10	9.06	8.56	9.56	9.04	-0.15
76 Chrysene-d12	12.24	11.74	12.74	12.23	-0.14
83 Perylene-d12	14.77	14.27	15.27	14.75	-0.12

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940613.b/j164s05.d
Date : 13-JUN-94 18:13
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Column diameter : 0.25
Volume Injected (uL) : 2.0



Certificate of Analysis No. 9406119-03

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:15:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	660	µg/Kg
Acenaphthylene	ND	660	µg/Kg
Aniline	ND	660	µg/Kg
Anthracene	ND	660	µg/Kg
Benzo(a)Anthracene	ND	660	µg/Kg
Benzo(b)Fluoranthene	ND	660	µg/Kg
Benzo(k)Fluoranthene	ND	660	µg/Kg
Benzo(a)Pyrene	ND	660	µg/Kg
Benzoic Acid	ND	3200	µg/Kg
Benzo(g,h,i)Perylene	ND	660	µg/Kg
Benzyl alcohol	ND	660	µg/Kg
4-Bromophenylphenyl ether	ND	660	µg/Kg
Butylbenzylphthalate	ND	660	µg/Kg
di-n-Butyl phthalate	ND	660	µg/Kg
Carbazole	ND	660	µg/Kg
4-Chloroaniline	ND	660	µg/Kg
bis(2-Chloroethoxy)Methane	ND	660	µg/Kg
bis(2-Chloroethyl)Ether	ND	660	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	660	µg/Kg
4-Chloro-3-Methylphenol	ND	660	µg/Kg
2-Chloronaphthalene	ND	660	µg/Kg
2-Chlorophenol	ND	660	µg/Kg
4-Chlorophenylphenyl ether	ND	660	µg/Kg
Chrysene	ND	660	µg/Kg
Dibenz(a,h)Anthracene	ND	660	µg/Kg
Dibenzofuran	ND	660	µg/Kg
1,2-Dichlorobenzene	ND	660	µg/Kg
1,3-Dichlorobenzene	ND	660	µg/Kg
1,4-Dichlorobenzene	ND	660	µg/Kg
3,3'-Dichlorobenzidine	ND	660	µg/Kg
2,4-Dichlorophenol	ND	660	µg/Kg
Diethylphthalate	ND	660	µg/Kg
2,4-Dimethylphenol	ND	660	µg/Kg
Dimethyl Phthalate	ND	660	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	1600	µg/Kg
2,4-Dinitrophenol	ND	1600	µg/Kg
2,4-Dinitrotoluene	ND	660	µg/Kg
2,6-Dinitrotoluene	ND	660	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-03

Operational Tech

SAMPLE ID: A-05 BH Int.1

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	660	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	660	µg/Kg
Fluoranthene	2000	660	µg/Kg
Fluorene	ND	660	µg/Kg
Hexachlorobenzene	ND	660	µg/Kg
Hexachlorobutadiene	ND	660	µg/Kg
Hexachloroethane	ND	660	µg/Kg
Hexachlorocyclopentadiene	ND	660	µg/Kg
Indeno(1,2,3-cd)Pyrene	ND	660	µg/Kg
Isophorone	ND	660	µg/Kg
2-Methylnaphthalene	ND	660	µg/Kg
2-Methylphenol	ND	660	µg/Kg
4-Methylphenol	ND	660	µg/Kg
Naphthalene	ND	660	µg/Kg
2-Nitroaniline	ND	1600	µg/Kg
3-Nitroaniline	ND	1600	µg/Kg
4-Nitroaniline	ND	1600	µg/Kg
Nitrobenzene	ND	660	µg/Kg
2-Nitrophenol	ND	660	µg/Kg
4-Nitrophenol	ND	1600	µg/Kg
N-Nitrosodiphenylamine (1)	ND	660	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	660	µg/Kg
Di-n-Octyl Phthalate	ND	660	µg/Kg
Pentachlorophenol	ND	1600	µg/Kg
Phenanthrene	920	660	µg/Kg
Phenol	ND	660	µg/Kg
Pyrene	720	660	µg/Kg
Pyridine	ND	660	µg/Kg
1,2,4-Trichlorobenzene	ND	660	µg/Kg
2,4,5-Trichlorophenol	ND	1600	µg/Kg
2,4,6-Trichlorophenol	ND	660	µg/Kg

ANALYZED BY: LH DATE/TIME: 06/17/94 19:54:00
EXTRACTED BY: LJ DATE/TIME: 06/08/94
METHOD: 8270, Semivolatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s14.d
Lab. Id. :
Inj Date : 17-JUN-1994 19:54
Operator : LH
Smp Info : 9406119-03B 2X
Misc Info : 9406119-03B 2X
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 17-Jun-1994 14:44 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 21
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date:
Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
S	3 2-Fluorophenol	112.00	3.685	(0.770)	245364	53	890
S	5 Phenol-d5	99.00	4.482	(0.936)	305399	52	860
S	8 2-Chlorophenol-d4	132.00	4.613	(0.963)	276554	53	880
*	11 1,4-Dichlorobenzene-d4	152.00	4.788	(1.000)	123898	40	
S	13 1,2-Dichlorobenzene-d4	152.00	4.984	(0.615)	127830	37	610
S	23 Nitrobenzene-d5	82.00	5.366	(0.875)	214550	38	630
*	32 Naphthalene-d8	136.00	6.130	(1.000)	464098	40	
S	40 2-Fluorobiphenyl	172.00	7.331	(0.904)	378185	45	750
*	48 Acenaphthene-d10	164.00	8.109	(1.000)	261200	40	
S	61 2,4,6-Tribromophenol	330.00	9.032	(0.923)	24445	24	390(Q)
*	65 Phenanthrene-d10	188.00	9.784	(1.000)	319201	40	
	66 Phenanthrene	178.00	9.806	(1.002)	302672	27 ✓	460
	70 Fluoranthene	202.00	11.196	(1.144)	500087	61 ✓	1000
	71 Pyrene	202.00	11.486	(0.865)	423892	21 ✓	360
S	72 Terphenyl-d14	244.00	11.643	(0.877)	367700	30	500
*	76 Chrysene-d12	240.00	13.277	(1.000)	355536	40	
*	83 Perylene-d12	264.00	16.292	(1.000)	376831	40	

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168s14.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-03B 2X

Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF	
11 1,4-Dichlorobenzene-	121206	60603	242412	123898	2.22	
32 Naphthalene-d8	445390	222695	890780	464098	4.20	
48 Acenaphthene-d10	275750	137875	551500	261200	-5.28	
65 Phenanthrene-d10	336972	168486	673944	319201	-5.27	
76 Chrysene-d12	146532	73266	293064	355536	142.63	<-
83 Perylene-d12	160474	80237	320948	376831	134.82	<-

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.28
32 Naphthalene-d8	6.13	5.63	6.63	6.13	-0.07
48 Acenaphthene-d10	8.12	7.62	8.62	8.11	-0.19
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.05
76 Chrysene-d12	13.26	12.76	13.76	13.28	0.16
83 Perylene-d12	16.21	15.71	16.71	16.29	0.52

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.s/j168s14.d

Date : 17-JUN-1994 19:54

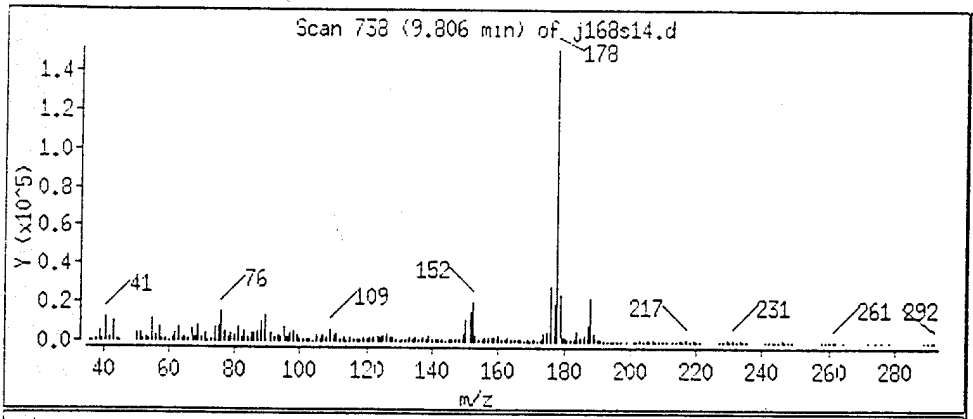
Instrument : j.i

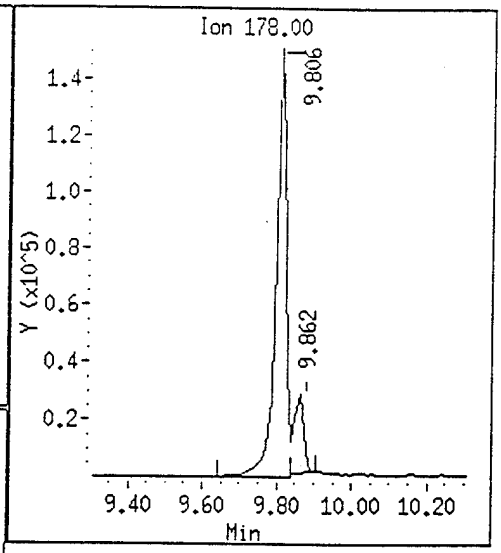
Sample ID :

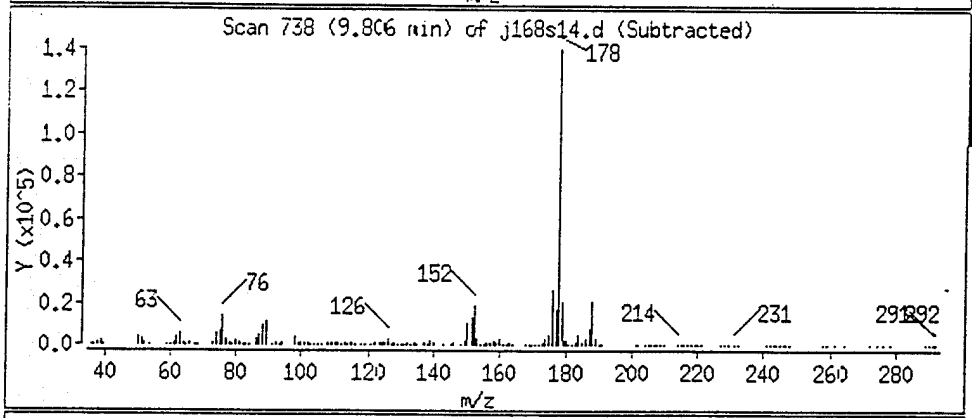
Column phase : J&W DB-5 Column diameter : 0.25

Volume Injected (uL) : 2.0

66 Phenanthrene







Data File: /chem/j.i/j940617.b/j168s14.d

Date : 17-JUN-1994 19:54

Instrument : j.i

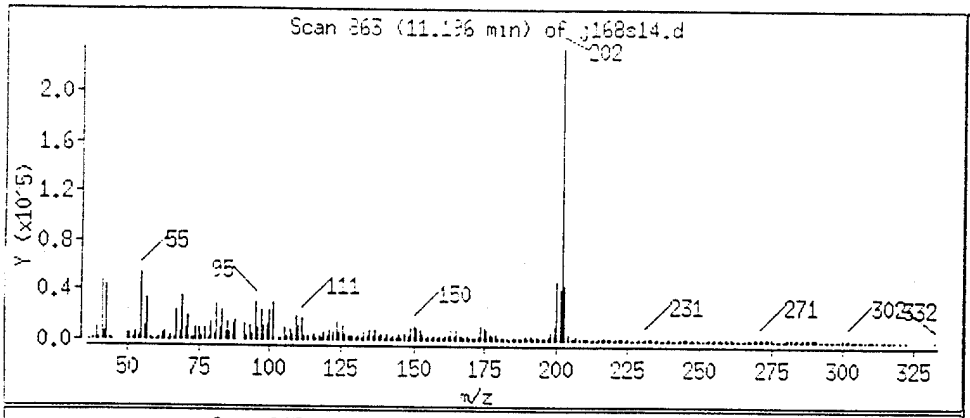
Sample ID :

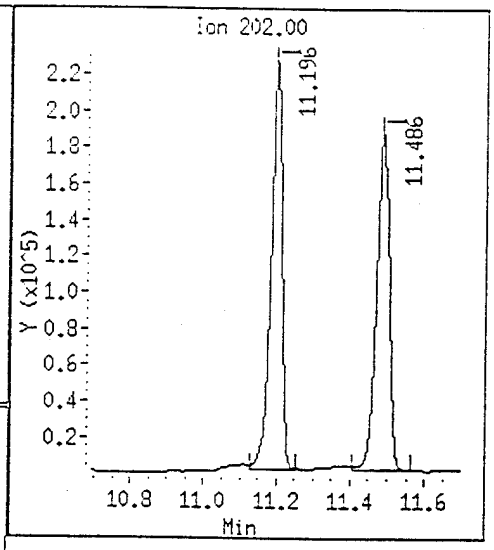
Column phase : J&W DB-5

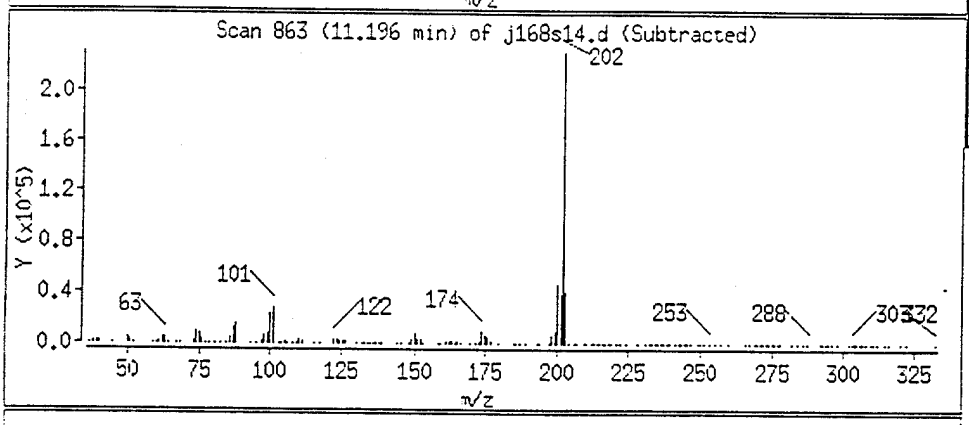
Column diameter : 0.25

Volume Injected (uL) : 2.0

70 Fluoranthene







Data File: /chem/j.i/j940617.b/j168s14.d

Date : 17-JUN-1994 19:54

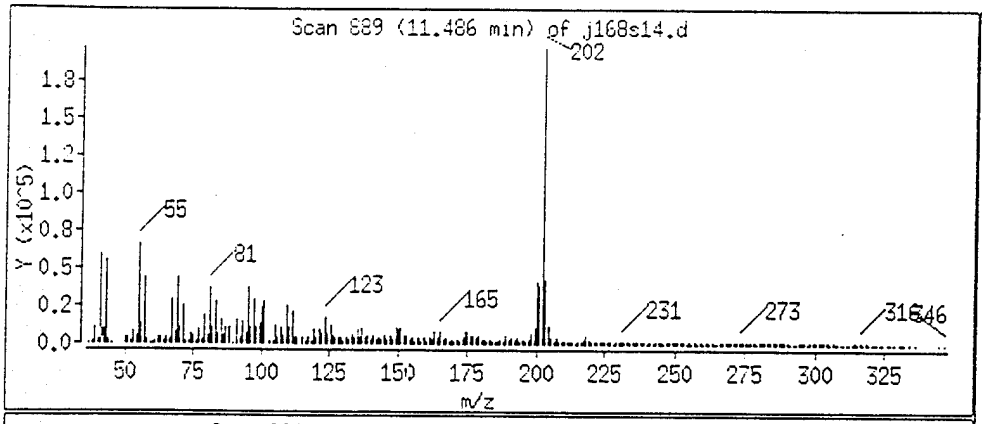
Instrument : j.i

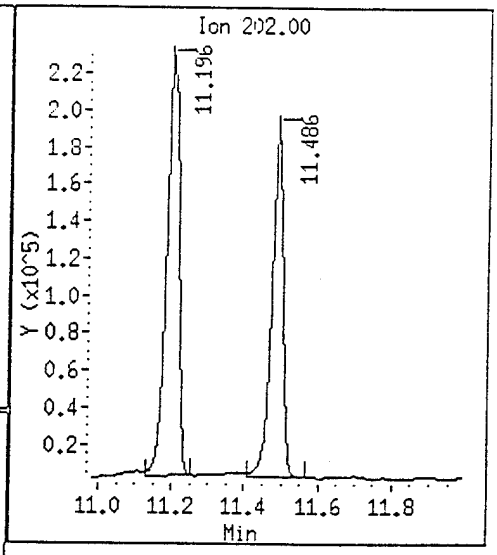
Sample ID :

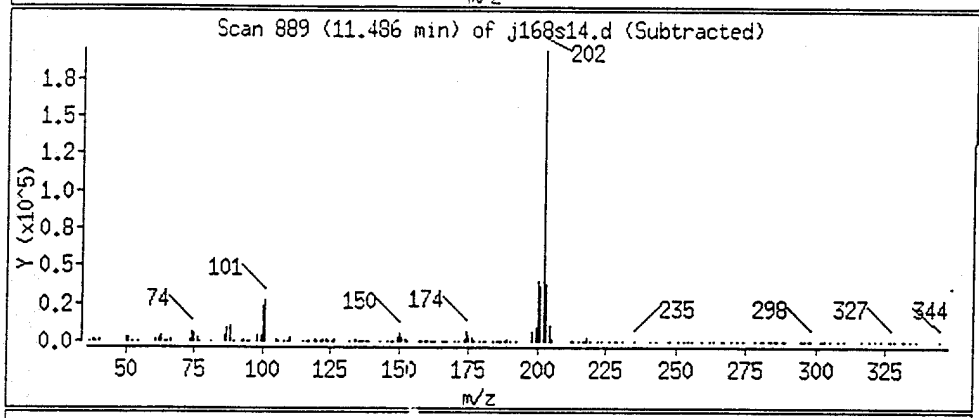
Column phase : J&W DB-5 Column diameter : 0.25

Volume Injected (uL) : 2.0

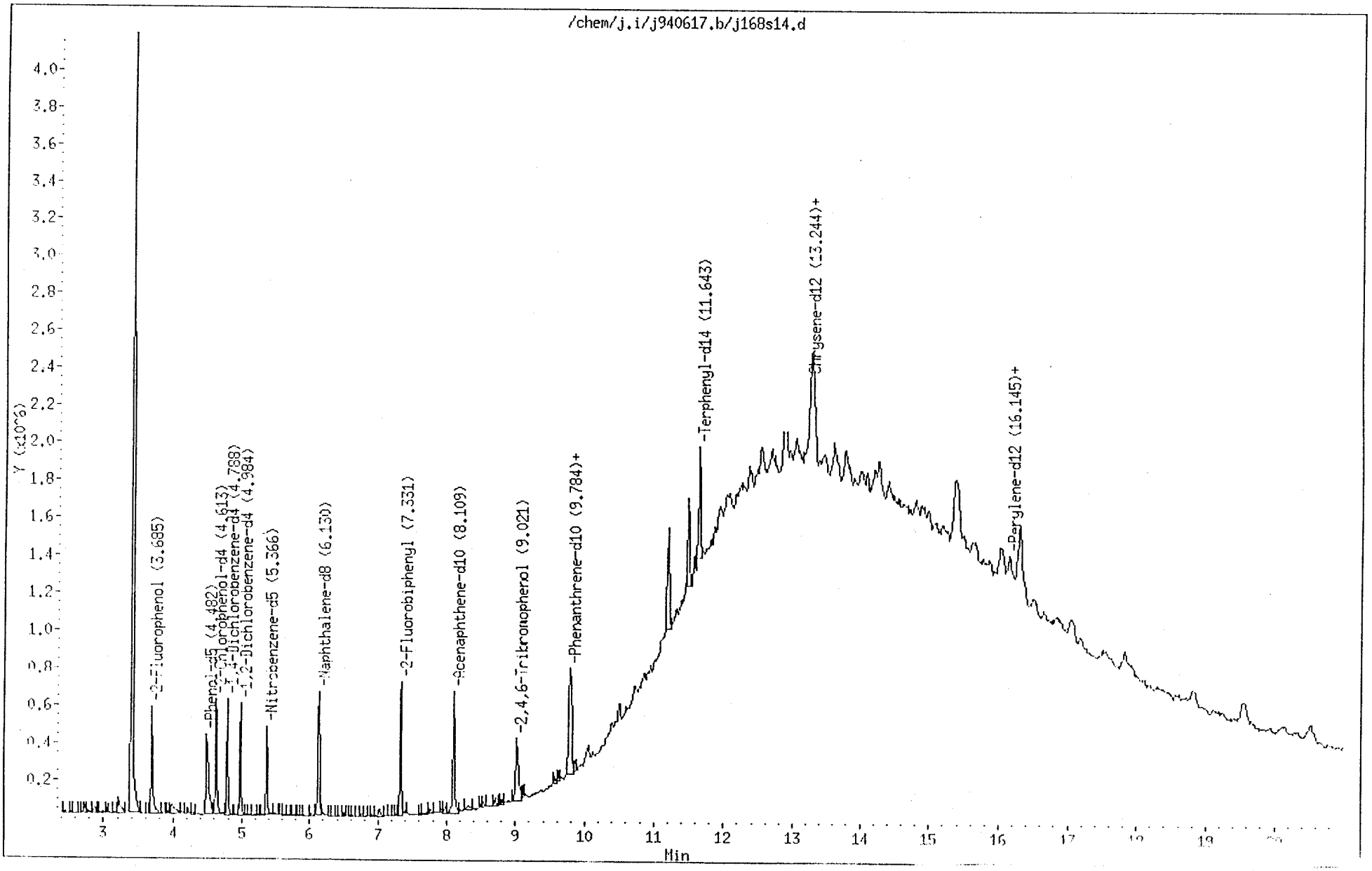
71 Pyrene







Data File: /chem/j.i/j940617.b/j168s14.d
Date : 17-JUN-1994 19:54
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Column diameter : 0.25
Volume Injected (uL) : 2.0



Quantitation Report File: B611903

Data: B611903.TI
06/21/94 0:05:00
Sample: 8270,9406119,,A-05,L,S,9406119-03B,B,E,30-1,06/13 DE-2UL
Conds : CAP,0620B2D1,0620DFD1,,,,,40/4--300@10,INST D1
Formula: X5 Instrument: D1 Weight: 0.000
Submitted by: Analyst: GLT Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name	
1	CI30 1,4-DICHLOROBENZENE-D4	*INTSTD*
2	CI40 NAPHTHALENE-D8	*INTSTD*
3	CI50 ACENAPHTHENE-D10	*INTSTD*
4	CI60 PHENANTHRENE-D10	*INTSTD*
5	CI70 CHRYSENE-D12	*INTSTD*
6	CI75 PERYLENE-D12	*INTSTD*
7	CS75 1,2-DICHLOROBENZENE-D4	*SURR*
8	CS20 NITROBENZENE-D5	*SURR*
9	CS25 2-FLUOROBIPHENYL	*SURR*
10	CS30 TERPHENYL-D14	*SURR*
11	CS50 2-FLUOROPHENOL	*SURR*
12	CS45 PHENOL-D5	*SURR*
13	CS70 2-CHLOROPHENOL-D4	*SURR*
14	CS55 2,4,6-TRIBROMOPHENOL	*SURR*
15	C261 PYRIDINE	
16	C310 N-NITROSODIMETHYLAMINE	
17	C315 PHENOL	
18	C320 ANILINE	
19	C325 BIS(2-CHLOROETHYL)ETHER	
20	C330 2-CHLOROPHENOL	
21	C335 1,3-DICHLOROBENZENE	
22	C340 1,4-DICHLOROBENZENE	
23	C345 BENZYL ALCOHOL	
24	C350 1,2-DICHLOROBENZENE	
25	C355 2-METHYLPHENOL	
26	C356 ORTHO-CRESOL	
27	C360 BIS(2-CHLOROISOPROPYL)ETHER	
28	C365 4-METHYLPHENOL	
29	C366 META, PARA-CRESOLS	
30	C370 N-NITROSO-DI-N-PROPYLAMINE	
31	C375 HEXACHLOROETHANE	
32	C410 NITROBENZENE	
33	C415 ISOPHORONE	
34	C420 2-NITROPHENOL	
35	C425 2,4-DIMETHYLPHENOL	
36	C430 BENZOIC ACID	
37	C435 BIS(2-CHLOROETHOXY)METHANE	
38	C440 2,4-DICHLOROPHENOL	
39	C445 1,2,4-TRICHLOROBENZENE	
40	C450 NAPHTHALENE	
41	C455 4-CHLOROANILINE	
42	C460 HEXACHLOROBUTADIENE	
43	C465 4-CHLORO-3-METHYLPHENOL	
44	C470 2-METHYLNAPHTHALENE	
45	C510 HEXACHLOROCYCLOPENTADIENE	
46	C515 2,4,6-TRICHLOROPHENOL	
47	C520 2,4,5-TRICHLOROPHENOL	

~~Too~~ high confirmed matrix interference

45	1113	[illegible]NAPHTHALENE									
47	1121	[illegible]TRADILINE									
1	707	[illegible]ANTHRACENE									

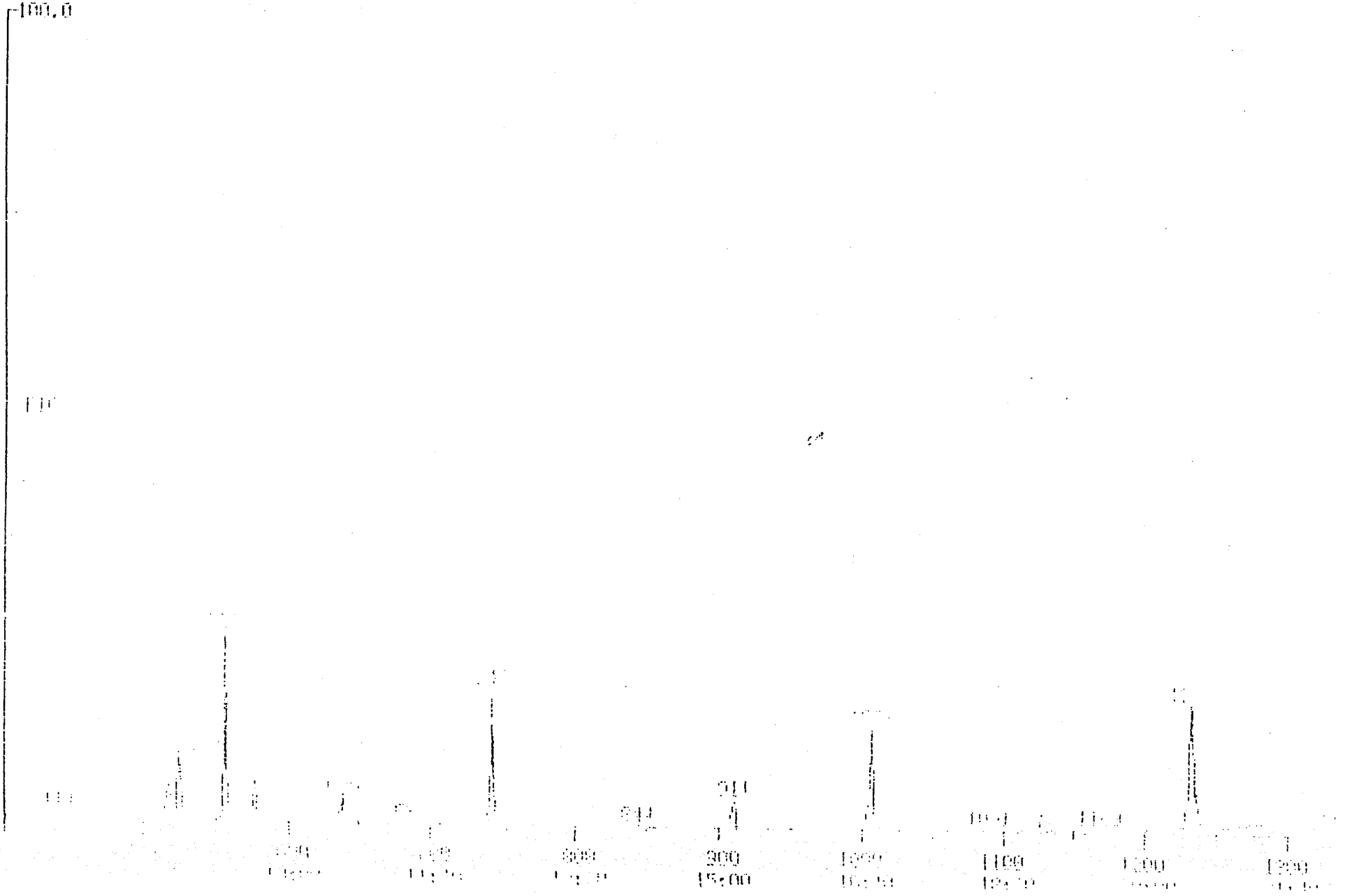
| | | |

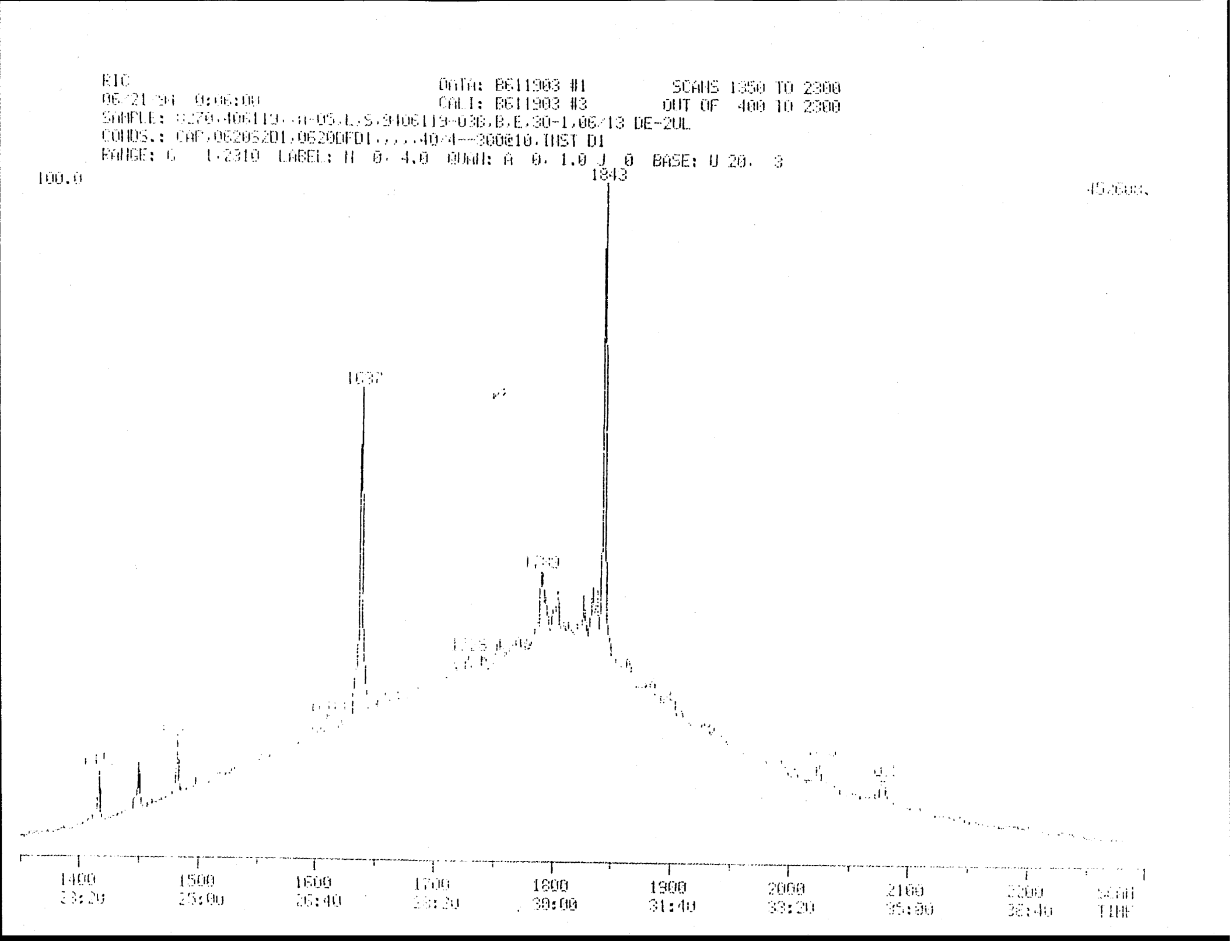
Weight 0.000

| | | |

| | | |

RIC
06/21/94 9:06:00
DATA: B611903 #1 SCANS 400 TO 1350
CALI: B611903 #3 OUT OF 400 TO 2300
SAMPLE: 8270,406119,,A-05,L,S,9406119-03B,B,E,30-1,06/13 DE-2UL
COMDS.: CAP,06205201,0620DFD1,,,,,40/4--300010,INST D1
RANGE: G 1,2310 LABEL: H 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3




RIC
06/21/94 9:06:00
DATA: BE11903 #1
CALI: BE11903 #3
SCANS 1350 TO 2300
OUT OF 400 TO 2300
SAMPLE: 0.79-406113--A-05.L.S.9406113-038.B.E.30-1.06/13 DE-2UL
CONDS.: CAP.062205201.0620DFD1.....40/4--300@10.INST D1
RANGE: G 1.2310 LABEL: H 0. 4.0 QUAN: A 0. 1.0 J 0 BASE: U 20. 3
100.0
1843
1637
1730
1400
23:20
1500
25:00
1600
26:40
1700
28:20
1800
30:00
1900
31:40
2000
33:20
2100
35:00
2200
36:40
Scan
TIME

Certificate of Analysis No. 9406119-04

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:18:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-04

Operational Tech

SAMPLE ID: A-05 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd)Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH DATE/TIME: 06/13/94 18:37:00
EXTRACTED BY: LJ DATE/TIME: 06/08/94
METHOD: 8270, Semivolatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940613.b/j164s06.d
Lab. Id. :
Inj Date : 13-JUN-94 18:37
Operator : LH
Smp Info : 9406119-04B
Misc Info : 9406119-04B
Comment :
Method : /chem/j.i/j940613.b/jbna8.m
Meth Date : 13-Jun-1994 16:11 csadmin
Cal Date : 13-JUN-1994 14:28
Als bottle: 9
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: WATER

Quant Type: ISTD
Autotune Date:
Inst ID: j.i

Cal File: j164cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
$ 3 2-Fluorophenol	112.00	3.063	(0.737)	406542	110	55
$ 5 Phenol-d5	99.00	3.880	(0.934)	506871	110	56
$ 8 2-Chlorophenol-d4	132.00	3.979	(0.958)	466149	110	54
* 11 1,4-Dichlorobenzene-d4	152.00	4.153	(1.000)	106791	40	
$ 13 1,2-Dichlorobenzene-d4	152.00	4.339	(0.586)	223939	77	39
$ 23 Nitrobenzene-d5	82.00	4.720	(0.864)	331748	73	36
* 32 Naphthalene-d8	136.00	5.460	(1.000)	383119	40	
$ 40 2-Fluorobiphenyl	172.00	6.658	(0.899)	615929	83	42
* 48 Acenaphthene-d10	164.00	7.409	(1.000)	236338	40	
$ 61 2,4,6-Tribromophenol	330.00	8.312	(0.919)	49351	38	19(Q)
* 65 Phenanthrene-d10	188.00	9.042	(1.000)	335545	40	
$ 72 Terphenyl-d14	244.00	10.828	(0.886)	618773	79	39
* 76 Chrysene-d12	240.00	12.225	(1.000)	228866	40	
* 83 Perylene-d12	264.00	14.747	(1.000)	226314	40	

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j164s06.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940613.b/jbna8.m
Misc Info: 9406119-04B

Calibration Date: 06/13/94
Calibration Time: 1428
Sample Type: WATER
Level: LOW

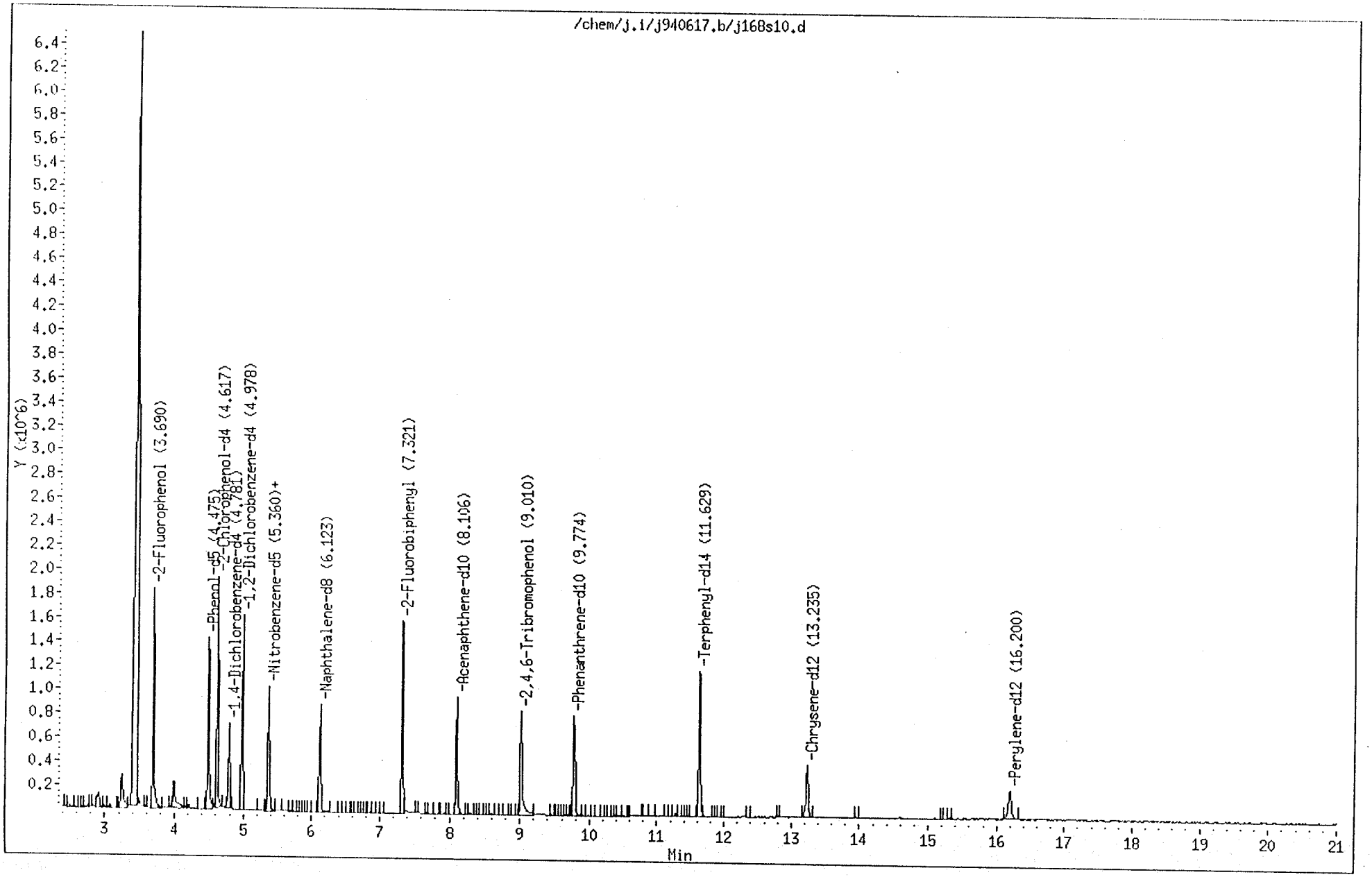
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	85780	42890	171560	106791	24.49
32 Naphthalene-d8	329103	164551	658206	383119	16.41
48 Acenaphthene-d10	208681	104340	417362	236338	13.25
65 Phenanthrene-d10	281650	140825	563300	335545	19.14
76 Chrysene-d12	142982	71491	285964	228866	60.07
83 Perylene-d12	150259	75129	300518	226314	50.62

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.15	3.65	4.65	4.15	0.05
32 Naphthalene-d8	5.47	4.97	5.97	5.46	-0.22
48 Acenaphthene-d10	7.42	6.92	7.92	7.41	-0.09
65 Phenanthrene-d10	9.06	8.56	9.56	9.04	-0.16
76 Chrysene-d12	12.24	11.74	12.74	12.22	-0.16
83 Perylene-d12	14.77	14.27	15.27	14.75	-0.14

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

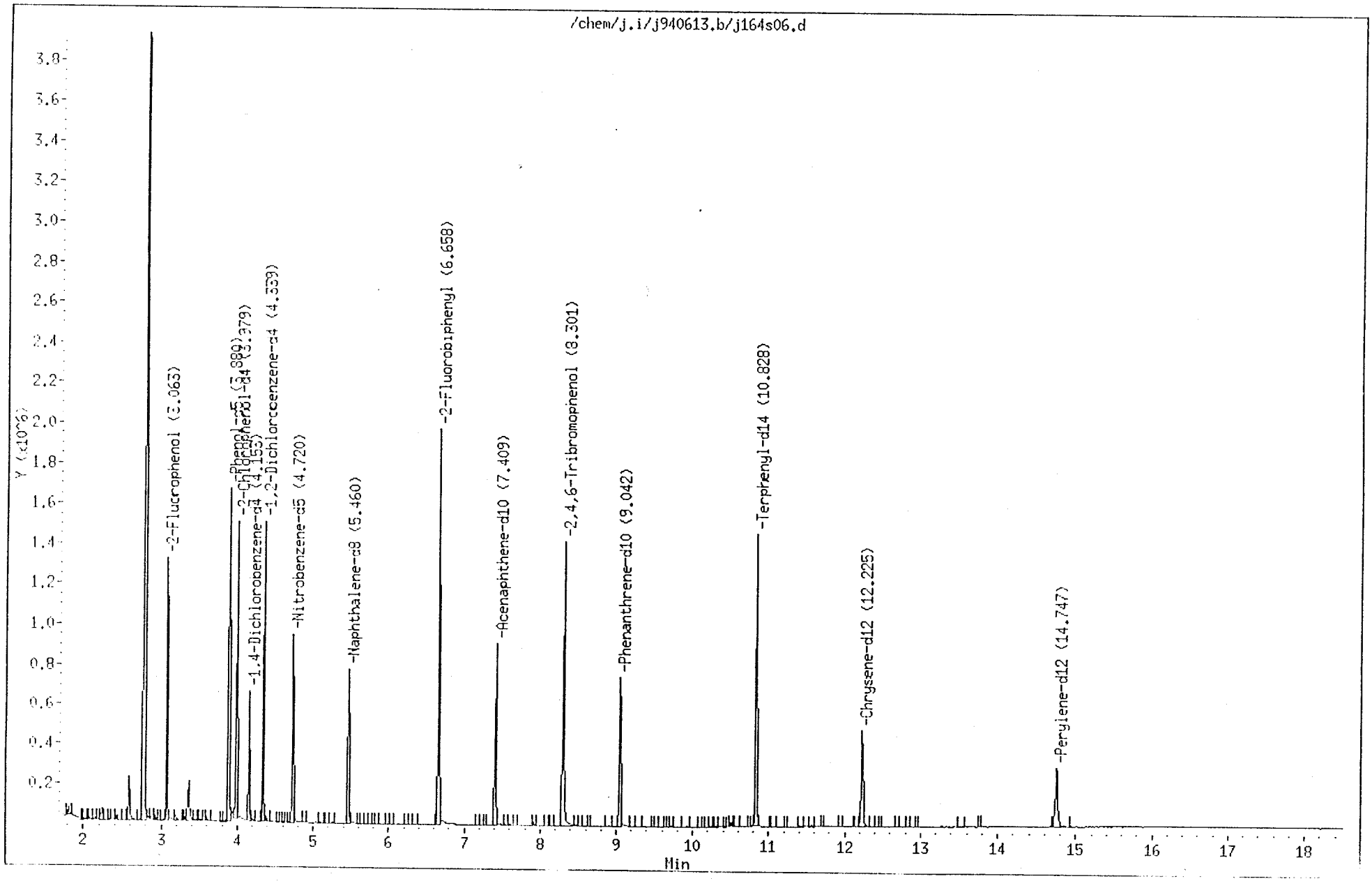
Data File: /chem/j.i/j940617.b/j168s10.d
Date : 17-JUN-1994 18:05
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Volume Injected (uL) : 2.0

Column diameter : 0.25



Data File: /chem/j.i/j940613.b/j164s06.d
Date : 13-JUN-94 18:37
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Volume Injected (uL) : 2.0

Column diameter : 0.25



Certificate of Analysis No. 9406119-05

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	1600	µg/Kg
Acenaphthylene	ND	1600	µg/Kg
Aniline	ND	1600	µg/Kg
Anthracene	ND	1600	µg/Kg
Benzo(a)Anthracene	2200	1600	µg/Kg
Benzo(b)Fluoranthene	1700	1600	µg/Kg
Benzo(k)Fluoranthene	1800	1600	µg/Kg
Benzo(a)Pyrene	2100	1600	µg/Kg
Benzoic Acid	ND	8000	µg/Kg
Benzo(g,h,i)Perylene	ND	1600	µg/Kg
Benzyl alcohol	ND	1600	µg/Kg
4-Bromophenylphenyl ether	ND	1600	µg/Kg
Butylbenzylphthalate	ND	1600	µg/Kg
di-n-Butyl phthalate	ND	1600	µg/Kg
Carbazole	ND	1600	µg/Kg
4-Chloroaniline	ND	1600	µg/Kg
bis(2-Chloroethoxy)Methane	ND	1600	µg/Kg
bis(2-Chloroethyl)Ether	ND	1600	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	1600	µg/Kg
4-Chloro-3-Methylphenol	ND	1600	µg/Kg
2-Chloronaphthalene	ND	1600	µg/Kg
2-Chlorophenol	ND	1600	µg/Kg
4-Chlorophenylphenyl ether	ND	1600	µg/Kg
Chrysene	1800	1600	µg/Kg
Dibenz(a,h)Anthracene	ND	1600	µg/Kg
Dibenzofuran	ND	1600	µg/Kg
1,2-Dichlorobenzene	ND	1600	µg/Kg
1,3-Dichlorobenzene	ND	1600	µg/Kg
1,4-Dichlorobenzene	ND	1600	µg/Kg
3,3'-Dichlorobenzidine	ND	1600	µg/Kg
2,4-Dichlorophenol	ND	1600	µg/Kg
Diethylphthalate	ND	1600	µg/Kg
2,4-Dimethylphenol	ND	1600	µg/Kg
Dimethyl Phthalate	ND	1600	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	4000	µg/Kg
2,4-Dinitrophenol	ND	4000	µg/Kg
2,4-Dinitrotoluene	ND	1600	µg/Kg
2,6-Dinitrotoluene	ND	1600	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-05

Operational Tech

SAMPLE ID: A-06 BH Int.1

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	1600	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	1600	µg/Kg
Fluoranthene	4000	1600	µg/Kg
Fluorene	ND	1600	µg/Kg
Hexachlorobenzene	ND	1600	µg/Kg
Hexachlorobutadiene	ND	1600	µg/Kg
Hexachloroethane	ND	1600	µg/Kg
Hexachlorocyclopentadiene	ND	1600	µg/Kg
Indeno(1,2,3-cd)Pyrene	ND	1600	µg/Kg
Isophorone	ND	1600	µg/Kg
2-Methylnaphthalene	ND	1600	µg/Kg
2-Methylphenol	ND	1600	µg/Kg
4-Methylphenol	ND	1600	µg/Kg
Naphthalene	ND	1600	µg/Kg
2-Nitroaniline	ND	4000	µg/Kg
3-Nitroaniline	ND	4000	µg/Kg
4-Nitroaniline	ND	4000	µg/Kg
Nitrobenzene	ND	1600	µg/Kg
2-Nitrophenol	ND	1600	µg/Kg
4-Nitrophenol	ND	4000	µg/Kg
N-Nitrosodiphenylamine (1)	ND	1600	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	1600	µg/Kg
Di-n-Octyl Phthalate	ND	1600	µg/Kg
Pentachlorophenol	ND	4000	µg/Kg
Phenanthrene	ND	1600	µg/Kg
Phenol	ND	1600	µg/Kg
Pyrene	2600	1600	µg/Kg
Pyridine	ND	1600	µg/Kg
1,2,4-Trichlorobenzene	ND	1600	µg/Kg
2,4,5-Trichlorophenol	ND	4000	µg/Kg
2,4,6-Trichlorophenol	ND	1600	µg/Kg

ANALYZED BY: LH DATE/TIME: 06/17/94 19:27:00
EXTRACTED BY: LJ DATE/TIME: 06/08/94
METHOD: 8270, Semivolatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s13.d
Lab. Id. :
Inj Date : 17-JUN-1994 19:27
Operator : LH
Smp Info : 9406119-05B 5X
Misc Info : 9406119-05B 5X
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 17-Jun-1994 14:44 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 20
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: (
Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
$	3 2-Fluorophenol	112.00	3.683	(0.768)	86520	17	290(a)
$	5 Phenol-d5	99.00	4.478	(0.934)	123273	19	320(a)
$	8 2-Chlorophenol-d4	132.00	4.620	(0.964)	105717	18	310(a)
*	11 1,4-Dichlorobenzene-d4	152.00	4.795	(1.000)	135233	40	
$	13 1,2-Dichlorobenzene-d4	152.00	4.980	(0.614)	46858	11	190(a)
$	23 Nitrobenzene-d5	82.00	5.362	(0.876)	77632	13	210(a)
*	32 Naphthalene-d8	136.00	6.124	(1.000)	501243	40	
$	40 2-Fluorobiphenyl	172.00	7.332	(0.905)	161383	16	270(a)
*	48 Acenaphthene-d10	164.00	8.105	(1.000)	306012	40	
$	61 2,4,6-Tribromophenol	330.00	9.020	(0.923)	8890	7	120(aQ)
*	65 Phenanthrene-d10	188.00	9.773	(1.000)	374400	40	
	70 Fluoranthene	202.00	11.186	(1.145)	465803	48 ✓	810
	71 Pyrene	202.00	11.471	(0.866)	393555	31 ✓	520
$	72 Terphenyl-d14	244.00	11.625	(0.878)	97729	13	210(a)
	75 Benzo[a]anthracene	228.00	13.211	(0.997)	214596	26 ✓	430
*	76 Chrysene-d12	240.00	13.244	(1.000)	226260	40	
	78 Chrysene	228.00	13.277	(1.002)	175508	22 ✓	360
	80 Benzo[b]fluoranthene	252.00	15.327	(0.946)	211817	20 ✓	340(M)
	81 Benzo[k]fluoranthene	252.00	15.338	(0.946)	205519	21 ✓	350(M)
	82 Benzo[a]pyrene	252.00	16.066	(0.991)	222875	25 ✓	420
*	83 Perylene-d12	264.00	16.210	(1.000)	288701	40	
	84 Indeno[1,2,3-cd]pyrene	276.00	19.420	(1.198)	160730	15	250(a)
	86 Benzo[g,h,i]perylene	276.00	20.389	(1.258)	141553	15	260(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/;..1/j940617.b/j168s13.d

Date : 17-JUN-1994 19:27

Instrument : j.1

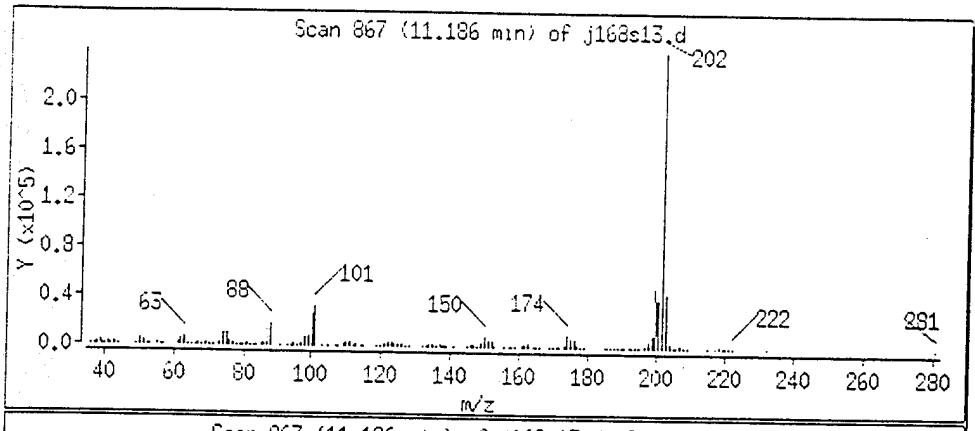
Sample ID :

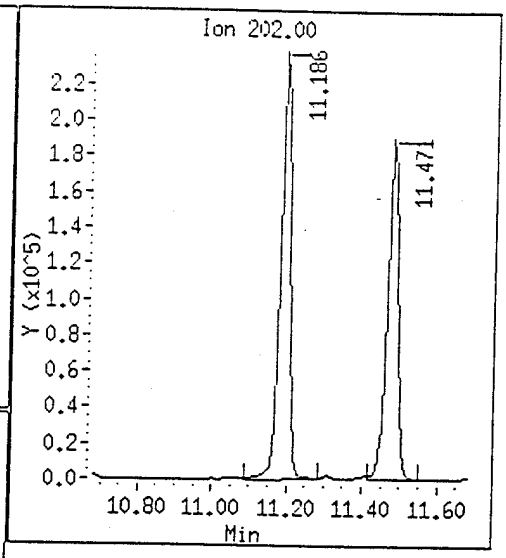
Column phase : J&W DB-5

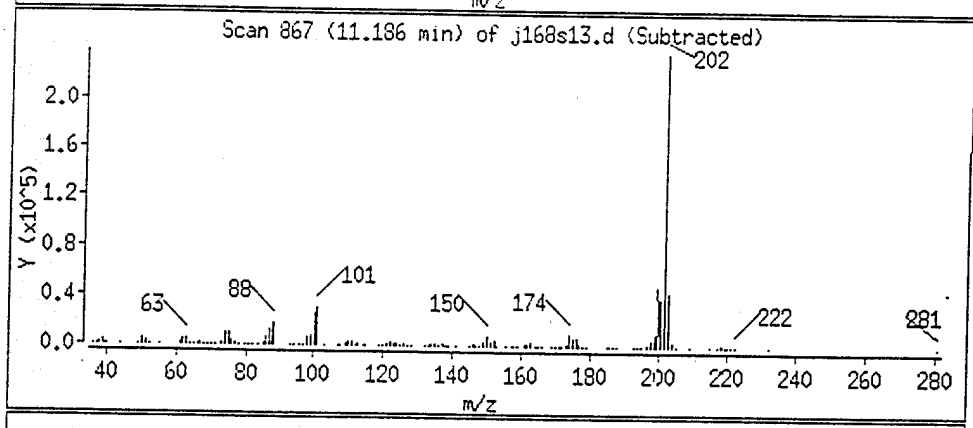
Column diameter : 0.25

Volume Injected (uL) : 2.0

70 Fluoranthene







Data File: /chem/j.i/j940617.b/j168s13.d

Date : 17-JUN-1994 19:27

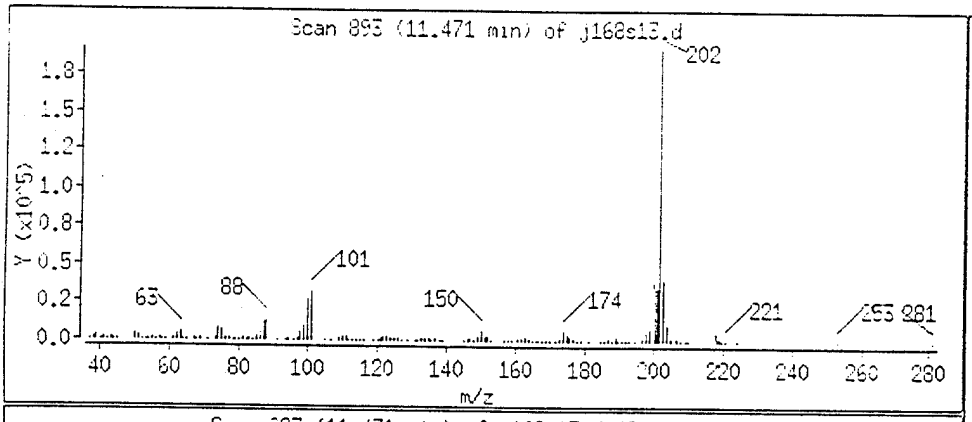
Instrument : j.i

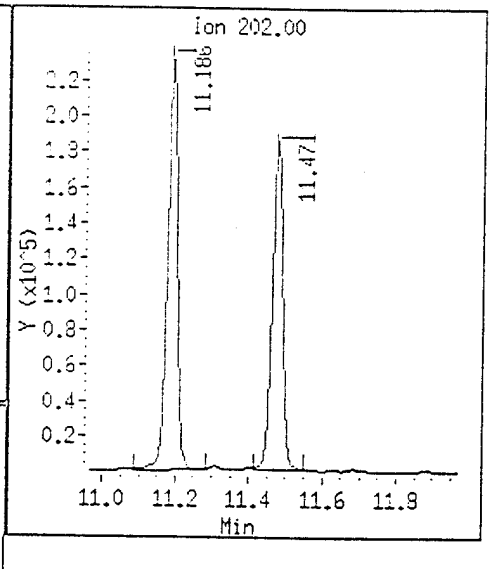
Sample ID :

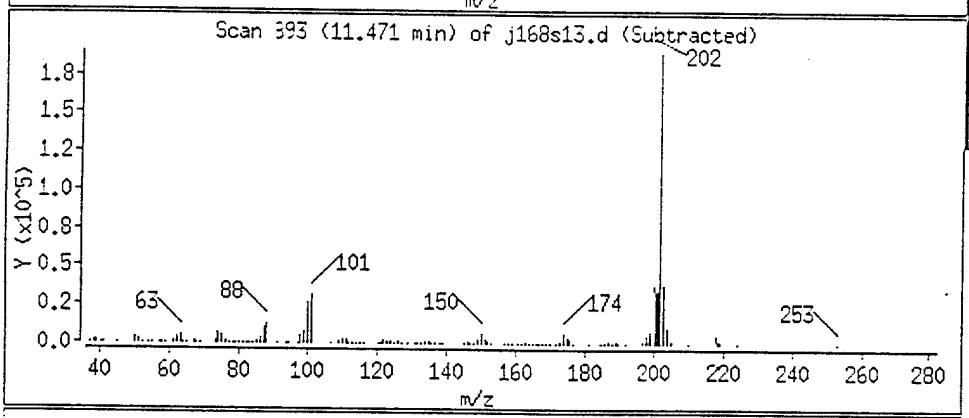
Column phase : J&W DB-5 Column diameter : 0.25

Volume Injected (u. : 2.0

71 Pyrene







Data File: /chem/j.1/j940617.b/j168s13.d

Date : 17-JUN-1994 19:27

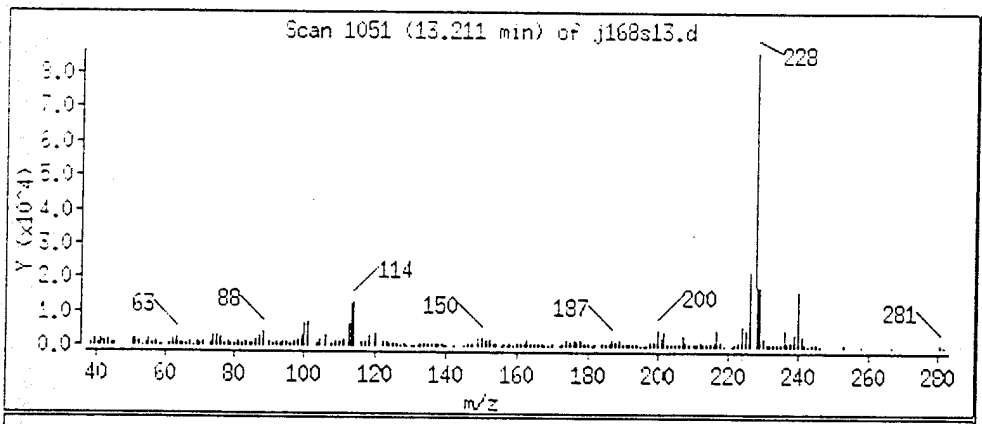
Instrument : j.1

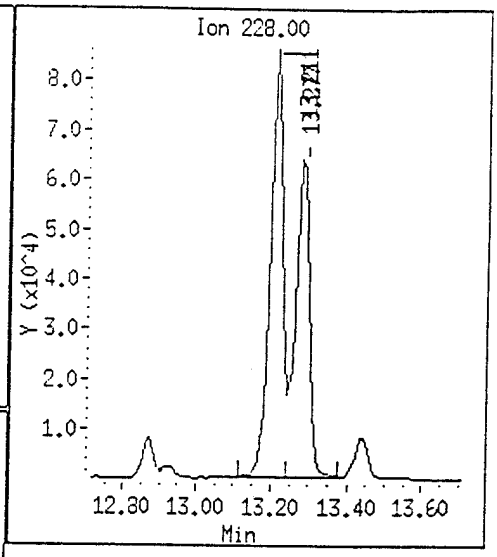
Sample ID :

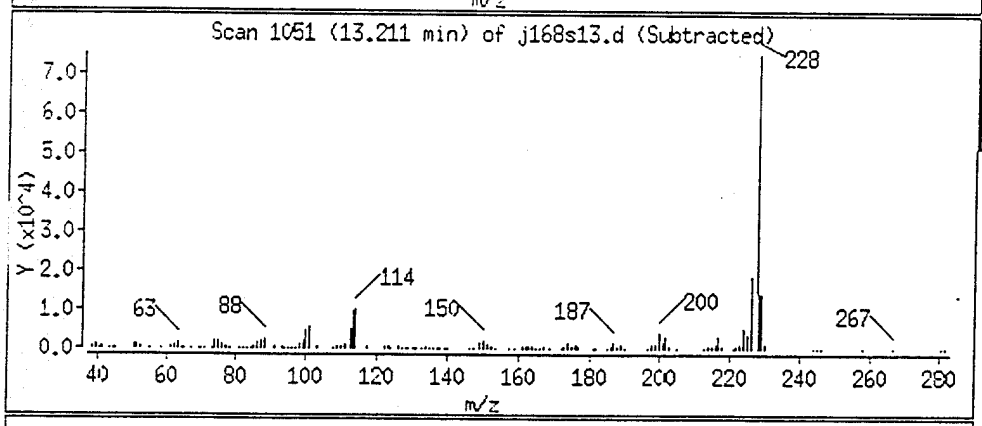
Column phase : J&W DB-5 Column diameter : 0.25

Volume injected (uL) : 2.0

78 Benzo[a]anthracene







Data File: /chem/j.i/j940617.b/j168s13.d

Date : 17-JUN-1994 19:27

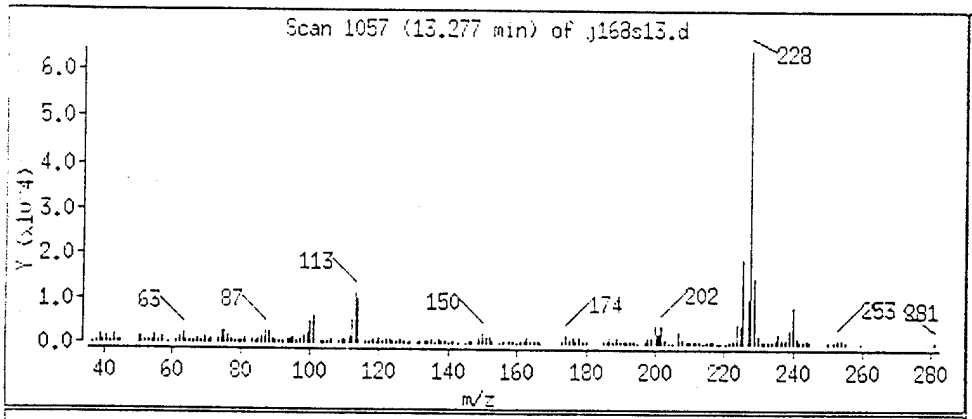
Instrument : j.i

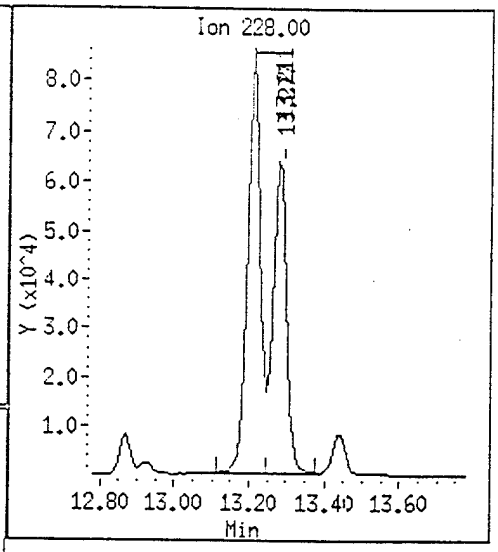
Sample ID :

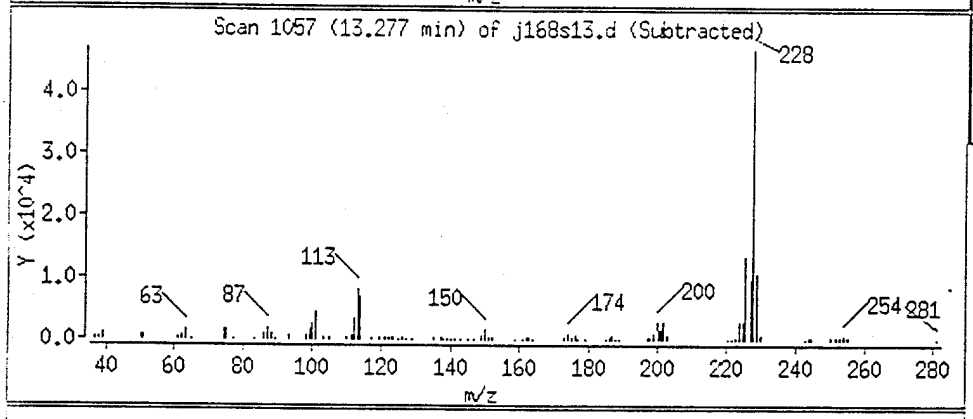
Column phase : J&W DB-5 Column diameter : 0.25

Volume Injected (uL) : 2.0

78 Chrysene







Data File: /chem/j.i/j940617.b/j168s13.d

Date : 17-JUN-1994 19:27

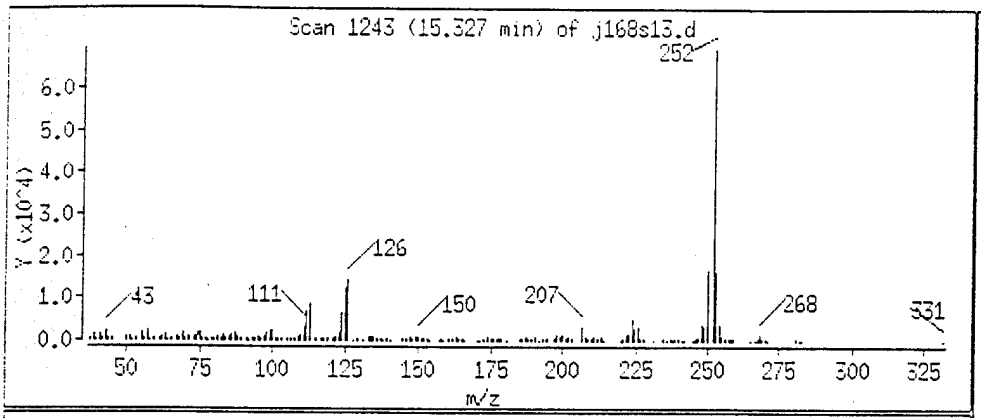
Instrument : j.i

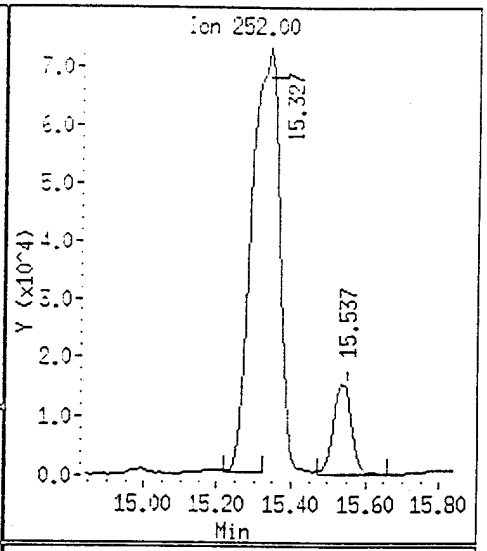
Sample ID :

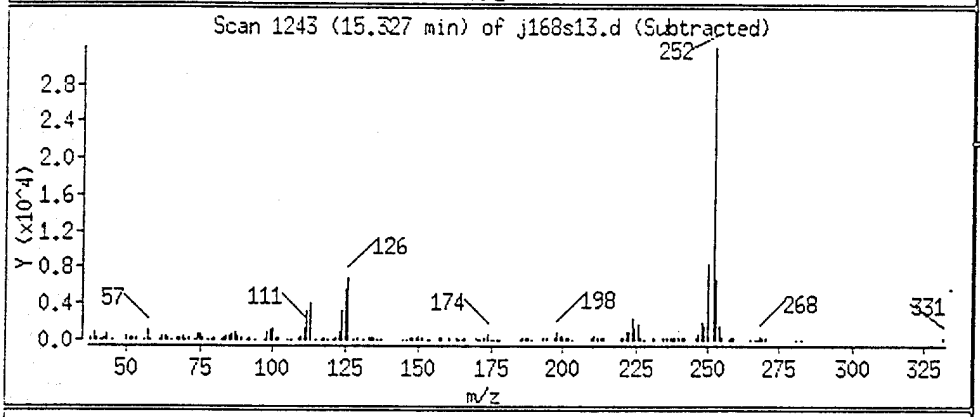
Column phase : J&W DB-5 Column diameter : 0.25

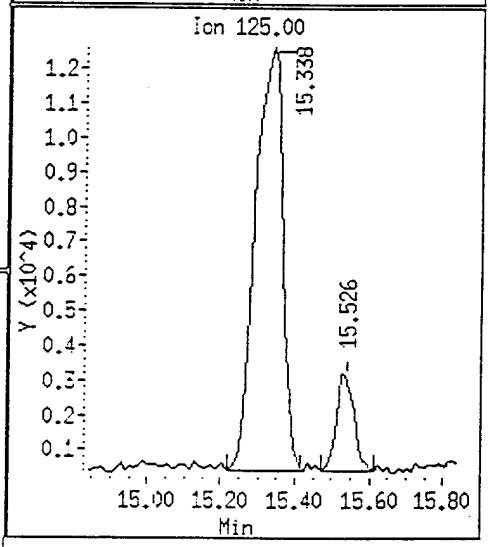
Volume Injected (uL) : 2.0

80 Benzo[b]fluoranthene









Data File: /chem/j.i/j940617.s/j168s13.d

Date : 17-JUN-1994 19:27

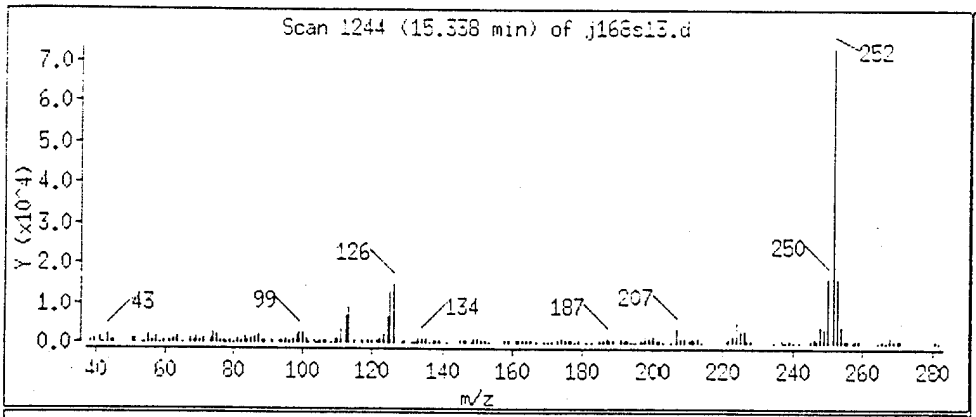
Instrument : j.i

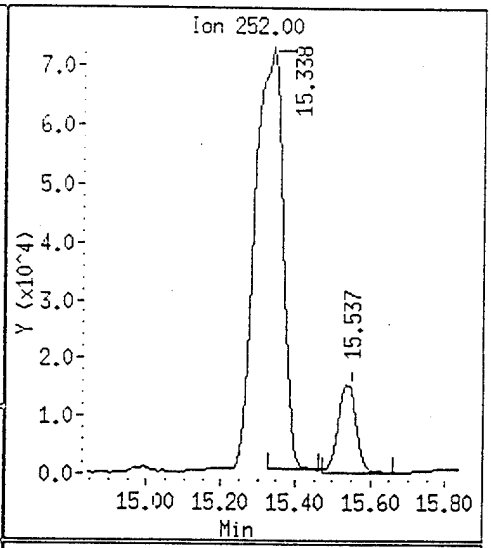
Sample ID :

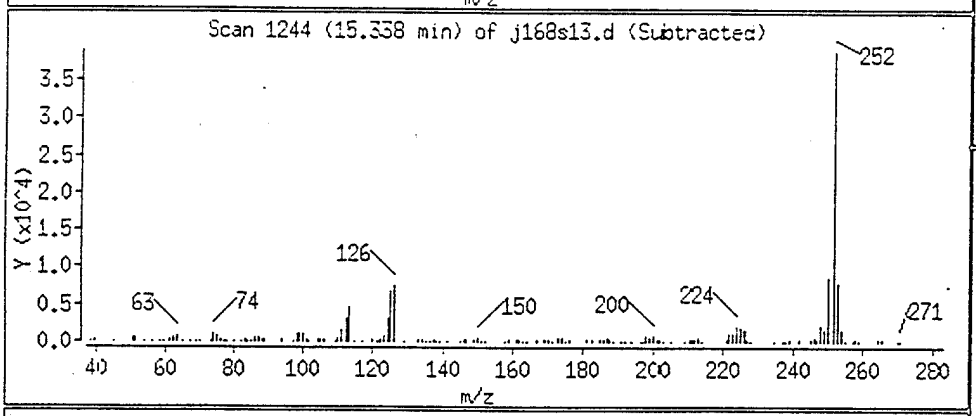
Column phase : J&W DB-5 Column diameter : 0.25

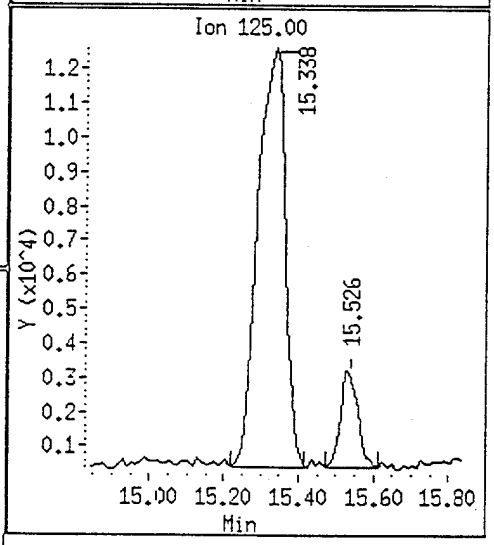
Volume Injected (uL) : 2.0

81 Benzo[k]fluoranthene









Data File: chem/j.1/j940617.b/j168s13.d

Date : 17-JUN-1994 19:27

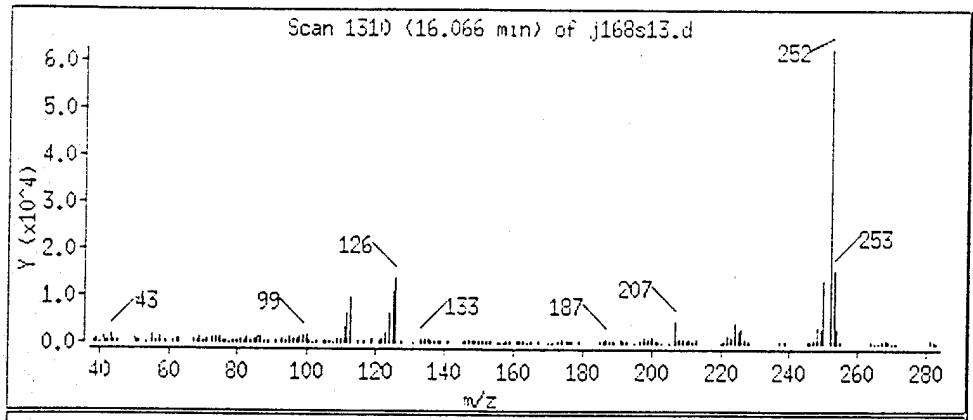
Instrument : j.1

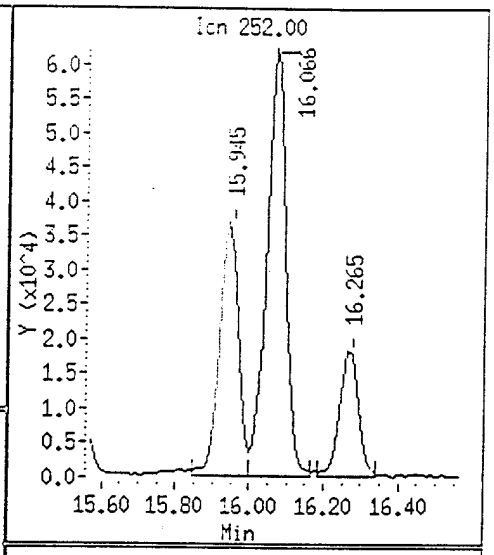
Sample ID :

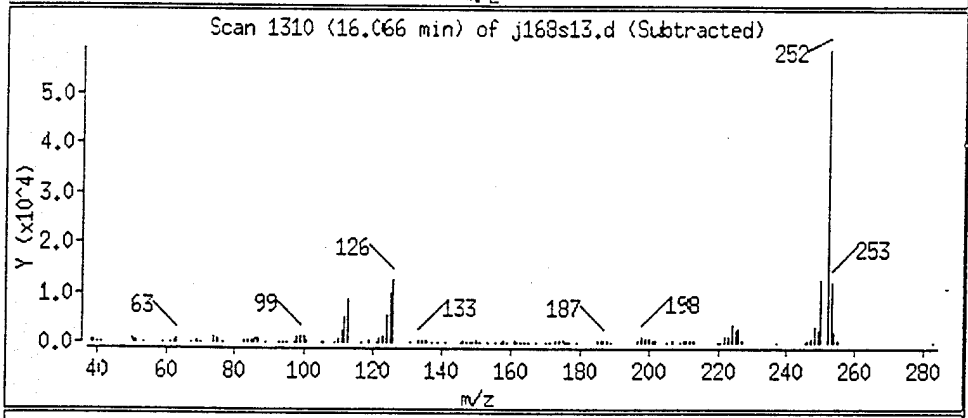
Column phase : J&W DB-5 Column diameter : 0.25

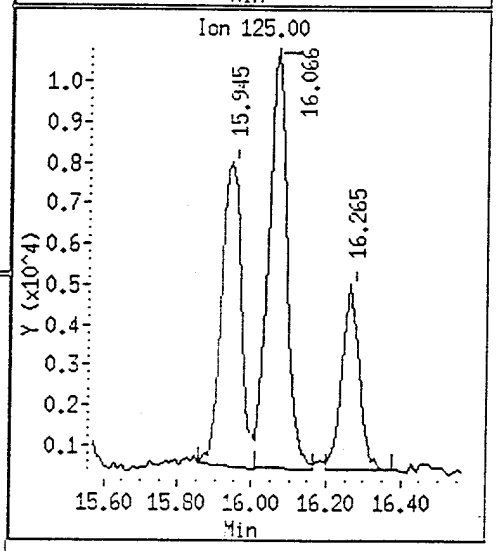
Volume Injected (uL) : 2.0

82 Benzo[a]pyrene









Data File: /chem/j.i/j940617.b/j168s13.d

Date : 17-JUN-1994 19:27

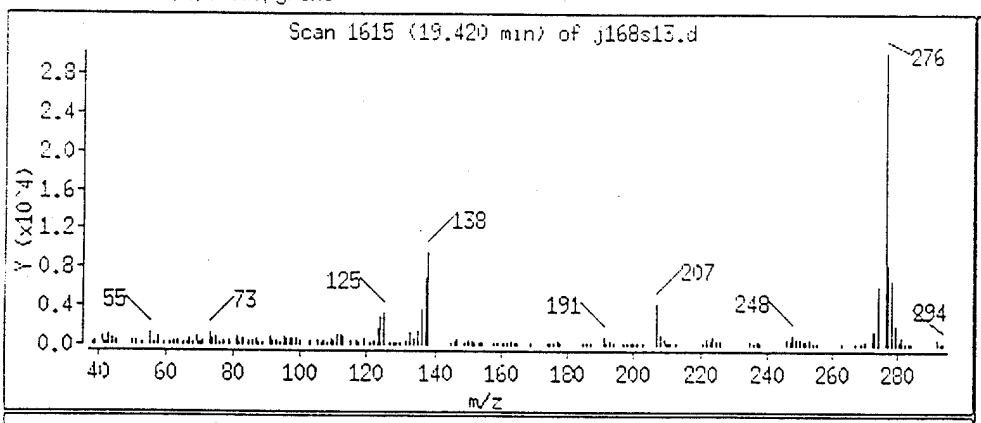
Instrument : j.i

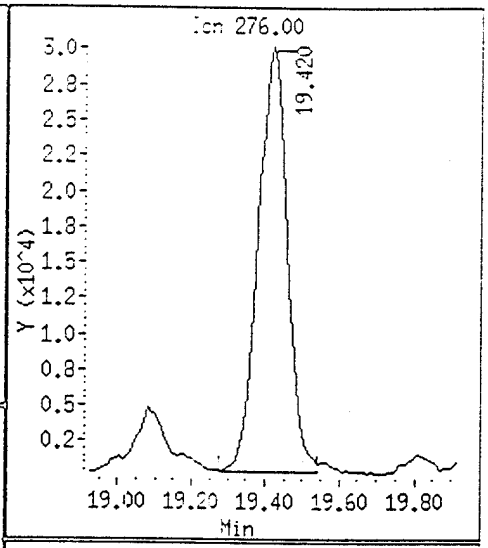
Sample ID :

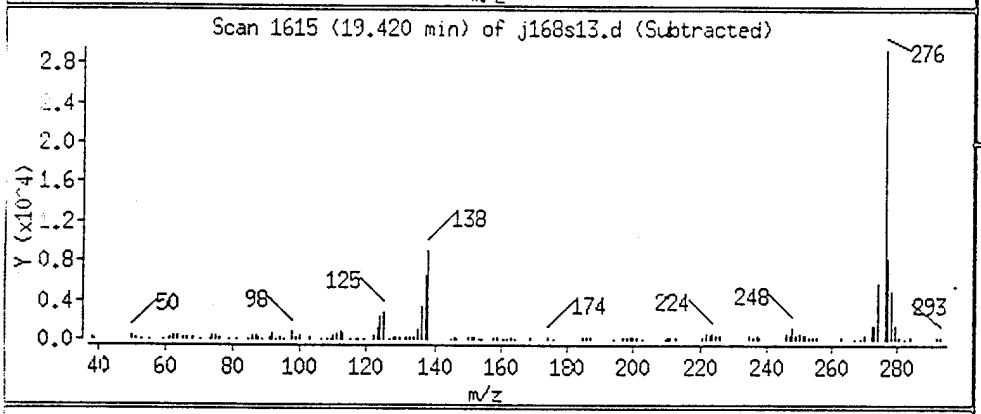
Column phase : J&W DB-5 Column diameter : 0.25

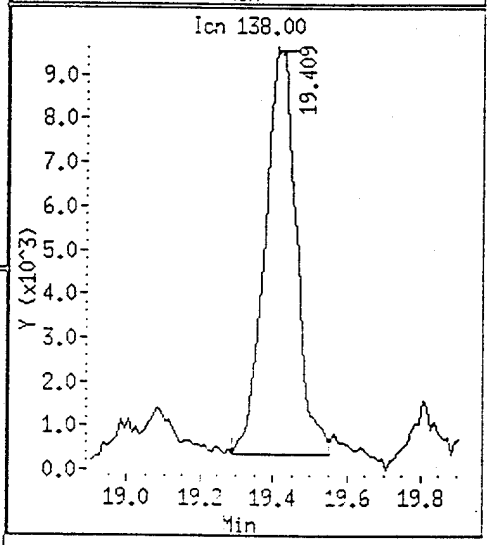
Volume Injected (uL) : 2.0

94 Indeno[1,2,3-cd]pyrene









Data File: /chem/j.i/j940617.b/j168s13.d

Date : 17-JUN-1994 19:27

Instrument : j.i

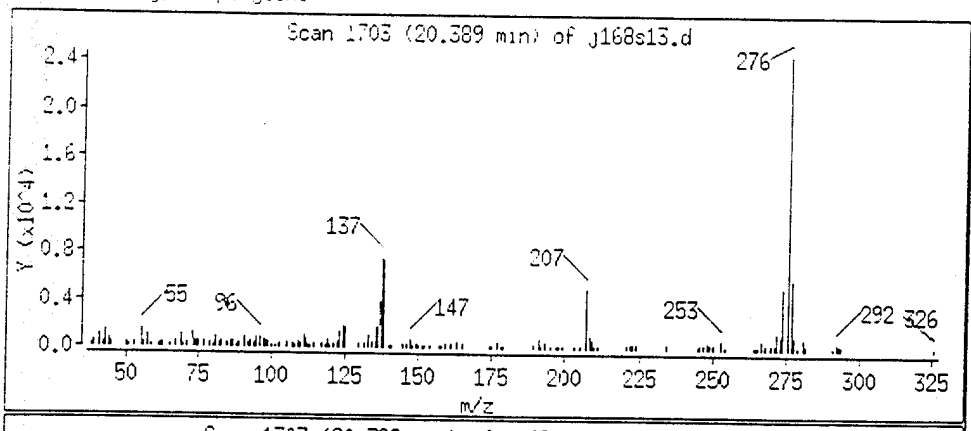
Sample ID :

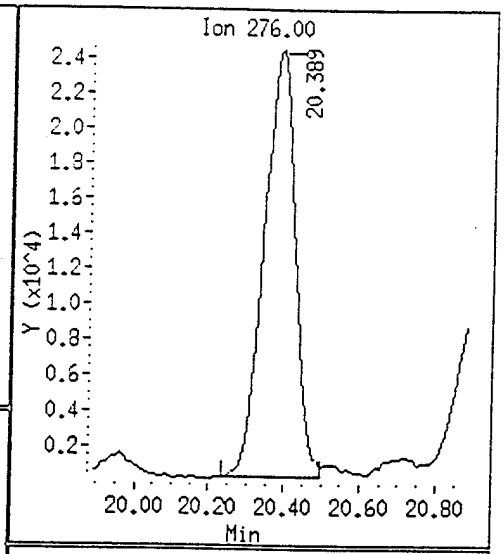
Column phase : J&W DB-5

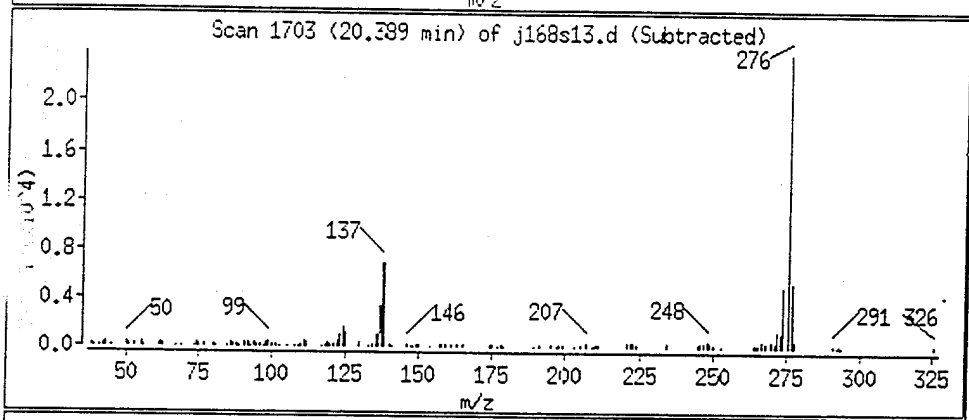
Column diameter : 0.25

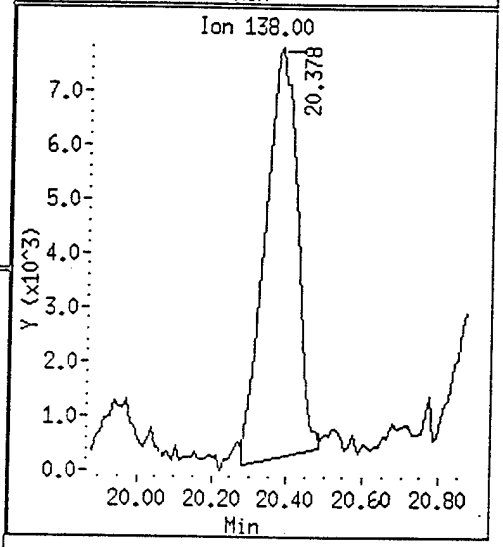
Volume Injected (uL) : 2.0

86 Benzo[g,h,i]perylene









SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168s13.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-05B 5X

Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

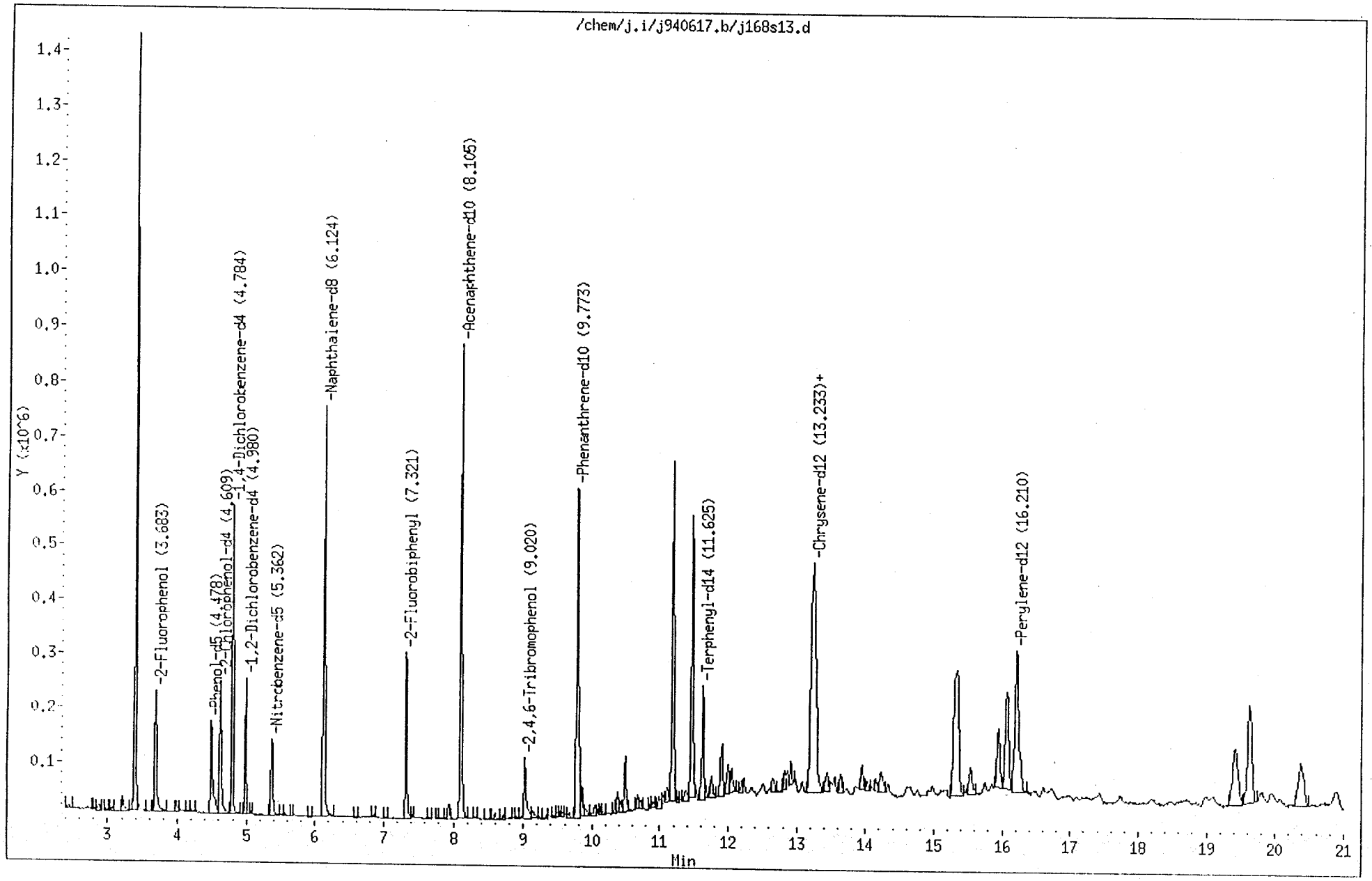
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	121206	60603	242412	135233	11.57
32 Naphthalene-d8	445390	222695	890780	501243	12.54
48 Acenaphthene-d10	275750	137875	551500	306012	10.97
65 Phenanthrene-d10	336972	168486	673944	374400	11.11
76 Chrysene-d12	146532	73266	293064	226260	54.41
83 Perylene-d12	160474	80237	320948	288701	79.91

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.13
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.17
48 Acenaphthene-d10	8.12	7.62	8.62	8.11	-0.23
65 Phenanthrene-d10	9.79	9.29	10.29	9.77	-0.16
76 Chrysene-d12	13.26	12.76	13.76	13.24	-0.09
83 Perylene-d12	16.21	15.71	16.71	16.21	0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.b/j168s13.d
Date : 17-JUN-1994 19:27
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Volume Injected (uL) : 2.0

Column diameter : 0.25



Certificate of Analysis No. 9406119-06

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 14:10:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-08

Operational Tech

SAMPLE ID: A-07 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd)Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH DATE/TIME: 06/17/94 18:05:00
EXTRACTED BY: LJ DATE/TIME: 06/08/94
METHOD: 8270, Semivolatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-06

Operational Tech

SAMPLE ID: A-06 BH Int.2

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd)Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH DATE/TIME: 06/17/94 19:00:00
EXTRACTED BY: LJ DATE/TIME: 06/08/94
METHOD: 8270, Semivolatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s12.d
Lab. Id. :
Inj Date : 17-JUN-94 19:00
Operator : LH
Smp Info : 9406119-06B
Misc Info : 9406119-06B
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 17-Jun-1994 14:44 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 19
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
$	3 2-Fluorophenol	112.00	3.690	(0.772)	645315	100	1700
$	5 Phenol-d5	99.00	4.475	(0.936)	791535	98	1600
$	8 2-Chlorophenol-d4	132.00	4.617	(0.966)	704432	99	1600
*	11 1,4-Dichlorobenzene-d4	152.00	4.781	(1.000)	168542	40	
$	13 1,2-Dichlorobenzene-d4	152.00	4.978	(0.614)	321042	66	1100
	21 N-Nitroso-di-n-propylamine	70.00	5.360	(1.121)	81383	18	300(aQ)
$	23 Nitrobenzene-d5	82.00	5.360	(0.875)	533912	74	1200
*	32 Naphthalene-d8	136.00	6.123	(1.000)	591088	40	
$	40 2-Fluorobiphenyl	172.00	7.332	(0.904)	904788	78	1300
*	48 Acenaphthene-d10	164.00	8.106	(1.000)	362652	40	
	54 Diethylphthalate	149.00	8.596	(1.060)	45899	3	54(a)
$	61 2,4,6-Tribromophenol	330.00	9.022	(0.923)	86308	53	890(Q)
*	65 Phenanthrene-d10	188.00	9.775	(1.000)	499161	40	
$	72 Terphenyl-d14	244.00	11.633	(0.878)	712194	71	1200
*	76 Chrysene-d12	240.00	13.242	(1.000)	291675	40	
*	83 Perylene-d12	264.00	16.199	(1.000)	264157	40	

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168s12.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-06B

Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

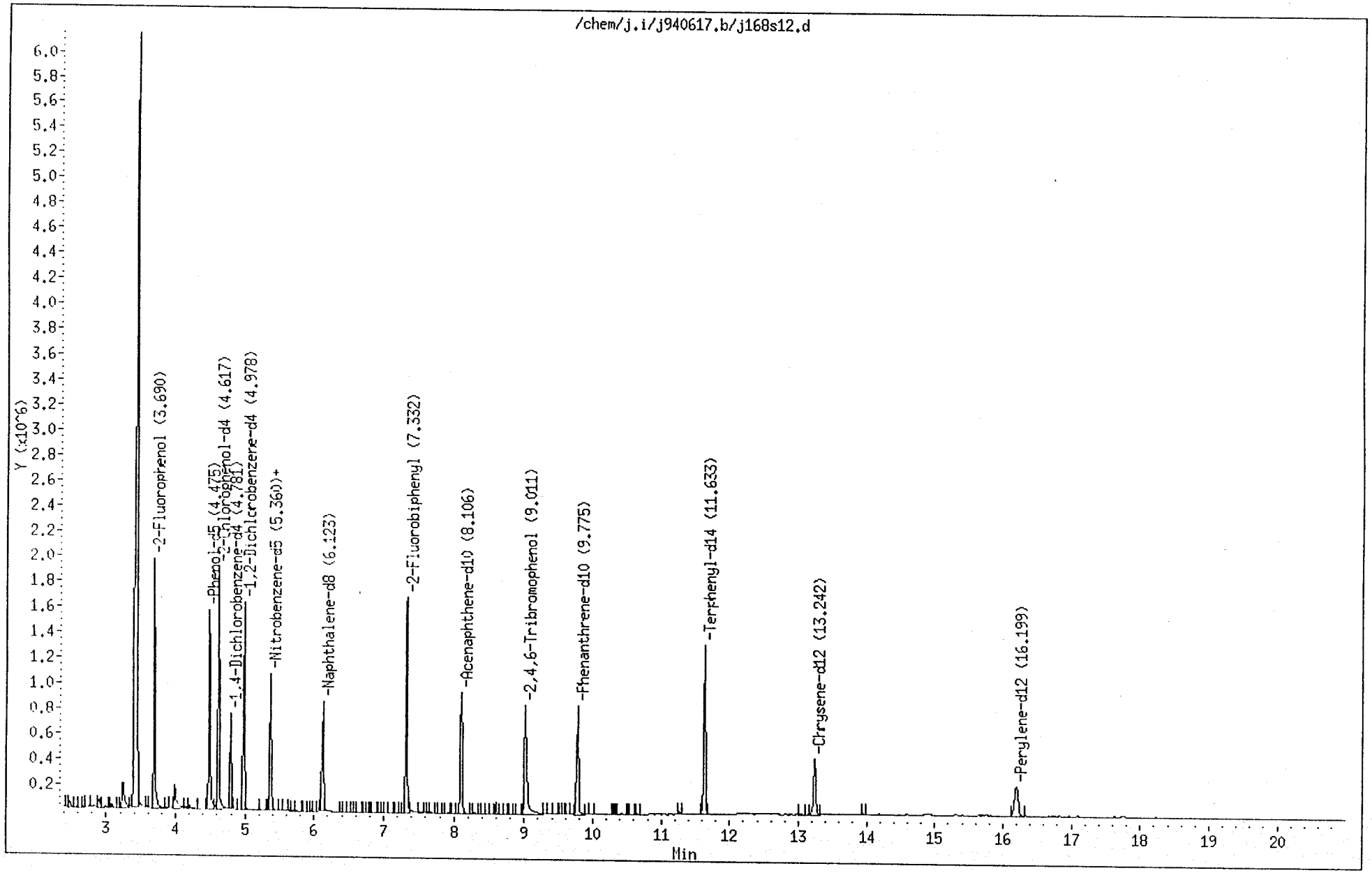
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	121206	60603	242412	168542	39.05
32 Naphthalene-d8	445390	222695	890780	591088	32.71
48 Acenaphthene-d10	275750	137875	551500	362652	31.51
65 Phenanthrene-d10	336972	168486	673944	499161	48.13
76 Chrysene-d12	146532	73266	293064	291675	99.05
83 Perylene-d12	160474	80237	320948	264157	64.61

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.78	-0.41
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.19
48 Acenaphthene-d10	8.12	7.62	8.62	8.11	-0.22
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.14
76 Chrysene-d12	13.26	12.76	13.76	13.24	-0.10
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.b/j168s12.d
Date : 17-JUN-1994 19:00
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Volume Injected (uL) : 2.0

Column diameter : 0.25



Certificate of Analysis No. 9406119-07

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:00:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil

(continued on next page)

Certificate of Analysis No. 9406119-07

Operational Tech

SAMPLE ID: A-07 BH Int.1

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
1,2-Diphenylhydrazine	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
Indeno(1,2,3-cd)Pyrene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
3-Nitroaniline	ND	800	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
Nitrobenzene	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Pyridine	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg

ANALYZED BY: LH DATE/TIME: 06/17/94 18:32:00
EXTRACTED BY: LJ DATE/TIME: 06/08/94
METHOD: 8270, Semivolatile Organics - Soil
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s11.d
Lab. Id. :
Inj Date : 17-JUN-94 18:32
Operator : LH
Smp Info : 9406119-07B
Misc Info : 9406119-07B
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 17-Jun-1994 14:44 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 18
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
$	3 2-Fluorophenol	112.00	3.687	(0.770)	519761	110	1800
$	5 Phenol-d5	99.00	4.484	(0.936)	628606	99	1600
$	8 2-Chlorophenol-d4	132.00	4.615	(0.963)	563728	100	1700
*	11 1,4-Dichlorobenzene-d4	152.00	4.790	(1.000)	132160	40	
$	13 1,2-Dichlorobenzene-d4	152.00	4.975	(0.614)	251687	62	1000
	21 N-Nitroso-di-n-propylamine	70.00	5.368	(1.121)	64661	18	300(aQ)
$	23 Nitrobenzene-d5	82.00	5.368	(0.877)	420513	70	1200
*	32 Naphthalene-d8	136.00	6.121	(1.000)	488982	40	
$	40 2-Fluorobiphenyl	172.00	7.331	(0.904)	745484	77	1300
*	48 Acenaphthene-d10	164.00	8.106	(1.000)	301565	40	
$	61 2,4,6-Tribromophenol	330.00	9.022	(0.923)	84570	65	1100(Q)
*	65 Phenanthrene-d10	188.00	9.777	(1.000)	400045	40	
	66 Phenanthrene	178.00	9.799	(1.002)	53477	4	64(a)
	67 Anthracene	178.00	9.799	(1.002)	53477	4	66(a)
	70 Fluoranthene	202.00	11.190	(1.145)	80374	8	130(a)
	71 Pyrene	202.00	11.476	(0.867)	64511	5	77(a)
$	72 Terphenyl-d14	244.00	11.630	(0.879)	555091	65	1100
	75 Benzo(a)anthracene	228.00	13.282	(1.003)	32081	3	58(a)
*	76 Chrysene-d12	240.00	13.238	(1.000)	249577	40	
	78 Chrysene	228.00	13.282	(1.003)	32081	4	60(a)
	80 Benzo(b)fluoranthene	252.00	15.310	(0.945)	59518	5	90(a)
	81 Benzo(k)fluoranthene	252.00	15.310	(0.945)	59518	6	97(a)
	82 Benzo(a)pyrene	252.00	16.049	(0.990)	30687	3	54(a)
*	83 Perylene-d12	264.00	16.203	(1.000)	304318	40	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

QC Flag Legend

Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168s11.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-07B

Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

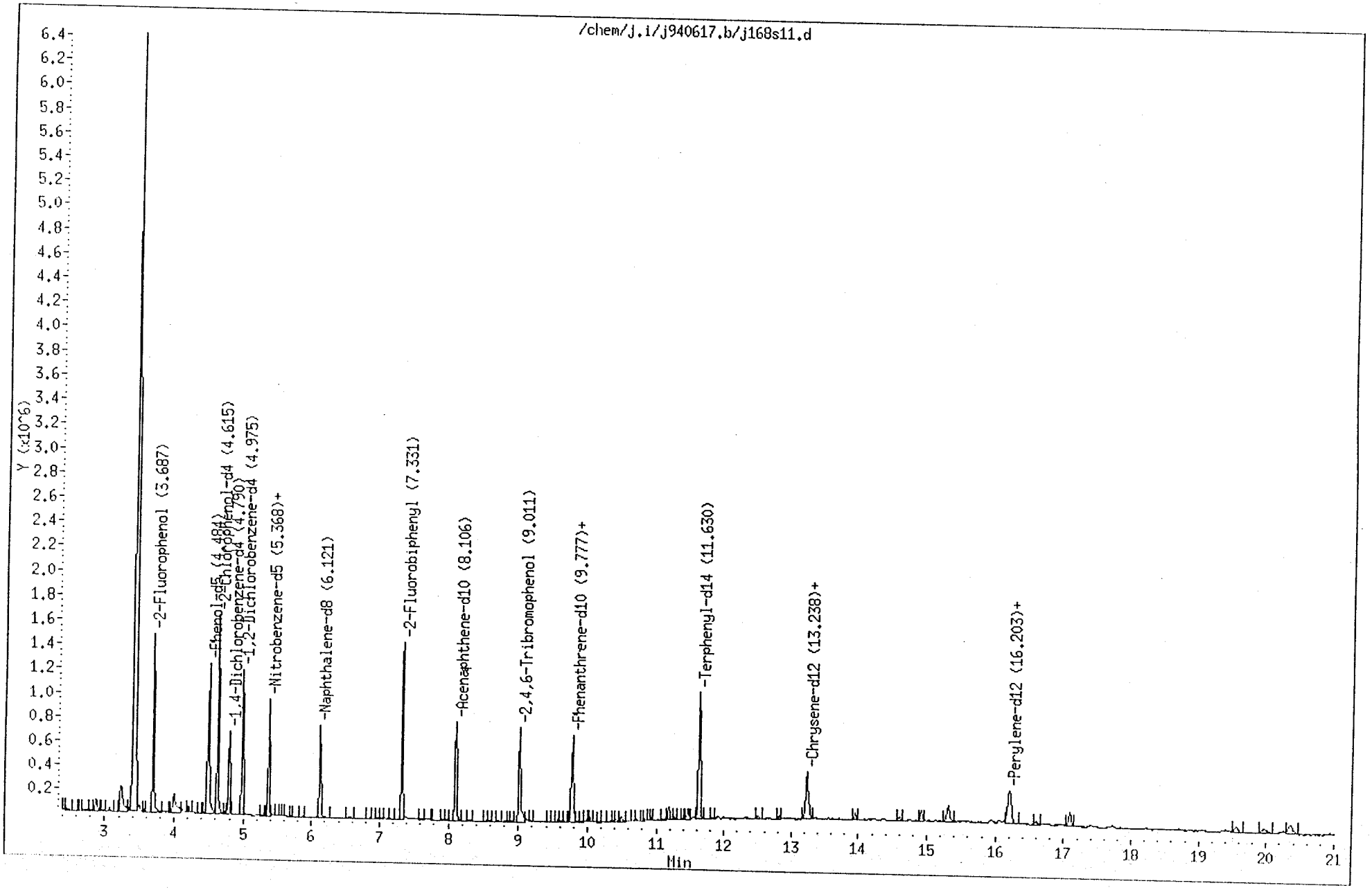
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	121206	60603	242412	132160	9.04
32 Naphthalene-d8	445390	222695	890780	488982	9.79
48 Acenaphthene-d10	275750	137875	551500	301565	9.36
65 Phenanthrene-d10	336972	168486	673944	400045	18.72
76 Chrysene-d12	146532	73266	293064	249577	70.32
83 Perylene-d12	160474	80237	320948	304315	89.64

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.23
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.22
48 Acenaphthene-d10	8.12	7.62	8.62	8.11	-0.23
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.12
76 Chrysene-d12	13.26	12.76	13.76	13.24	-0.14
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.b/j168s11.d
Date : 17-JUN-1994 18:32
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Volume Injected (uL) : 2.0

Column diameter : 0.25



Certificate of Analysis No. 9406119-08

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

06/21/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:07:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Acenaphthene	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Benzo(a)Anthracene	ND	330	µg/Kg
Benzo(b)Fluoranthene	ND	330	µg/Kg
Benzo(k)Fluoranthene	ND	330	µg/Kg
Benzo(a)Pyrene	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
Benzo(g,h,i)Perylene	ND	330	µg/Kg
Benzyl alcohol	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
di-n-Butyl phthalate	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ether	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
Dibenz(a,h)Anthracene	ND	330	µg/Kg
Dibenzofuran	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg

METHOD: 8270, Semivolatile Organics - Soil
(continued on next page)

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168s10.d
Lab. Id. :
Inj Date : 17-JUN-94 18:05
Operator : LH
Smp Info : 9406119-08B
Misc Info : 9406119-08B
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 17-Jun-1994 14:44 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 17
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date:
Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
$	3 2-Fluorophenol	112.00	3.690	(0.770)	622928	100	1700
$	5 Phenol-d5	99.00	4.475	(0.934)	750532	98	1600
$	8 2-Chlorophenol-d4	132.00	4.617	(0.964)	658175	97	1600
*	11 1,4-Dichlorobenzene-d4	152.00	4.792	(1.000)	160592	40	
	13 1,2-Dichlorobenzene-d4	152.00	4.978	(0.614)	306875	64	1100
	21 N-Nitroso-di-n-propylamine	70.00	5.360	(1.118)	78363	18	300(aQ)
$	23 Nitrobenzene-d5	82.00	5.360	(0.875)	508696	70	1200
*	32 Naphthalene-d8	136.00	6.123	(1.000)	593370	40	
$	40 2-Fluorobiphenyl	172.00	7.332	(0.905)	858825	75	1200
*	48 Acenaphthene-d10	164.00	8.106	(1.000)	357479	40	
$	61 2,4,6-Tribromophenol	330.00	8.021	(0.923)	142586	88	1500
*	65 Phenanthrene-d10	188.00	9.774	(1.000)	497955	40	
$	72 Terphenyl-d14	244.00	11.640	(0.879)	718970	76	1300
*	76 Chrysene-d12	240.00	13.235	(1.000)	276912	40	
*	83 Perylene-d12	264.00	15.200	(1.000)	258354	40	

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168s10.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 9406119-08B

Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	121206	60603	242412	160592	32.50
32 Naphthalene-d8	445390	222695	890780	593370	33.22
48 Acenaphthene-d10	275750	137875	551500	357479	29.64
65 Phenanthrene-d10	336972	168486	673944	497955	47.77
76 Chrysene-d12	146532	73266	293064	276912	88.98
83 Perylene-d12	160474	80237	320948	258354	60.99

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.79	-0.18
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.19
48 Acenaphthene-d10	8.12	7.62	8.62	8.11	-0.23
65 Phenanthrene-d10	9.79	9.29	10.29	9.77	-0.15
76 Chrysene-d12	13.26	12.76	13.76	13.24	-0.16
83 Perylene-d12	16.21	15.71	16.71	16.20	-0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406119

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 (2CP) #	S8 (DCB) #	TOT OUT
01	A-01_BH_INT_	74	84	64	67	72	10 *	67	72	1
02	A-01_BH_INT_	66	73	71	63	67	55	65	63	0
03	A-02_BH_INT_	71	80	74	67	73	41	67	68	0
04	A-02_BH_INT_	83	77	67	67	73	51	67	62	0
05	A-03_BH_INT_	68	74	69	63	67	51	65	64	0
06	A-03_BH_INT_	68	74	72	64	67	67	63	64	0
07	A-04_BH_INT_	80	105	60	77	77	40	77	95	0
08	A-04_BH_INT_	73	81	80	73	67	80	67	77	0
09	A-05_BH_INT_	76	90	60	69	71	32	71	74	0
10	A-05_BH_INT_	73	83	79	73	73	25	73	77	0
11	A-06_BH_INT_	65	80	65	63	57	23	60	55	0
12	A-06_BH_INT_	74	78	71	65	67	35	66	66	0
13	A-07_BH_INT_	70	67	65	66	73	43	67	62	0
14	A-07_BH_INT_	70	75	76	65	67	59	65	64	0
15	SBLK01	80	84	83	73	80	87	73	79	0
16	SBLK02	69	84	84	67	73	73	67	68	0

		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(23-120)	
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)	
S3 (TPH)	= Terphenyl-d14	(18-137)	
S4 (PHL)	= Phenol-d5	(24-113)	
S5 (2FP)	= 2-Fluorophenol	(25-121)	
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)	
S7 (2CP)	= 2-Chlorophenol-d4	(20-130)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(20-130)	(advisory)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406592

Matrix Spike - EPA Sample No.: A-03_BH_INT_2 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	2500	0	1399	56	26- 90
2-Chlorophenol	2500	0	1532	61	25-102
1,4-Dichlorobenzene	1660	0	982.4	59	28-104
N-Nitroso-di-n-prop.(1)	1660	0	1116	67	41-126
1,2,4-Trichlorobenzene	1660	0	1149	69	38-107
4-Chloro-3-methylphenol	2500	0	1832	73	26-103
Acenaphthene	1660	0	1132	68	31-137
4-Nitrophenol	2500	0	1832	73	11-114
2,4-Dinitrotoluene	1660	0	1332	80	28- 89
Pentachlorophenol	2500	0	1399	56	17-109
Pyrene	1660	0	1066	64	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	2500	1498	60	7	35	26- 90
2-Chlorophenol	2500	1665	67	9	50	25-102
1,4-Dichlorobenzene	1660	1049	63	7	27	28-104
N-Nitroso-di-n-prop.(1)	1660	1199	72	7	38	41-126
1,2,4-Trichlorobenzene	1660	1232	74	7	23	38-107
4-Chloro-3-methylphenol	2500	1998	80	9	33	26-103
Acenaphthene	1660	1232	74	8	19	31-137
4-Nitrophenol	2500	1998	80	9	50	11-114
2,4-Dinitrotoluene	1660	1432	86	7	47	28- 89
Pentachlorophenol	2500	1515	61	9	47	17-109
Pyrene	1660	1082	65	2	36	35-142

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

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

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

COMMENTS: ,406119,,A-03 BH INT.2,L,S,9406119-10B,B,E,C,J
CAP,J168CC1,J168DF1,,,,,,J

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 405986 SAS No.: _____ SDG No.: 406119

Matrix Spike - EPA Sample No.: SOUTH_B Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	2500	0	1958	78	26- 90
2-Chlorophenol	2500	0	1851	74	25-102
1,4-Dichlorobenzene	1660	0	1352	81	28-104
N-Nitroso-di-n-prop.(1)	1660	300.4	1455	70	41-126
1,2,4-Trichlorobenzene	1660	0	1528	92	38-107
4-Chloro-3-methylphenol	2500	0	2241	90	26-103
Acenaphthene	1660	0	1412	85	31-137
4-Nitrophenol	2500	0	2797	112	11-114
2,4-Dinitrotoluene	1660	0	1595	96 *	28- 89
Pentachlorophenol	2500	0	1878	75	17-109
Pyrene	1660	0	1415	85	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	2500	2045	82	5	35	26- 90
2-Chlorophenol	2500	1928	77	4	50	25-102
1,4-Dichlorobenzene	1660	1372	83	2	27	28-104
N-Nitroso-di-n-prop.(1)	1660	1475	71	1	38	41-126
1,2,4-Trichlorobenzene	1660	1552	93	1	23	38-107
4-Chloro-3-methylphenol	2500	2378	95	5	33	26-103
Acenaphthene	1660	1439	87	2	19	31-137
4-Nitrophenol	2500	2807	112	0	50	11-114
2,4-Dinitrotoluene	1660	1698	102 *	6	47	28- 89
Pentachlorophenol	2500	2075	83	10	47	17-109
Pyrene	1660	1472	89	5	36	35-142

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

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

RPD: 0 out of 11 outside limits
Spike Recovery: 2 out of 22 outside limits

COMMENTS: 8270,405986,,SOUTH B,L,S,9405986-05B,B,E,30-1,05/25 DE-2UL CAP,0531S2D1,0531DFD2,,,,,40/4--300@10,INST D1

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK01

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406119

Lab File ID: J160SBK1 Lab Sample ID: 940608SNB1

Instrument ID: J Date Extracted: 06/08/94

Matrix: (soil/water) SOIL Date Analyzed: 06/09/94

Level: (low/med) LOW Time Analyzed: 1704

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	A-01_BH_INT_	9406119-11B	J168S08	06/17/94
02	A-01_BH_INT_	9406119-12B	J168S07	06/17/94
03	A-02_BH_INT_	9406119-14B	J168S05	06/17/94
04	A-02_BH_INT_	9406119-13B	J168S06	06/17/94
05	A-03_BH_INT_	9406119-09B	J168S09	06/17/94
06	A-03_BH_INT_	9406119-10B	J168S02	06/17/94
07	A-04_BH_INT_	9406119-02B	J164S05	06/13/94
08	A-05_BH_INT_	9406119-04B	J164S06	06/13/94
09	A-06_BH_INT_	9406119-05B	J168S13	06/17/94
10	A-06_BH_INT_	9406119-06B	J168S12	06/17/94
11	A-07_BH_INT_	9406119-07B	J168S11	06/17/94
12	A-07_BH_INT_	9406119-08B	J168S10	06/17/94

COMMENTS: ,BLANK,,SBLK01,L,S,940608SNB1,B,B,C,J
CAP,J160CC2,J160DF2,,,,,,J

SPL Blank QC Report

Matrix: Soil
Sample ID: 940608SNB1
Batch: EX940525000001

Reported on: 06/20/94 16:10
Analyzed on: 06/09/94 17:04
Analyst: LH

Compound	Result	Detection Limit	Units
Pyridine	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
Benzyl Alcohol	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ethe	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Nitrobenzene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg

Notes
ND - Not detected.

Idelis Williams, QC Officer

Matrix: Soil
Sample ID: 940608SNB1
Batch: EX940525000001

Reported on: 06/20/94 16:10
Analyzed on: 06/09/94 17:04
Analyst: LH

Compound	Result	Detection Limit	Units
3-Nitroaniline	ND	800	µg/Kg
Acenaphthene	ND	330	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
Dibenzofuran	ND	330	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
1,2-Diphenylhydrazine	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
Di-n-Butylphthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
Benzo(a)anthracene	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Benzo(b)fluoranthene	ND	330	µg/Kg
Benzo(k)fluoranthene	ND	330	µg/Kg
Benzo(a)pyrene	ND	330	µg/Kg
Indeno(1,2,3-cd)pyrene	ND	330	µg/Kg
Dibenz(a,h)anthracene	ND	330	µg/Kg

Notes
ND - Not detected.

Idelis Williams, QC Officer

Matrix: Soil
Sample ID: 940608SNB1
Batch: EX940525000001

Reported on: 06/20/94 16:10
Analyzed on: 06/09/94 17:04
Analyst: LH

Compound	Result	Detection Limit	Units
Benzo(g,h,i)perylene	ND	330	µg/Kg

Surrogate	Result	QC Criteria	Units
Nitrobenzene-d5	80	23-120	% Recovery
2-Fluorobiphenyl	84	30-115	% Recovery
Terphenyl-d14	83	18-137	% Recovery
Phenol-d5	73	24-113	% Recovery
2-Fluorophenol	80	25-121	% Recovery
2,4,6-Tribromophenol	87	19-122	% Recovery

Samples in Batch 9406119-02 9406119-04

Notes

ND - Not detected.

Idelis Williams, QC Officer

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK02

Lab Name: SPLHOUSTON Contract: _____

Lab Code: SPL Case No.: 406119 SAS No.: _____ SDG No.: 406119

Lab File ID: J168SBK1 Lab Sample ID: 940615SNB1

Instrument ID: J Date Extracted: 06/15/94

Matrix: (soil/water) SOIL Date Analyzed: 06/17/94

Level:(low/med) LOW Time Analyzed: 1252

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	A-04_BH_INT_	9406119-01B	J168S15	06/17/94
02	A-05_BH_INT_	9406119-03B	J168S14	06/17/94

COMMENTS: ,BLANK,,SBLK02,L,S,940615SNB1,B,B,C,J
CAP,J168CC1,J168DF1,,,,,,J

SPL Blank QC Report

Matrix: Soil
Sample ID: 940615SNB1
Batch: EX940608000001

Reported on: 06/20/94 16:10
Analyzed on: 06/17/94 12:52
Analyst: LH

Compound	Result	Detection Limit	Units
Pyridine	ND	330	µg/Kg
Phenol	ND	330	µg/Kg
Aniline	ND	330	µg/Kg
bis(2-Chloroethyl)Ether	ND	330	µg/Kg
2-Chlorophenol	ND	330	µg/Kg
1,3-Dichlorobenzene	ND	330	µg/Kg
1,4-Dichlorobenzene	ND	330	µg/Kg
Benzyl Alcohol	ND	330	µg/Kg
1,2-Dichlorobenzene	ND	330	µg/Kg
2-Methylphenol	ND	330	µg/Kg
bis(2-Chloroisopropyl)Ethe	ND	330	µg/Kg
4-Methylphenol	ND	330	µg/Kg
N-Nitroso-Di-n-Propylamine	ND	330	µg/Kg
Hexachloroethane	ND	330	µg/Kg
Nitrobenzene	ND	330	µg/Kg
Isophorone	ND	330	µg/Kg
2-Nitrophenol	ND	330	µg/Kg
2,4-Dimethylphenol	ND	330	µg/Kg
Benzoic Acid	ND	1600	µg/Kg
bis(2-Chloroethoxy)Methane	ND	330	µg/Kg
2,4-Dichlorophenol	ND	330	µg/Kg
1,2,4-Trichlorobenzene	ND	330	µg/Kg
Naphthalene	ND	330	µg/Kg
4-Chloroaniline	ND	330	µg/Kg
Hexachlorobutadiene	ND	330	µg/Kg
4-Chloro-3-Methylphenol	ND	330	µg/Kg
2-Methylnaphthalene	ND	330	µg/Kg
Hexachlorocyclopentadiene	ND	330	µg/Kg
2,4,6-Trichlorophenol	ND	330	µg/Kg
2,4,5-Trichlorophenol	ND	800	µg/Kg
2-Chloronaphthalene	ND	330	µg/Kg
2-Nitroaniline	ND	800	µg/Kg
Dimethyl Phthalate	ND	330	µg/Kg
Acenaphthylene	ND	330	µg/Kg

Notes
ND - Not detected.

Idelis Williams, QC Officer

SPL Blank QC Report

Matrix: Soil
Sample ID: 940615SNB1
Batch: EX940608000001

Reported on: 06/20/94 16:10
Analyzed on: 06/17/94 12:52
Analyst: LH

Compound	Result	Detection Limit	Units
3-Nitroaniline	ND	800	µg/Kg
Acenaphthene	ND	330	µg/Kg
2,4-Dinitrophenol	ND	800	µg/Kg
4-Nitrophenol	ND	800	µg/Kg
Dibenzofuran	ND	330	µg/Kg
2,4-Dinitrotoluene	ND	330	µg/Kg
2,6-Dinitrotoluene	ND	330	µg/Kg
Diethylphthalate	ND	330	µg/Kg
4-Chlorophenylphenyl ether	ND	330	µg/Kg
Fluorene	ND	330	µg/Kg
4-Nitroaniline	ND	800	µg/Kg
4,6-Dinitro-2-Methylphenol	ND	800	µg/Kg
N-Nitrosodiphenylamine (1)	ND	330	µg/Kg
1,2-Diphenylhydrazine	ND	330	µg/Kg
4-Bromophenylphenyl ether	ND	330	µg/Kg
Hexachlorobenzene	ND	330	µg/Kg
Pentachlorophenol	ND	800	µg/Kg
Phenanthrene	ND	330	µg/Kg
Anthracene	ND	330	µg/Kg
Carbazole	ND	330	µg/Kg
Di-n-Butylphthalate	ND	330	µg/Kg
Fluoranthene	ND	330	µg/Kg
Pyrene	ND	330	µg/Kg
Butylbenzylphthalate	ND	330	µg/Kg
3,3'-Dichlorobenzidine	ND	330	µg/Kg
Benzo(a)anthracene	ND	330	µg/Kg
Chrysene	ND	330	µg/Kg
bis(2-Ethylhexyl)Phthalate	ND	330	µg/Kg
Di-n-Octyl Phthalate	ND	330	µg/Kg
Benzo(b)fluoranthene	ND	330	µg/Kg
Benzo(k)fluoranthene	ND	330	µg/Kg
Benzo(a)pyrene	ND	330	µg/Kg
Indeno(1,2,3-cd)pyrene	ND	330	µg/Kg
Dibenz(a,h)anthracene	ND	330	µg/Kg

Notes
ND - Not detected.

Idelis Williams, QC Officer

SPL Blank QC Report

Matrix: Soil
Sample ID: 940615SNB1
Batch: EX940608000001

Reported on: 06/20/94 16:10
Analyzed on: 06/17/94 12:52
Analyst: LH

Compound	Result	Detection Limit	Units
Benzo(g,h,i)perylene	ND	330	µg/Kg

Surrogate	Result	QC Criteria	Units
Nitrobenzene-d5	69	23-120	% Recovery
2-Fluorobiphenyl	84	30-115	% Recovery
Terphenyl-d14	84	18-137	% Recovery
Phenol-d5	67	24-113	% Recovery
2-Fluorophenol	73	25-121	% Recovery
2,4,6-Tribromophenol	73	19-122	% Recovery

Samples in Batch 9406119-01 9406119-03 9406119-05 9406119-06
9406119-07 9406119-08 9406119-09 9406119-10
9406119-11 9406119-12 9406119-13 9406119-14

Notes
ND - Not detected.

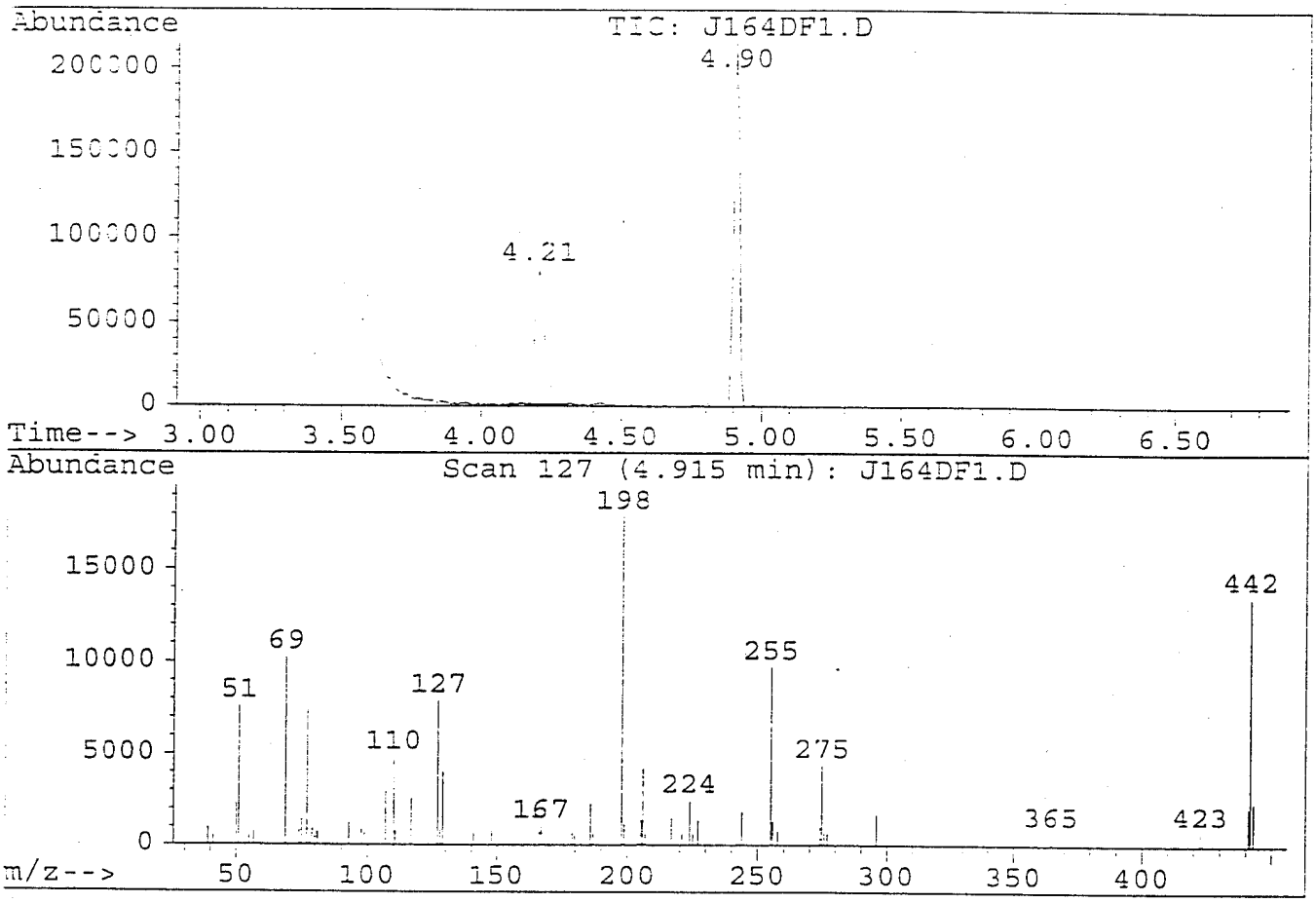
Idelis Williams, QC Officer

DFTPP

Data File : C:\HPCHEM\1\DATA\J940613\J164DF1.D
Acq On : 13 Jun 94 2:17 pm
Sample : 50 ng DFTPP
Misc : 940613 50 ng DFTPP

Vial: 1
Operator: LH
Inst : j
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\ENVDEF.M
Title :



Peak Apex is scan: 127

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	40.6	7571	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	54.9	10226	PASS
70	69	0	2	0.0	0	PASS
127	198	40	60	42.4	7891	PASS
197	198	0	1	0.0	0	PASS
198	198	100	100	100.0	18632	PASS
199	198	5	9	6.0	1127	PASS
275	198	10	30	23.4	4360	PASS
365	198	1	100	3.6	680	PASS
441	443	0	100	87.7	2073	PASS
442	198	40	100	72.6	13531	PASS
443	442	17	23	17.5	2363	PASS

Data File: /chem/j.i/j940613.b/j164df1.d

Date : 13-JUN-94 14:17

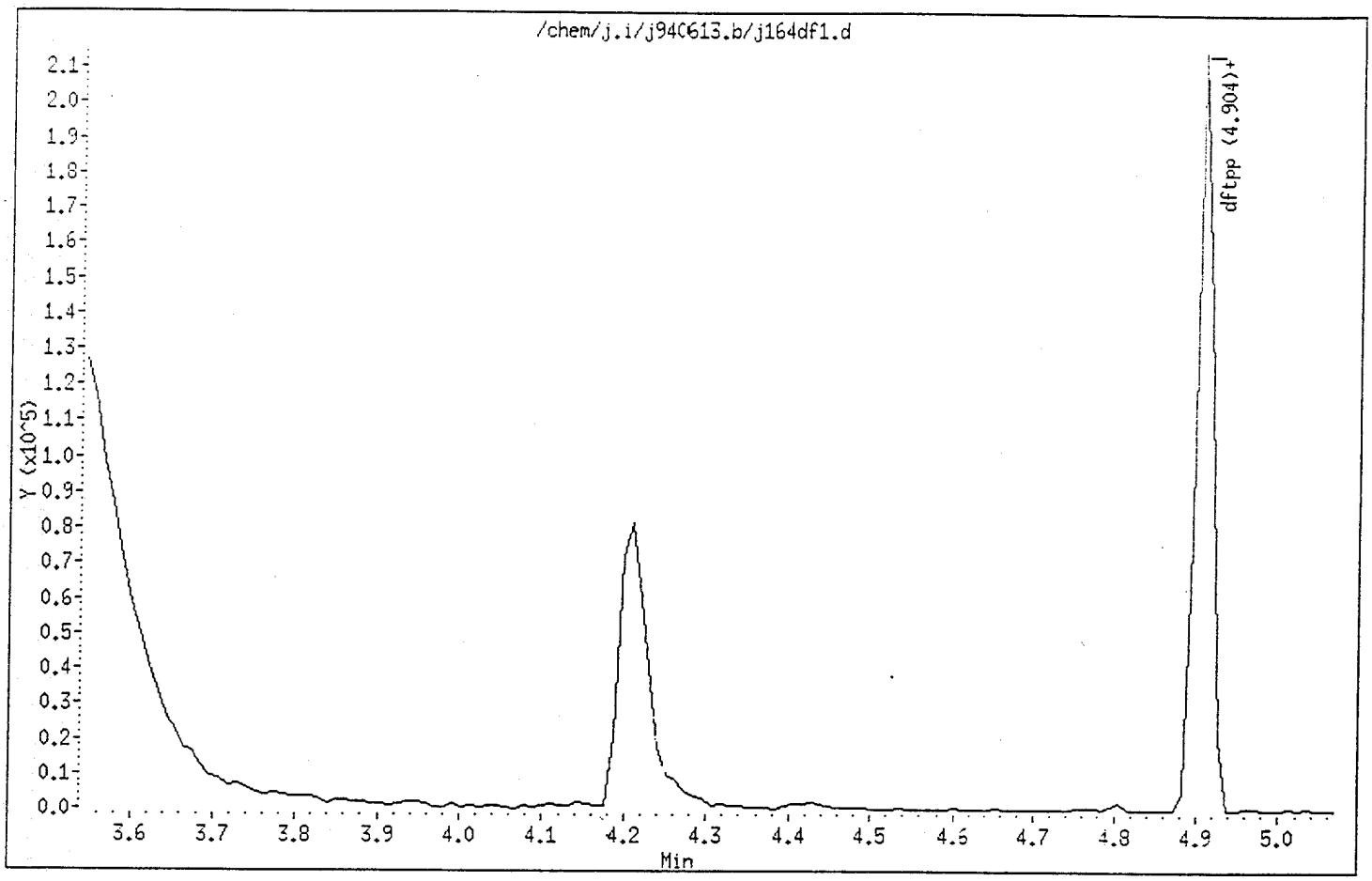
Instrument : j.i

Sample ID :

Column phase :

Column diameter : 2.00

Volume Injected (uL) : 1.0



SPL Houston Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: j.i
Lab File ID: j164cc1.d
Analysis Type: WATER
Lab Sample ID:
Quant Type: ISTD

Injection Date: 13-JUN-1994 14:28
Init. Calibration Date(s): 06/08/94 06/08/94
Init. Calibration Times: 11:31 15:50
Method File: /chem/j.i/j940613.b/jbna8.m

	COMPOUND	RRF	RF50	MIN RRF	%D	MAX %D
	1 N-Nitrosodimethylamine	0.619	0.734	0.010	18.6	0.0
	2 Pyridine	1.396	1.337	0.010	4.3	0.0
$	3 2-Fluorophenol	1.200	1.377	0.010	14.8	25.0
	4 Aniline	2.022	2.076	0.010	2.7	0.0
$	5 Phenol-d5	1.651	1.696	0.010	2.7	25.0
	6 Phenol	1.875	1.994	0.800	6.4	25.0
	7 bis(2-Chloroethyl)ether	1.333	1.444	0.700	8.3	25.0
$	8 2-Chlorophenol-d4	1.422	1.628	0.010	14.5	25.0
	9 2-Chlorophenol	1.386	1.561	0.800	12.6	25.0
	10 1,3-Dichlorobenzene	1.654	1.877	0.010	13.5	25.0
	12 1,4-Dichlorobenzene	1.667	1.916	0.010	15.0	25.0
$	13 1,2-Dichlorobenzene-d4	0.454	0.490	0.010	7.8	25.0
	14 1,2-Dichlorobenzene	1.520	1.743	0.010	14.7	25.0
	15 Benzyl alcohol	1.278	1.515	0.010	18.5	0.0
	16 2-Methylphenol	1.278	1.515	0.010	18.5	25.0
	17 ortho-Cresol	1.243	1.393	0.010	12.1	25.0
	18 bis(2-chloroisopropyl)ether	1.401	1.506	0.010	7.5	0.0
	19 meta,para-Cresol	1.345	1.441	0.010	7.1	25.0
	20 4-Methylphenol	1.345	1.441	0.010	7.1	25.0
	21 N-Nitroso-di-n-propylamine	0.990	1.099	0.010	11.0	25.0
	22 Hexachloroethane	0.758	0.841	0.010	11.0	25.0
$	23 Nitrobenzene-d5	0.433	0.473	0.010	9.2	25.0
	24 Nitrobenzene	0.409	0.441	0.010	7.9	25.0
	25 Isophorone	0.827	0.878	0.010	6.1	25.0
	26 2-Nitrophenol	0.233	0.262	0.010	12.5	25.0
	27 2,4-Dimethylphenol	0.428	0.450	0.010	5.2	25.0
	28 bis(2-Chloroethoxy)methane	0.429	0.464	0.010	8.2	25.0
	29 Benzoic acid	0.329	0.354	0.010	7.7	0.0
	30 2,4-Dichlorophenol	0.350	0.375	0.010	7.2	25.0
	31 1,2,4-Trichlorobenzene	0.365	0.386	0.010	5.8	25.0
	33 Naphthalene	1.105	1.152	0.010	4.2	25.0
	34 4-Chloroaniline	0.496	0.535	0.010	8.0	0.0
	35 Hexachlorobutadiene	0.213	0.243	0.010	14.1	0.0
	36 4-Chloro-3-methylphenol	0.418	0.432	0.010	3.5	25.0
	37 2-Methylnaphthalene	0.735	0.827	0.010	12.6	25.0
	38 Hexachlorocyclopentadiene	0.254	0.302	0.010	19.1	0.0
	39 2,4,6-Trichlorophenol	0.371	0.416	0.010	12.3	25.0
$	40 2-Fluorobiphenyl	1.239	1.254	0.010	1.3	25.0
	41 2,4,5-Trichlorophenol	0.418	0.451	0.010	7.9	25.0
	42 2-Chloronaphthalene	1.181	1.301	0.010	10.2	25.0

SPL Houston Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: j.i
Lab File ID: j164cc1.d
Analysis Type: WATER
Lab Sample ID:
Quant Type: ISTD

Injection Date: 13-JUN-1994 14:28
Init. Calibration Date(s): 06/08/94 06/08/94
Init. Calibration Times: 11:31 15:50
Method File: /chem/j.i/j940613.b/jbna8.m

	COMPOUND	RRF	RF50	MIN RRF	%D	MAX %D
	43 2-Nitroaniline	0.429	0.441	0.010	2.6	0.0
	44 Dimethylphthalate	1.481	1.519	0.010	2.6	0.0
	45 Acenaphthylene	1.913	2.066	0.010	8.0	25.0
	46 2,6-Dinitrotoluene	0.338	0.374	0.010	10.7	25.0
	47 3-Nitroaniline	0.373	0.389	0.010	4.3	0.0
	49 Acenaphthene	1.147	1.241	0.010	8.1	25.0
	50 2,4-Dinitrophenol	0.115	0.136	0.010	18.7	0.0
	51 Dibenzofuran	1.748	1.781	0.010	1.9	25.0
	52 2,4-Dinitrotoluene	1.216	1.180	0.010	3.0	25.0
	53 4-Nitrophenol	0.233	0.228	0.010	2.0	0.0
	54 Diethylphthalate	1.499	1.563	0.010	4.2	0.0
	55 4-Chlorophenyl-phenylether	0.604	0.632	0.010	4.6	25.0
	56 Fluorene	1.352	1.316	0.010	2.6	25.0
	57 4-Nitroaniline	0.340	0.371	0.010	9.1	0.0
	58 4,6-Dinitro-2-methylphenol	0.093	0.157	0.010	68.6	0.0
	59 n-Nitrosodiphenylamine	0.620	0.677	0.010	9.3	0.0
	60 1,2-Diphenylhydrazine	2.239	2.157	0.010	3.7	0.0
S	61 2,4,6-Tribromophenol	0.133	0.153	0.010	14.7	0.0
	62 4-Bromophenyl-phenylether	0.236	0.252	0.010	6.9	25.0
	63 Hexachlorobenzene	0.283	0.307	0.010	8.6	25.0
	64 Pentachlorophenol	0.113	0.161	0.010	41.7	25.0
	66 Phenanthrene	1.248	1.357	0.010	8.7	25.0
	67 Anthracene	1.248	1.357	0.010	8.7	25.0
	68 Carbazole	1.122	1.206	0.010	7.4	0.0
	69 Di-n-butylphthalate	1.598	1.703	0.010	6.6	0.0
	70 Fluoranthene	1.047	1.105	0.010	5.6	25.0
	71 Pyrene	1.820	2.076	0.010	14.1	25.0
S	72 Terphenyl-d14	1.211	1.373	0.010	13.3	25.0
	73 Butylbenzylphthalate	1.116	1.181	0.010	5.8	0.0
	74 3,3'-Dichlorobenzidine	0.503	0.492	0.010	2.1	0.0
	75 Benzo(a)anthracene	1.337	1.392	0.010	4.1	25.0
	77 bis(2-Ethylhexyl)phthalate	1.458	1.420	0.010	2.6	0.0
	78 Chrysene	1.216	1.251	0.010	2.9	25.0
	79 Di-n-octylphthalate	2.556	2.486	0.010	2.7	0.0
	80 Benzo(b)fluoranthene	1.235	1.330	0.010	7.6	25.0
	81 Benzo(k)fluoranthene	1.235	1.330	0.010	7.6	25.0
	82 Benzo(a)pyrene	1.122	1.210	0.010	7.8	25.0
	84 Indeno(1,2,3-cd)pyrene	1.413	1.666	0.010	17.9	25.0
	85 Dibenz(a,h)anthracene	1.117	1.326	0.010	18.8	25.0
	86 Benzo(g,h,i)perylene	1.208	1.440	0.010	19.2	25.0

SPL Houston Labs

Data file : /chem/j.i/j940613.b/j164cc1.d
Lab. Id. :
Inj Date : 13-JUN-94 14:28
Operator : LH
Smp Info : 940613 STD050
Misc Info : 940613 STD050
Comment :
Method : /chem/j.i/j940613.b/jbna8.m
Meth Date : 13-Jun-1994 14:51
Cal Date : 08-JUN-94 15:50
Als bottle: 1
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: WATER

Quant Type: ISTD
Autotune Date:
Inst ID: j.i

Cal File: j159ic06.d

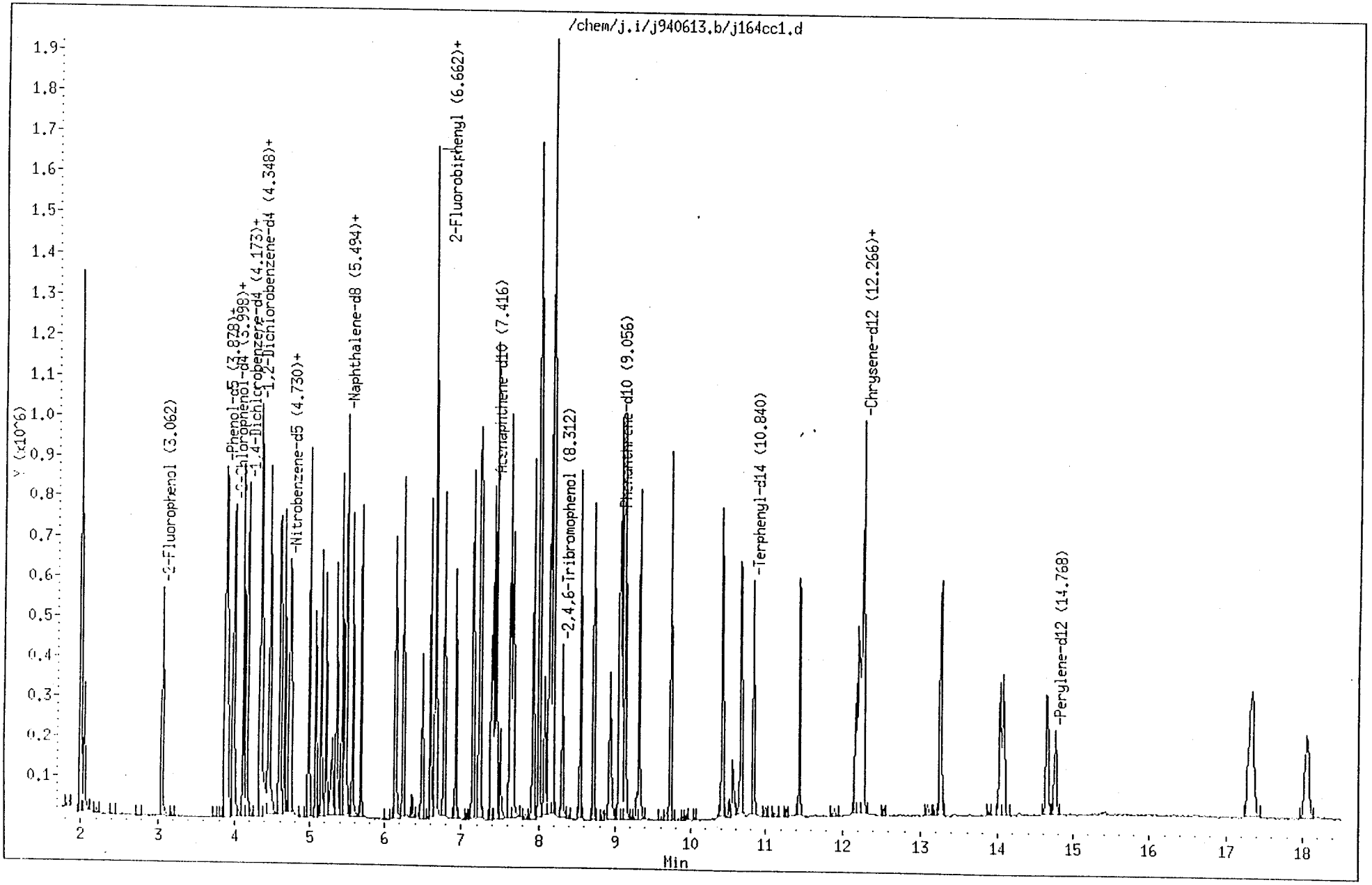
Target Version: Target 3.00
Compound Sublist: all.sub

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
	1 N-Nitrosodimethylamine	74.00	2.017	(0.486)	78664	59	30
	2 Pyridine	79.00	2.039	(0.491)	143316	48	24
$	3 2-Fluorophenol	112.00	3.062	(0.738)	147671	57	29
	4 Aniline	93.00	3.878	(0.934)	222552	51	26
$	5 Phenol-d5	99.00	3.889	(0.937)	181803	51	26
	6 Phenol	94.00	3.900	(0.939)	213856	53	26
	7 bis(2-Chloroethyl)ether	93.00	3.922	(0.945)	154834	54	27
$	8 2-Chlorophenol-d4	132.00	3.988	(0.961)	174583	57	29
	9 2-Chlorophenol	128.00	3.998	(0.963)	167409	56	28
	10 1,3-Dichlorobenzene	146.00	4.119	(0.992)	201306	57	28
*	11 1,4-Dichlorobenzene-d4	152.00	4.151	(1.000)	85780	40	
	12 1,4-Dichlorobenzene	146.00	4.173	(1.005)	205461	57	29
$	13 1,2-Dichlorobenzene-d4	152.00	4.337	(0.585)	127772	54	27
	14 1,2-Dichlorobenzene	146.00	4.359	(1.050)	186916	57	29
	15 Benzyl alcohol	108.00	4.468	(1.076)	162424	59	30
	16 2-Methylphenol	108.00	4.468	(1.076)	162424	59	30
	17 ortho-Cresol	107.00	4.468	(1.076)	149384	56	28
	18 bis(2-chloroisopropyl)ether	45.00	4.457	(1.074)	161435	54	27
	19 meta,para-Cresol	108.00	4.610	(1.110)	154495	54	27
	20 4-Methylphenol	108.00	4.610	(1.110)	154495	54	27
	21 N-Nitroso-di-n-propylamine	70.00	4.599	(1.108)	117856	56	28
	22 Hexachloroethane	117.00	4.665	(1.124)	90163	55	28
$	23 Nitrobenzene-d5	82.00	4.730	(0.864)	194663	54	27
	24 Nitrobenzene	77.00	4.752	(0.868)	181600	54	27
	25 Isophorone	82.00	4.992	(0.912)	360991	53	26
	26 2-Nitrophenol	139.00	5.079	(0.928)	107800	56	28
	27 2,4-Dimethylphenol	107.00	5.155	(0.942)	185000	53	26
	28 bis(2-Chloroethoxy)methane	93.00	5.221	(0.954	190965	54	27
	29 Benzoic acid	122.00	5.155	(0.942)	146734	54	27

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
	30 2,4-Dichlorophenol	162.00	5.363	(0.980)	154256	54	27
	31 1,2,4-Trichlorobenzene	180.00	5.429	(0.992)	158762	53	26
*	32 Naphthalene-d8	136.00	5.472	(1.000)	329103	40	
	33 Naphthalene	128.00	5.494	(1.004)	473946	52	26
	34 4-Chloroaniline	127.00	5.571	(1.018)	220159	54	27
	35 Hexachlorobutadiene	225.00	5.691	(1.040)	100076	57	28
	36 4-Chloro-3-methylphenol	107.00	6.138	(1.122)	177910	52	26
	37 2-Methylnaphthalene	142.00	6.247	(1.142)	340236	56	28
	38 Hexachlorocyclopentadiene	237.00	6.498	(0.876)	78871	60	30
	39 2,4,6-Trichlorophenol	196.00	6.596	(0.890)	108611	56	28
S	40 2-Fluorobiphenyl	172.00	6.662	(0.898)	327183	51	25
	41 2,4,5-Trichlorophenol	196.00	6.662	(0.898)	117663	54	27
	42 2-Chloronaphthalene	162.00	6.782	(0.915)	339378	55	28
	43 2-Nitroaniline	65.00	6.924	(0.934)	114961	51	26
	44 Dimethylphthalate	163.00	7.153	(0.965)	396257	51	26
	45 Acenaphthylene	152.00	7.241	(0.976)	538824	54	27
	46 2,6-Dinitrotoluene	165.00	7.230	(0.975)	97529	55	28
	47 3-Nitroaniline	138.00	7.394	(0.997)	101453	52	26
*	48 Acenaphthene-d10	164.00	7.416	(1.000)	208681	40	
	49 Acenaphthene	153.00	7.448	(1.004)	323625	54	27
	50 2,4-Dinitrophenol	184.00	7.503	(1.012)	35561	59	30
	51 Dibenzofuran	168.00	7.623	(1.028)	464553	51	25
	52 2,4-Dinitrotoluene	165.00	8.017	(1.081)	307768	48	24
	53 4-Nitrophenol	109.00	7.645	(1.031)	59513	49	24
	54 Diethylphthalate	149.00	7.929	(1.069)	407701	52	26
	55 4-Chlorophenyl-phenylether	204.00	8.006	(1.080)	164984	52	26
	56 Fluorene	166.00	8.017	(1.081)	343284	49	24
	57 4-Nitroaniline	138.00	8.083	(1.090)	96775	54	27
	58 4,6-Dinitro-2-methylphenol	198.00	8.126	(0.897)	55443	84	42
	59 n-Nitrosodiphenylamine	169.00	8.148	(0.900)	238454	55	27
	60 1,2-Diphenylhydrazine	77.00	8.181	(0.903)	759358	48	24
S	61 2,4,6-Tribromophenol	330.00	8.312	(0.918)	53871	57	29
	62 4-Bromophenyl-phenylether	248.00	8.542	(0.943)	88895	53	27
	63 Hexachlorobenzene	284.00	8.717	(0.963)	108214	54	27
	64 Pentachlorophenol	266.00	8.935	(0.987)	56624	71	35
*	65 Phenanthrene-d10	188.00	9.056	(1.000)	281650	40	
	66 Phenanthrene	178.00	9.133	(1.008)	477602	54	27
	67 Anthracene	178.00	9.133	(1.008)	477602	54	27
	68 Carbazole	167.00	9.319	(1.029)	424416	54	27
	69 Di-n-butylphthalate	149.00	9.734	(1.075)	599620	53	27
	70 Fluoranthene	202.00	10.412	(1.150)	389129	53	26
	71 Pyrene	202.00	10.675	(0.872)	371060	57	28
S	72 Terphenyl-d14	244.00	10.840	(0.885)	245343	57	28
	73 Butylbenzylphthalate	149.00	11.454	(0.935)	211101	53	26
	74 3,3'-Dichlorobenzidine	252.00	12.177	(0.995)	38001	49	24
	75 Benzo[a]anthracene	228.00	12.210	(0.997)	248751	52	26
*	76 Chrysene-d12	240.00	12.244	(1.000)	142982	40	
	77 bis(2-Ethylhexyl)phthalate	149.00	12.266	(1.002)	253716	49	24
	78 Chrysene	228.00	12.277	(1.003)	223659	51	26

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS IN-COLUMN (ng)	CONCENTRATIONS FINAL (ug/L)
79 Di-n-octylphthalate	149.00	13.264	(0.898)	466920	49	24
80 Benzo[b]fluoranthene	252.00	14.076	(0.953)	249732	54	27
81 Benzo[k]fluoranthene	252.00	14.076	(0.953)	249732	54	27
82 Benzo[a]pyrene	252.00	14.658	(0.993)	227267	54	27
* 83 Perylene-d12	264.00	14.768	(1.000)	150259	40	
84 Indeno[1,2,3-cd]pyrene	276.00	17.314	(1.172)	312882	59	29
85 Dibenz[a,h]anthracene	278.00	17.347	(1.175)	249074	59	30
86 Benzo[g,h,i]perylene	276.00	18.060	(1.223)	270429	60	30

Data File: /chem/j.i/j940613.b/j164cc1.d
Date : 13-JUN-94 14:28
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Volume Injected (uL) : 2.0
Column diameter : 0.25



SPL Houston Labs

Data file : /chem/j.i/j940609.b/j160sbk1.d
Lab. Id. :
Inj Date : 09-JUN-1994 17:04
Operator : LH
Smp Info : 940608SNB1
Misc Info : 940608SNB1
Comment :
Method : /chem/j.i/j940609.b/jbna8.m
Meth Date : 15-Jun-1994 13:30 csadmin
Cal Date : 08-JUN-1994 12:47
Als bottle: 1
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: (
Inst ID: j.i

Cal File: j159ic04.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/Kg)
$ 3 2-Fluorophenol	112.00	3.074	(0.738)	326189	120	4000
$ 5 Phenol-d5	99.00	3.891	(0.934)	374479	110	3600
$ 8 2-Chlorophenol-d4	132.00	3.989	(0.958)	369597	110	3800
* 11 1,4-Dichlorobenzene-d4	152.00	4.164	(1.000)	80269	40	
13 1,2-Dichlorobenzene-d4	152.00	4.350	(0.586)	170396	79	2600
23 Nitrobenzene-d5	82.00	4.731	(0.865)	265741	80	2600
32 Naphthalene-d8	136.00	5.471	(1.000)	293026	40	
40 2-Fluorobiphenyl	172.00	6.668	(0.899)	493140	84	2800
* 48 Acenaphthene-d10	164.00	7.419	(1.000)	183403	40	
$ 61 2,4,6-Tribromophenol	330.00	8.312	(0.918)	135548	130	4400
* 65 Phenanthrene-d10	188.00	9.052	(1.000)	280989	40	
72 Terphenyl-d14	244.00	10.837	(0.885)	467963	83	2800
* 76 Chrysene-d12	240.00	12.243	(1.000)	157395	40	
* 83 Perylene-d12	264.00	14.763	(1.000)	128487	40	

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

SPL Houston Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File:
Method File: /chem/j.i/j940609.b/jbna8.m
Misc Info: 940608SNB1

Client SDG: j940609.b
Fraction: SV
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

	SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 3	2-Fluorophenol	150	120	80.12	25-121
$ 5	Phenol-d5	150	110	72.16	24-113
$ 8	2-Chlorophenol-d4	150	110	75.32	20-130
$ 13	1,2-Dichlorobenzen	100	79	78.84	20-130
$ 23	Nitrobenzene-d5	100	80	79.76	23-120
$ 40	2-Fluorobiphenyl	100	84	84.54	30-115
$ 61	2,4,6-Tribromophen	150	130	88.59	19-122
$ 72	Terphenyl-d14	100	83	82.88	18-137

* - Values outside of QC limits
Spike Recovery: 0 out of 8 outside limits
0 out of 8 not found

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j160sbk1.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940609.b/jbna8.m
Misc Info: 940608SNB1

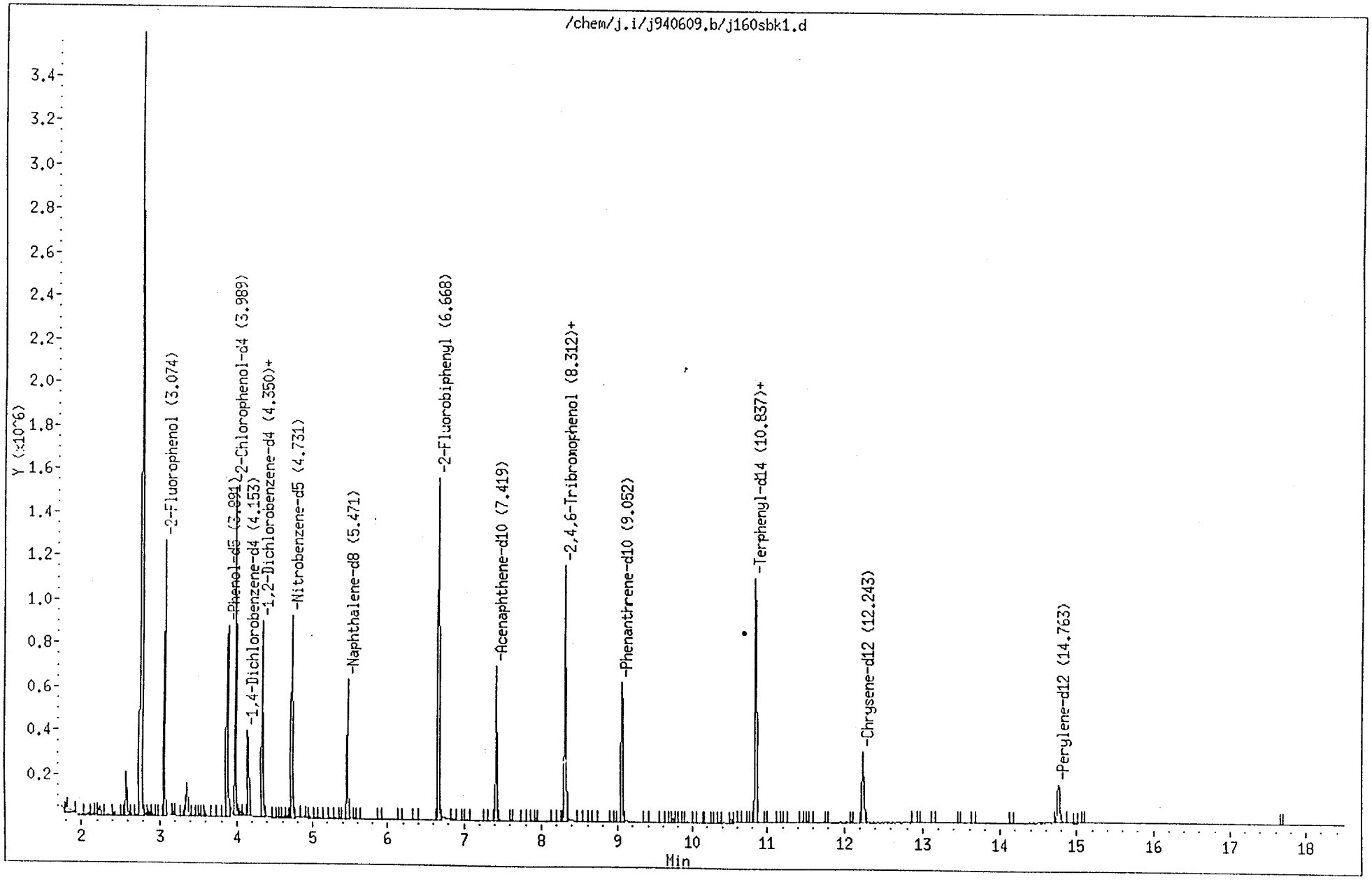
Calibration Date: 06/09/94
Calibration Time: 1609
Sample Type: SOIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	74530	37265	149060	80269	7.70
32 Naphthalene-d8	288821	144410	577642	293026	1.46
48 Acenaphthene-d10	187312	93656	374624	183403	-2.09
65 Phenanthrene-d10	253525	126762	507050	280989	10.83
76 Chrysene-d12	118083	59041	236166	157395	33.29
83 Perylene-d12	127432	63716	254864	128487	0.83

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.16	3.66	4.66	4.16	0.05
32 Naphthalene-d8	5.47	4.97	5.97	5.47	-0.02
48 Acenaphthene-d10	7.41	6.91	7.91	7.42	0.06
65 Phenanthrene-d10	9.05	8.55	9.55	9.05	-0.02
76 Chrysene-d12	12.24	11.74	12.74	12.24	0.01
83 Perylene-d12	14.77	14.27	15.27	14.76	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940609.b/j160sbk1.d
Date : 09-JUN-1994 17:04
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Column diameter : 0.25
Volume Injected (uL) : 1.0

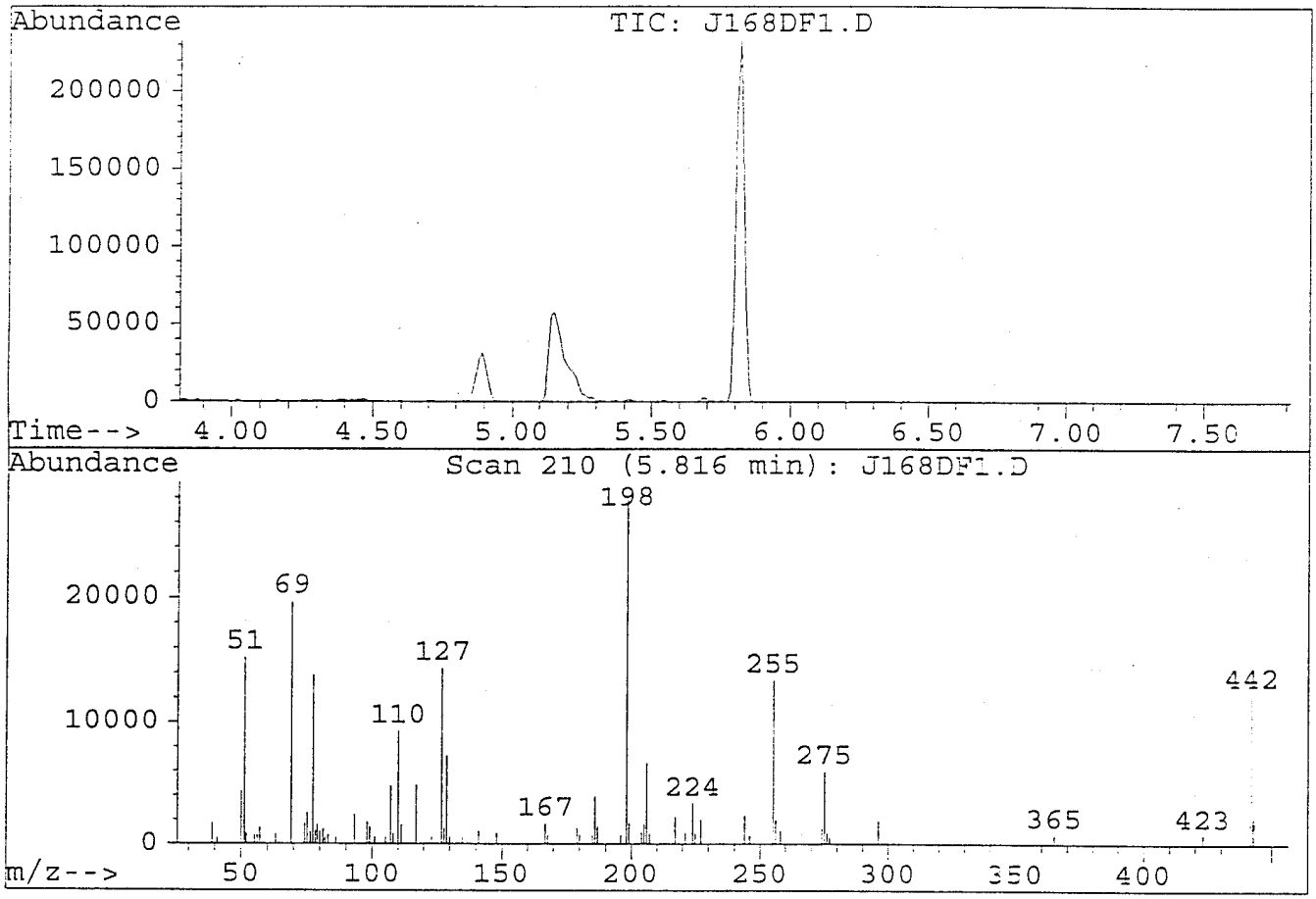


DFTPP

Data File : C:\HPCHEM\1\DATA\J940617\J168DF1.D
Acq On : 17 Jun 94 9:28 am
Sample : 50 ng DFTPP
Misc : 940617 50 ng DFTPP

Vial: 1
Operator: LH
Inst : 1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\ENVDEF.M
Title :



Peak Apex is scan: 210

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	54.4	15181	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	70.3	19624	PASS
70	69	0	2	0.0	0	PASS
127	198	40	60	51.4	14333	PASS
197	198	0	1	0.0	0	PASS
198	198	100	100	100.0	27904	PASS
199	198	5	9	6.1	1707	PASS
275	198	10	30	21.1	5898	PASS
365	198	1	100	2.6	736	PASS
441	443	0	100	84.1	1817	PASS
442	198	40	100	43.7	12192	PASS
443	442	17	23	17.7	2160	PASS

J168DF1.D ENVDEF.M Wed Jun 22 09:24:00 1994

SPL Houston Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: j.i
Lab File ID: j168cc1.d
Analysis Type: WATER
Lab Sample ID:
Quant Type: ISTD

Injection Date: 17-JUN-1994 09:39
Init. Calibration Date(s): 06/16/94 06/16/94
Init. Calibration Times: 13:44 16:37
Method File: /chem/j.i/j940617.b/jclpw.m

	COMPOUND	RRF	RF50	MIN RRF	%D	MAX %D
	1 N-Nitrosodimethylamine	0.760	0.909	0.010	19.7	0.0
	2 Pyridine	1.284	1.497	0.010	16.7	0.0
$	3 2-Fluorophenol	1.342	1.483	0.600	10.5	25.0
	4 Aniline	1.896	2.091	0.010	10.3	0.0
$	5 Phenol-d5	1.732	1.914	0.800	10.5	25.0
	6 Phenol	1.866	2.104	0.800	12.8	25.0
	7 bis(2-Chloroethyl)ether	1.856	1.968	0.700	6.0	25.0
$	8 2-Chlorophenol-d4	1.542	1.688	0.800	9.5	25.0
	9 2-Chlorophenol	1.487	1.645	0.800	10.6	25.0
	10 1,3-Dichlorobenzene	1.733	1.896	0.600	9.4	25.0
	12 1,4-Dichlorobenzene	1.698	1.884	0.500	10.9	25.0
$	13 1,2-Dichlorobenzene-d4	0.493	0.534	0.400	8.2	25.0
	14 1,2-Dichlorobenzene	1.584	1.760	0.400	11.1	25.0
	15 Benzyl alcohol	0.549	1.748	0.010	218.2	0.0
	16 2-Methylphenol	1.528	1.748	0.700	14.4	25.0
	17 ortho-Cresol	1.528	1.748	0.700	14.4	25.0
	18 bis(2-chloroisopropyl)ether	1.405	1.633	0.010	16.3	0.0
	19 meta,para-Cresol	1.393	1.543	0.600	10.8	25.0
	20 4-Methylphenol	1.393	1.543	0.600	10.8	25.0
	21 N-Nitroso-di-n-propylamine	0.990	1.089	0.500	10.0	25.0
	22 Hexachloroethane	0.736	0.826	0.300	12.2	25.0
$	23 Nitrobenzene-d5	0.439	0.491	0.200	11.8	25.0
	24 Nitrobenzene	0.421	0.460	0.200	9.2	25.0
	25 Isophorone	0.824	0.899	0.400	9.1	25.0
	26 2-Nitrophenol	0.239	0.267	0.100	11.6	25.0
	27 2,4-Dimethylphenol	0.405	0.451	0.200	11.4	25.0
	28 bis(2-Chloroethoxy)methane	0.426	0.474	0.300	11.2	25.0
	29 Benzoic acid	0.317	0.344	0.010	8.6	0.0
	30 2,4-Dichlorophenol	0.329	0.369	0.200	12.2	25.0
	31 1,2,4-Trichlorobenzene	0.333	0.375	0.200	12.8	25.0
	33 Naphthalene	1.045	1.173	0.700	12.2	25.0
	34 4-Chloroaniline	0.469	0.534	0.010	13.7	0.0
	35 Hexachlorobutadiene	0.202	0.217	0.010	7.5	0.0
	36 4-Chloro-3-methylphenol	0.390	0.439	0.200	12.6	25.0
	37 2-Methylnaphthalene	0.751	0.817	0.400	8.9	25.0
	38 Hexachlorocyclopentadiene	0.282	0.262	0.010	6.8	0.0
	39 2,4,6-Trichlorophenol	0.356	0.370	0.200	3.9	25.0
$	40 2-Fluorobiphenyl	1.227	1.285	0.700	4.7	25.0
	41 2,4,5-Trichlorophenol	0.410	0.425	0.200	3.6	25.0
	42 2-Chloronaphthalene	1.228	1.296	0.800	5.6	25.0

SPL Houston Labs

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: j.i
Lab File ID: j168cc1.d
Analysis Type: WATER
Lab Sample ID:
Quant Type: ISTD

Injection Date: 17-JUN-1994 09:39
Init. Calibration Date(s): 06/16/94 06/16/94
Init. Calibration Times: 13:44 16:37
Method File: /chem/j.i/j940617.b/jclpw.m

	COMPOUND	RRF	RF50	MIN RRF	%D	MAX %D
	43 2-Nitroaniline	0.424	0.466	0.010	9.7	0.0
	44 Dimethylphthalate	1.390	1.557	0.010	12.0	0.0
	45 Acenaphthylene	1.939	2.087	1.300	7.6	25.0
	46 2,6-Dinitrotoluene	0.337	0.372	0.200	10.3	25.0
	47 3-Nitroaniline	0.361	0.399	0.010	10.3	0.0
	49 Acenaphthene	1.124	1.208	0.800	7.5	25.0
	50 2,4-Dinitrophenol	0.140	0.141	0.010	0.6	0.0
	51 Dibenzofuran	1.585	1.772	0.800	11.8	25.0
	52 2,4-Dinitrotoluene	0.415	0.451	0.200	8.8	25.0
	53 4-Nitrophenol	0.191	0.210	0.010	9.4	0.0
	54 Diethylphthalate	1.322	1.561	0.010	18.1	0.0
	55 4-Chlorophenyl-phenylether	0.541	0.598	0.400	10.6	25.0
	56 Fluorene	1.230	1.378	0.900	12.0	25.0
	57 4-Nitroaniline	0.304	0.343	0.010	12.6	0.0
	58 4,6-Dinitro-2-methylphenol	0.156	0.162	0.010	4.0	0.0
	59 n-Nitrosodiphenylamine	0.648	0.712	0.010	9.8	0.0
	60 1,2-Diphenylhydrazine	2.337	2.641	0.010	13.0	0.0
$	61 2,4,6-Tribromophenol	0.121	0.130	0.010	7.4	0.0
	62 4-Bromophenyl-phenylether	0.229	0.243	0.100	6.2	25.0
	63 Hexachlorobenzene	0.267	0.279	0.100	4.4	25.0
	64 Pentachlorophenol	0.117	0.114	0.050	1.9	25.0
	66 Phenanthrene	1.295	1.387	0.700	7.1	25.0
	67 Anthracene	1.263	1.340	0.700	6.0	25.0
	68 Carbazole	1.079	1.199	0.010	11.1	0.0
	69 Di-n-butylphthalate	1.493	1.629	0.010	9.1	0.0
	70 Fluoranthene	0.943	1.024	0.600	8.7	25.0
	71 Pyrene	1.889	2.230	0.600	18.1	25.0
$	72 Terphenyl-d14	1.225	1.368	0.500	11.7	25.0
	73 Butylbenzylphthalate	1.172	1.311	0.010	11.8	0.0
	74 3,3'-Dichlorobenzidine	0.479	0.522	0.010	9.1	0.0
	75 Benzo[a]anthracene	1.387	1.475	0.800	6.3	25.0
	77 bis(2-Ethylhexyl)phthalate	1.557	1.701	0.010	9.3	0.0
	78 Chrysene	1.262	1.426	0.700	13.0	25.0
	79 Di-n-octylphthalate	2.675	2.884	0.010	7.8	0.0
	80 Benzo[b]fluoranthene	1.310	1.443	0.700	10.1	25.0
	81 Benzo[k]fluoranthene	1.334	1.340	0.700	0.4	25.0
	82 Benzo[a]pyrene	1.147	1.235	0.700	7.6	25.0
	84 Indeno[1,2,3-cd]pyrene	1.367	1.477	0.500	8.0	25.0
	85 Dibenz[a,h]anthracene	1.088	1.153	0.400	5.9	25.0
	86 Benzo[g,h,i]perylene	1.147	1.274	0.500	11.1	25.0

SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168cc1.d
Lab. Id. :
Inj Date : 17-JUN-1994 09:39
Operator : LH
Smp Info : 940617 STD050
Misc Info : 940617 STD050
Comment :
Method : /chem/j.i/j940617.b/jclpw.m
Meth Date : 22-Jun-1994 20:11 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 1
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: WATER

Quant Type: ISTD
Autotune Date: {
Inst ID: j.i

Cal File: j168cc1.d
Continuing Calibration Sample
Target Version: Target 3.00
Compound Sublist: all.sub

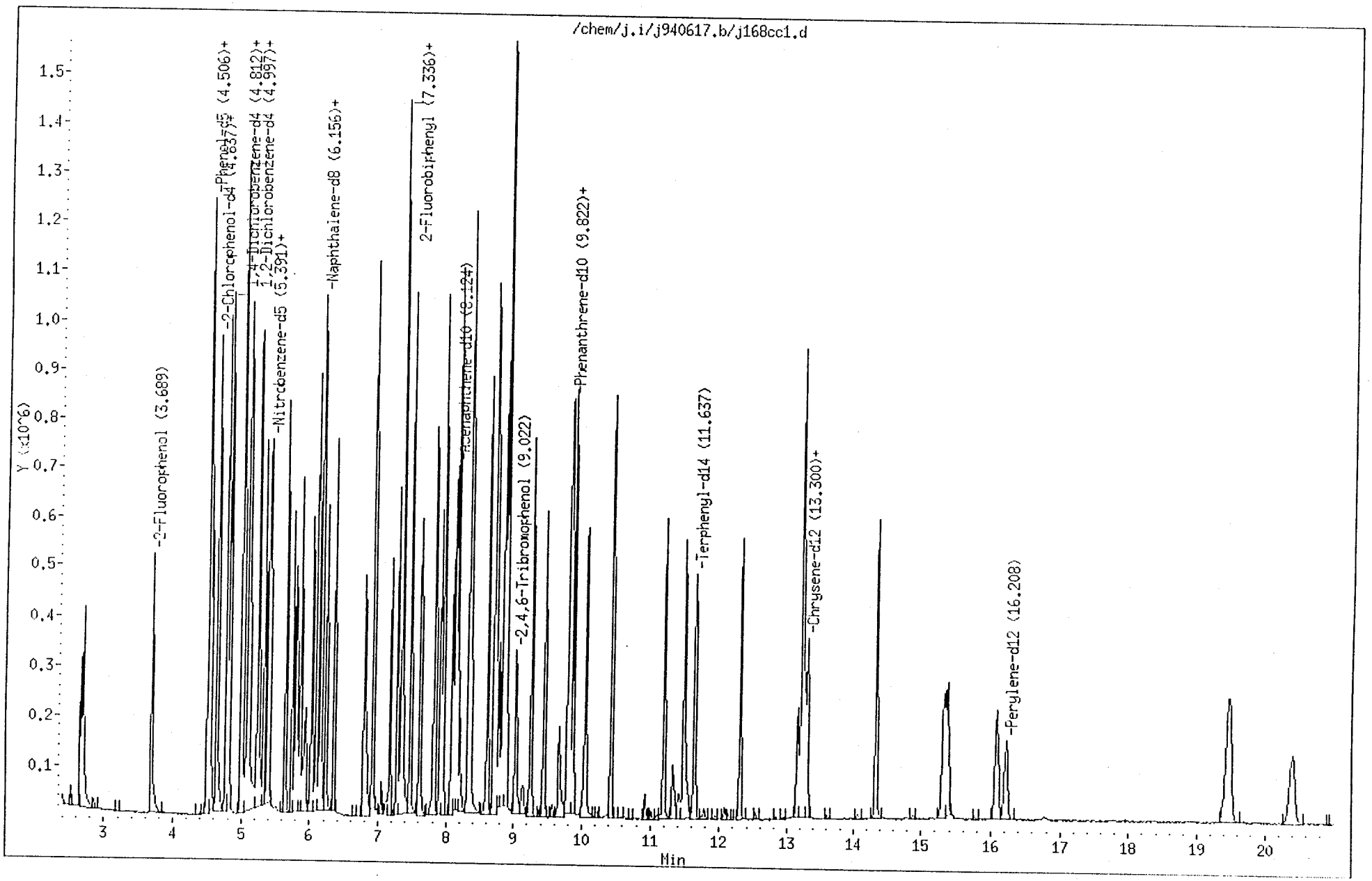
	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/L)
	1 N-Nitrosodimethylamine	74.00	2.654	(0.553)	137734	60	30
	2 Pyridine	79.00	2.687	(0.560)	226854	58	29
$	3 2-Fluorophenol	112.00	3.689	(0.768)	224745	55	28
	4 Aniline	93.00	4.517	(0.941)	316775	55	28
$	5 Phenol-d5	99.00	4.495	(0.936)	289966	55	28
	6 Phenol	94.00	4.506	(0.939)	318774	56	28
	7 bis(2-Chloroethyl)ether	93.00	4.550	(0.948)	298183	53	26
$	8 2-Chlorophenol-d4	132.00	4.626	(0.964)	255720	55	27
	9 2-Chlorophenol	128.00	4.637	(0.966)	249182	55	28
	10 1,3-Dichlorobenzene	146.00	4.768	(0.993)	287206	55	27
*	11 1,4-Dichlorobenzene-d4	152.00	4.801	(1.000)	121206	40	
	12 1,4-Dichlorobenzene	146.00	4.812	(1.002)	285441	55	28
$	13 1,2-Dichlorobenzene-d4	152.00	4.997	(0.615)	183991	54	27
	14 1,2-Dichlorobenzene	146.00	5.008	(1.043)	266640	56	28
	15 Benzyl alcohol	108.00	5.085	(1.059)	264785	160	80
	16 2-Methylphenol	108.00	5.085	(1.059)	264785	57	29
	17 ortho-Cresol	108.00	5.085	(1.059)	264785	57	29
	18 bis(2-chloroisopropyl)ether	45.00	5.085	(1.059)	247415	58	29
	19 meta,para-Cresol	108.00	5.238	(1.091)	233829	55	28
	20 4-Methylphenol	108.00	5.238	(1.091)	233829	55	28
	21 N-Nitroso-di-n-propylamine	70.00	5.238	(1.091)	164984	55	27
	22 Hexachloroethane	117.00	5.326	(1.109)	125093	56	28
$	23 Nitrobenzene-d5	82.00	5.380	(0.877)	273373	56	28
	24 Nitrobenzene	77.00	5.402	(0.881)	255928	55	27
	25 Isophorone	82.00	5.642	(0.920)	500759	54	27
	26 2-Nitrophenol	139.00	5.741	(0.936)	148509	56	28
	27 2,4-Dimethylphenol	107.00	5.784	(0.943)	250849	56	28
	28 bis(2-Chloroethoxy)methane	93.00	5.861	(0.955)	263715	56	28
	29 Benzoic acid	122.00	5.784	(0.943)	191599	54	27

	Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug/L)
	30 2,4-Dichlorophenol	162.00	6.014	(0.990)	205274	56	28
	31 1,2,4-Trichlorobenzene	180.00	6.090	(0.993)	208923	56	28
*	32 Naphthalene-d8	136.00	6.134	(1.000)	445390	40	
	33 Naphthalene	128.00	6.167	(1.005)	652853	56	28
	34 4-Chloroaniline	127.00	6.233	(1.016)	297059	57	28
	35 Hexachlorobutadiene	225.00	6.353	(1.036)	120868	54	27
	36 4-Chloro-3-methylphenol	107.00	6.789	(1.107)	344241	56	28
	37 2-Methylnaphthalene	142.00	6.921	(1.128)	454882	54	27
	38 Hexachlorocyclopentadiene	237.00	7.172	(0.883)	90476	47	23
	39 2,4,6-Trichlorophenol	196.00	7.271	(0.895)	127591	52	26
$	40 2-Fluorobiphenyl	172.00	7.336	(0.903)	442821	52	26
	41 2,4,5-Trichlorophenol	196.00	7.336	(0.903)	146420	52	26
	42 2-Chloronaphthalene	162.00	7.468	(0.919)	446622	53	26
	43 2-Nitroaniline	65.00	7.610	(0.937)	160481	55	27
	44 Dimethylphthalate	163.00	7.818	(0.962)	536535	56	28
	45 Acenaphthylene	152.00	7.949	(0.978)	719482	54	27
	46 2,6-Dinitrotoluene	165.00	7.916	(0.974)	128159	55	28
	47 3-Nitroaniline	138.00	8.080	(0.995)	137432	55	28
*	48 Acenaphthene-d10	164.00	8.124	(1.000)	275750	40	
	49 Acenaphthene	153.00	8.157	(1.004)	416465	54	27
	50 2,4-Dinitrophenol	184.00	8.201	(1.009)	48660	50	25
	51 Dibenzofuran	168.00	8.332	(1.026)	610854	56	28
	52 2,4-Dinitrotoluene	165.00	8.354	(1.028)	155611	54	27
	53 4-Nitrophenol	109.00	8.332	(1.026)	72215	55	27
	54 Diethylphthalate	149.00	8.617	(1.061)	538184	59	30
	55 4-Chlorophenyl-phenylether	204.00	8.704	(1.071)	206003	55	28
	56 Fluorene	166.00	8.726	(1.074)	474837	56	28
	57 4-Nitroaniline	138.00	8.781	(1.081)	118058	56	28
	58 4,6-Dinitro-2-methylphenol	198.00	8.836	(0.903)	68301	52	26
	59 n-Nitrosodiphenylamine	169.00	8.847	(0.904)	299745	55	27
	60 1,2-Diphenylhydrazine	77.00	8.880	(0.907)	1112421	56	28
$	61 2,4,6-Tribromophenol	329.70	9.033	(0.923)	54758	54	27
	62 4-Bromophenyl-phenylether	248.00	9.252	(0.945)	102315	53	26
	63 Hexachlorobenzene	283.70	9.449	(0.965)	117316	52	26
	64 Pentachlorophenol	266.00	9.657	(0.987)	48225	49	24
*	65 Phenanthrene-d10	188.00	9.789	(1.000)	336972	40	
	66 Phenanthrene	178.00	9.822	(1.003)	584326	54	27
	67 Anthracene	178.00	9.866	(1.008)	564240	53	26
	68 Carbazole	167.00	10.052	(1.027)	504857	56	28
	69 Di-n-butylphthalate	149.00	10.434	(1.066)	686267	54	27
	70 Fluoranthene	202.00	11.199	(1.144)	431489	54	27
	71 Pyrene	202.00	11.484	(0.866)	408435	59	30
$	72 Terphenyl-d14	244.00	11.637	(0.878)	250616	56	28
	73 Butylbenzylphthalate	149.00	12.304	(0.928)	240071	56	28
	74 3,3'-Dichlorobenzidine	252.00	13.156	(0.993)	95596	54	27
	75 Benzo[a]anthracene	228.00	13.223	(0.997)	270098	53	26
*	76 Chrysene-d12	240.00	13.256	(1.000)	146532	40	
	77 bis(2-Ethylhexyl)phthalate	149.00	13.211	(0.997)	311645	55	27
	78 Chrysene	228.00	13.300	(1.003)	261230	56	28

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/L)
79 Di-n-octylphthalate	149.00	14.338	(0.883)	578425	54	27
80 Benzo[b]fluoranthene	252.00	15.322	(0.943)	289408	55	28
81 Benzo[k]fluoranthene	252.00	15.366	(0.948)	268710	50	25
82 Benzo[a]pyrene	252.00	16.076	(0.992)	247673	54	27
* 83 Perylene-d12	264.00	16.208	(1.000)	160474	40	
84 Indeno[1,2,3-cd]pyrene	276.00	19.442	(1.200)	296183	54	27
85 Dibenz[a,h]anthracene	278.00	19.486	(1.202)	231185	53	26
86 Benzo[g,h,i]perylene	276.00	20.404	(1.259)	255601	56	28

Data File: /chem/j.i/j940617.b/j168cc1.d
Date : 17-JUN-1994 09:39
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Volume Injected (uL) : 2.0

Column diameter : 0.25



SPL Houston Labs

Data file : /chem/j.i/j940617.b/j168sbk1.d
Lab. Id. :
Inj Date : 17-JUN-1994 12:52
Operator : LH
Smp Info : 940615SNB1
Misc Info : 940615SNB1
Comment :
Method : /chem/j.i/j940617.b/jclps.m
Meth Date : 22-Jun-1994 13:38 liping
Cal Date : 17-JUN-1994 09:39
Als bottle: 7
Dil Factor: 1.000
Integrator: HP RTE
Sample Matrix: SOIL

Quant Type: ISTD
Autotune Date: {
Inst ID: j.i

Cal File: j168cc1.d

Target Version: Target 3.00
Compound Sublist: all.sub

Compounds	QUANT SIG MASS	RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug/Kg)
$ 3 2-Fluorophenol	112.00	3.688	(0.772)	569982	110	1800
$ 5 Phenol-d5	99.00	4.484	(0.938)	708161	100	1700
$ 8 2-Chlorophenol-d4	132.00	4.615	(0.966)	639570	100	1800
* 11 1,4-Dichlorobenzene-d4	152.00	4.779	(1.000)	144227	40	
$ 13 1,2-Dichlorobenzene-d4	152.00	4.976	(0.615)	291824	68	1100
$ 23 Nitrobenzene-d5	82.00	5.358	(0.875)	502472	79	1300
* 32 Naphthalene-d8	136.00	6.122	(1.000)	514970	40	
$ 40 2-Fluorobiphenyl	172.00	7.321	(0.904)	861455	84	1400
* 48 Acenaphthene-d10	164.00	8.096	(1.000)	319160	40	
$ 61 2,4,6-Tribromophenol	329.70	9.012	(0.922)	169927	110	1900
* 65 Phenanthrene-d10	188.00	9.776	(1.000)	455663	40	
$ 72 Terphenyl-d14	244.00	11.632	(0.879)	710333	84	1400
* 76 Chrysene-d12	240.00	13.229	(1.000)	246231	40	
* 83 Perylene-d12	264.00	16.186	(1.000)	117924	40	

SPL Houston Labs

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Client ID:
Data Type: MS DATA
SpikeList File: 8270s.spk
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 940615SNB1

Client SDG: j940617.b
Fraction: SV
Level: LOW
SampleType: SAMPLE
Quant Type: ISTD

	SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 3	2-Fluorophenol	150	110	71.04	25-121
$ 5	Phenol-d5	150	100	68.41	24-113
$ 8	2-Chlorophenol-d4	150	100	70.06	20-130
$ 13	1,2-Dichlorobenzen	100	68	68.52	20-130
$ 23	Nitrobenzene-d5	100	79	79.48	23-120
$ 40	2-Fluorobiphenyl	100	84	84.04	30-115
$ 61	2,4,6-Tribromophen	150	110	76.50	19-122
$ 72	Terphenyl-d14	100	84	84.34	18-137

* - Values outside of QC limits
Spike Recovery: 0 out of 8 outside limits
0 out of 8 not found

SPL Houston Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: j.i
Lab File ID: j168sbk1.d
Lab Sample ID:
Analysis Type: SV
Quant Type: ISTD
Method File: /chem/j.i/j940617.b/jclps.m
Misc Info: 940615SNB1

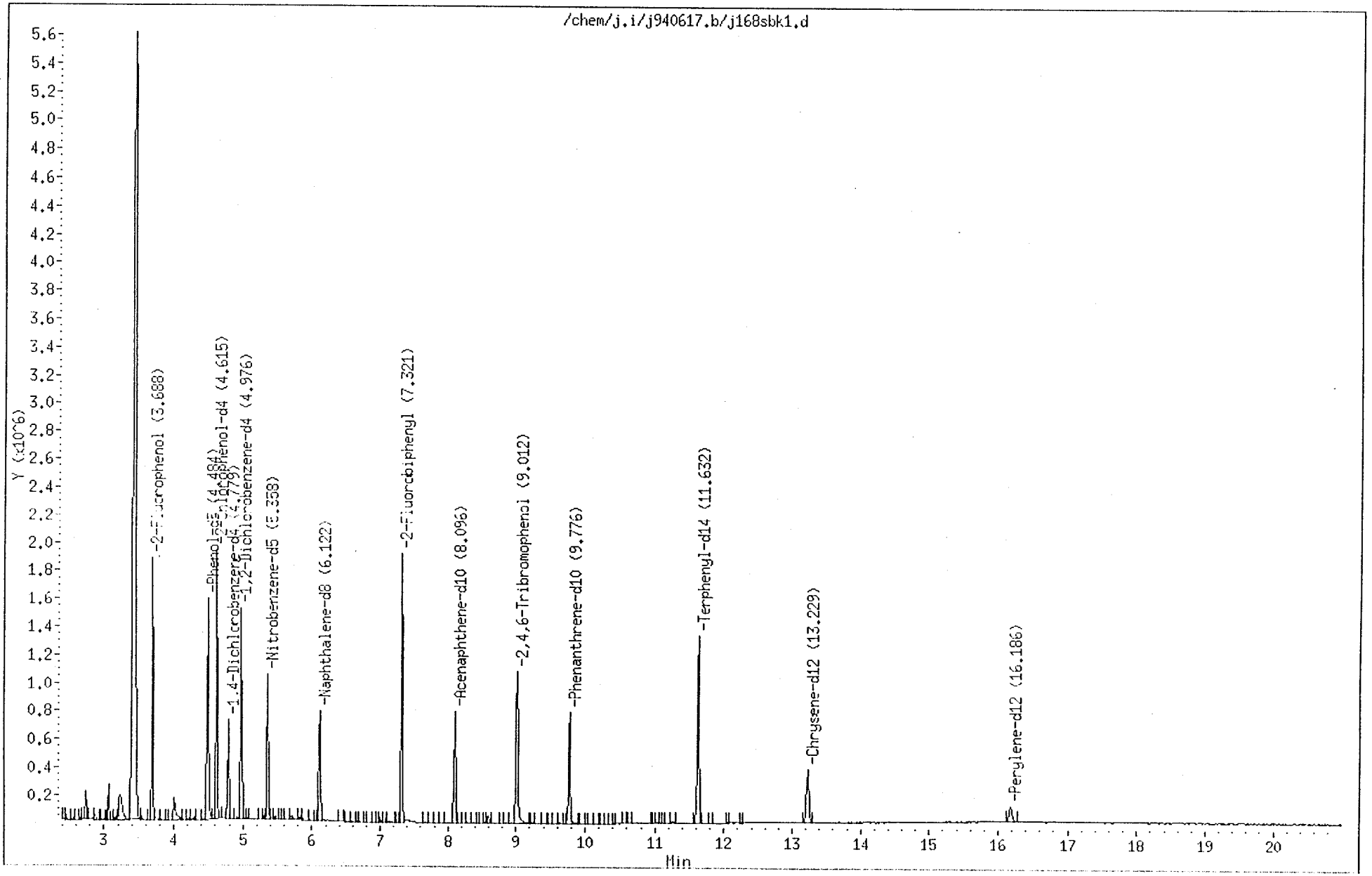
Calibration Date: 06/17/94
Calibration Time: 0939
Sample Type: SOIL
Level: LOW

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	121206	60603	242412	144227	18.99
32 Naphthalene-d8	445390	222695	890780	514970	15.62
48 Acenaphthene-d10	275750	137875	551500	319160	15.74
65 Phenanthrene-d10	336972	168486	673944	455663	35.22
76 Chrysene-d12	146532	73266	293064	246231	68.04
83 Perylene-d12	160474	80237	320948	117924	-26.52

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	% DIFF
11 1,4-Dichlorobenzene-	4.80	4.30	5.30	4.78	-0.46
32 Naphthalene-d8	6.13	5.63	6.63	6.12	-0.21
48 Acenaphthene-d10	8.12	7.62	8.62	8.10	-0.35
65 Phenanthrene-d10	9.79	9.29	10.29	9.78	-0.13
76 Chrysene-d12	13.26	12.76	13.76	13.23	-0.20
83 Perylene-d12	16.21	15.71	16.71	16.19	-0.14

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/j.i/j940617.b/j168sbk1.d
Date : 17-JUN-1994 12:52
Instrument : j.i
Sample ID :
Column phase : J&W DB-5
Column diameter : 0.25
Volume Injected (uL) : 2.0



ICPL®

Certificate of Analysis No. 9406119-11

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	17	4 P	mg/Kg
Surrogate	**% Recovery**		
n-Pentacosane	220 *		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	16	0.2 I	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	0.6	0.1 I	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

(P) - Practical Quantitation Limit
// - Defined in attachment.
* - Defined in attachment.
ND - Not detected.
I - Instrument detection

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL®

Certificate of Analysis No. 9406119-11

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	1.20	0.05	mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	7	1	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	24	0.6 M	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	5	1	wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	14	1.0 M	mg/Kg

ND - Not detected.

M - Methods detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

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Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	15	2	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg

// - Defined in attachment. ND - Not detected.
M - Methods detection li

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-11

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	57	0.8 M	mg/Kg

ND - Not detected.

M - Methods detection li

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-12

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:28:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	4.4	4 P	mg/Kg
Surrogate	**% Recovery**		
n-Pentacosane	148 *		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	2	0.2 I	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	0.6	0.1 M	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

(P) - Practical Quantitation Limit
// - Defined in attachment.
* - Defined in attachment.
ND - Not detected.
M - Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

719 689 0084 P005 020
JUL 28 '94 9:56

Certificate of Analysis No. 9406119-12

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:28:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.03	0.01	mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	7	1	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	12	0.6 M	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	15	1	wt. %

ND - Not detected.

M - Method detection lim

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. 9406119-12

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-01 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:28:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	4.0	1.0 M	mg/Kg
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	5.7	0.4	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M	mg/Kg

ND - Not detected. // - Defined in attachment. M - Methods detection li

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

JUL 28 '94 9:55

Certificate of Analysis No. 9406119-12

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operaticnal Technologies
SAMPLE ID: A-01 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:28:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	24	0.8 M	mg/Kg

ND - Not detected.

M - Method detection lim

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-13

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	71	4 P	mg/Kg
Surrogate	**% Recovery**		
n-Pentacosane	478 *		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	2	0.2 I	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	0.8	0.1 M	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

(P) - Practical Quantitation Limit
// - Defined in attachment.
* - Defined in attachment.
ND - Not detected.
M - Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-13

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.17	0.01	mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	5	1	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	25	0.3 M	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	15	1	wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	10	1.0 M	mg/Kg

ND - Not detected.

M - Method detection lim

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-13

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	10.0	0.4	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg

// - Defined in attachment. ND - Not detected.
M - Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-13

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 16:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	50	0.8 M	mg/Kg

ND - Not detected.

M - Method detection lim

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-14

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 17:08:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	ND	4 P	mg/Kg
Surrogate	**% Recovery**		
n-Pentacosane	81		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	ND	0.2 I	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	1.0	0.1 M	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

ND - Not detected.
(P) - Practical Quantitation Limit
I - Instrument detection limit
M - Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-14

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 17:08:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.04	0.01	mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	1	1	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	22	0.6 M	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	20	1	wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	13	1.0 M	mg/Kg

ND - Not detected.

M - Method detection lim

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-14

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 17:08:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	10	2	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	5.7	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg

// - Defined in attachment.

ND - Not detected.
M - Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-14

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-02 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 17:08:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	43	0.8 M	mg/Kg

ND - Not detected.

M - Method detection lim

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. 9406119-09

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	ND	4 P	mg/Kg
Surrogate	**% Recovery**		
n-Pentacosane	87		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	4	1	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	0.8	0.4	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

ND - Not detected.
// - Defined in attachment.
(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

ICPL®

Certificate of Analysis No. 9406119-09

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.04	0.01	mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	9	1	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	28	1	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	18	1	wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	12	6	mg/Kg

ND - Not detected.
M- Method detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

ICPL®

Certificate of Analysis No. 9406119-09

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	9	2	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg

ND - Not detected.
M -Method detection limit I -Instrument detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-09

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	55	1	mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-10

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	ND	4 P	mg/Kg
Surrogate	**% Recovery**		
n-Pentacosane	88		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	12	5	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	1.0	0.4	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-10

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.04	0.01	mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	16	10	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	35	1	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	18	1	wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	14	6	mg/Kg

ND - Not detected.
M- Method detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

ICPL®

Certificate of Analysis No. 9406119-10

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	10	2	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg

ND - Not detected.
I -instrument detection limit M -Method detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-10

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-03 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:55:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	57	1	mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-01

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel Mod. 8015 - Diesel Analyzed by: SEG Date: 06/13/94 11:22:01	1600	100 P	mg/Kg
Sonication extraction METHOD 3550 Analyzed by: LJ Date: 06/08/94	06/08/94		
Silver, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	0.6	mg/Kg
Arsenic, Total METHOD 7060 *** Analyzed by: WFL Date: 06/15/94	9	0.2 I	mg/Kg
Beryllium, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	0.6	0.1 M	mg/Kg
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	2.60	0.05	mg/Kg

(P) - Practical Quantitation Limit
ND - Not detected.
I - Instrument detection limit M - Method detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-01

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	5	1	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	27	0.6 M	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	9	1	wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	10	1.0 M	mg/Kg

ND - Not detected.
M - Method detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. 9406119-01

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	16	2	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	0.4	0.2 I	mg/Kg

ND - Not detected.
M - Method detection limit I - Instrument detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-01

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:20:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	96	10	mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

JPL®

Certificate of Analysis No. 9406119-02

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:40:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	ND	4 P	mg/Kg
Surrogate	**% Recovery**		
n-Pentacosane	94		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	6	0.2 I	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	0.8	0.1 M	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

ND - Not detected.
M- Method deteciton limit

(P) - Practical Quantitation Limit
I -Instrument detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL

Certificate of Analysis No. 9406119-02

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:40:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.03	0.01	mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	8	1	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	15	0.6 M	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	16	1	wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	10	1 M	mg/Kg

ND - Not detected.
M -Method detection limits
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. 9406119-02

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:40:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	10.0	0.4	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg

ND - Not detected.
M -Method dettection limit
I - Instrument detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-02

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-04 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 11:40:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	33	0.8 M	mg/Kg

ND - Not detected.
M -Method deteciton limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-03

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:15:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	370	4 P	mg/Kg
Surrogate	**% Recovery**		
n-Pentacosane	75		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	15	5	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	0.6	0.1 M	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

(P) - Practical Quantitation Limit // - Defined in attachment.
ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-03

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:15:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.75	0.01	mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	30	10	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	20	0.6 M	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	4	1	wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	8	1 M	mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-03

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:15:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	23	2	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	4.4	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	0.6	0.2 I	mg/Kg

ND - Not detected.
M - Method detection limit
I - Instrument detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-03

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:15:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	91	10	mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-04

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:18:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	ND	4 P	mg/Kg
Surrogate	**% Recovery**		
n-Pentacosane	92		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	ND	5	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	1.2	0.1 M	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

ND - Not detected.
(P) - Practical Quantitation Limit
M- Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. 9406119-04

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:18:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.02	0.01	mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	10	4	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	13	0.6 M	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	16	1	wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	10	1.0 M	mg/Kg

ND - Not detected.
M- Method detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. 9406119-04

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:18:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	9.4	0.4	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	3.3	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg

ND - Not detected.
M- Method detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-04

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-05 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:18:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	30	0.8 M	mg/Kg

ND - Not detected.
M- Method detectio limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-05

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	20	4 P	mg/Kg
Surrogate	**% Recovery**		
n-Pentacosane	153 *		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	6	5	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	0.7	0.4	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

(P) - Practical Quantitation Limit
// - Defined in attachment.
* - Defined in attachment.
ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

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Certificate of Analysis No. 9406119-05

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.90	0.01	mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	10	2	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	22	1	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/K
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	15	1	wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	17	6	mg/Kg

ND - Not detected.
M -Method detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-05

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	16	2	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg

ND - Not detected.
M - Method detection limit
I - Instrument detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

ICPL®

Certificate of Analysis No. 9406119-05

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 13:50:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	57	1	mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-06

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 14:10:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	ND	4 P	mg/Kg
Surrogate	**% Recovery**		
n-Pentacosane	86		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	2	1	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-06

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 14:10:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Beryllium, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	0.1 M	mg/Kg
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.01	0.01	mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	2.3	0.2	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	6	1	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	13	1	wt. %

ND - Not detected.
M- Method deteciton limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-06

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 14:10:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	1.0 M	mg/K
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	4.9	0.4	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M	mg/Kg

ND - Not detected.

M -Method detection limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-06

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-06 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 14:10:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	20	1	mg/Kg

ND - Not detected.
I - Instrument detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

IPL®

Certificate of Analysis No. 9406119-07

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:00:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	23	4 P	mg/Kg
Surrogate	**% Recovery**		
n-Pentacosane	130		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	8	5	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	0.7	0.4	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

(P) - Practical Quantitation Limit // - Defined in attachment.
ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-07

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:00:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.19	0.01	mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	8	1	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	17	1	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	8	1	wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	13	6	mg/Kg

ND - Not detected.
M -Method detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

718 668 0084 PAGE.011
JUL 28 '94 8:45

ICPL®

Certificate of Analysis No. 9406119-07

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:00:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	8.4	0.4	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/

ND - Not detected.
M - Method dettection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

P.03/04 8004 668 713
JUL 28 '94 3:26

Certificate of Analysis No. 9406119-07

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:00:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	49	1	mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-08

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:07:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Total Petroleum Hydrocarbons-Diesel	ND	4 P	mg/Kg
Surrogate	**% Recovery**		
n-Pentacosane	86		
Mod. 8015 - Diesel			
Analyzed by: SEG			
Date: 06/13/94 11:22:01			
Sonication extraction	06/08/94		
METHOD 3550			
Analyzed by: LJ			
Date: 06/08/94			
Silver, Total	ND	0.6	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			
Arsenic, Total	9	5	mg/Kg
METHOD 7060 ***			
Analyzed by: WFL			
Date: 06/15/94			
Beryllium, Total	0.9	0.4	mg/Kg
METHOD 6010 ***			
Analyzed by: DQ			
Date: 06/15/94			

ND - Not detected.
// - Defined in attachment.
(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-08

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:07:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Cadmium, Total METHOD 7131 *** Analyzed by: WFL Date: 06/16/94	0.08	0.01	mg/Kg
Chromium, Total METHOD 7191 *** Analyzed by: WFL Date: 06/17/94	9	1	mg/Kg
Copper, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	22	1	mg/Kg
Mercury, Total METHOD 7471 *** Analyzed by: JM Date: 06/08/94	ND	0.02 M	mg/Kg
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ST Date: 06/06/94	17	1	wt. %
Nickel, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	16	6	mg/Kg

ND - Not detected.
M -Method detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

ICPL®

Certificate of Analysis No. 9406119-08

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:07:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/13/94	06/13/94		
Acid Digestion-Solid, ICP METHOD 3050 Analyzed by: AM Date: 06/13/94	06/13/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/15/94	11	4	mg/Kg
Antimony, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	ND	3.0 M	mg/Kg
Selenium, Total METHOD 7740 *** Analyzed by: WFL Date: 06/15/94	ND	0.2 I	mg/Kg

ND - Not detected.
M -Method detection limit I -Instrument detection limit
Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406119-08

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Mark Escobar

DATE: 07/25/94

PROJECT: Zanesville ANG Station
SITE:
SAMPLED BY: Operational Technologies
SAMPLE ID: A-07 BH Int.2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/02/94 15:07:00
DATE RECEIVED: 06/03/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Thallium, Total METHOD 7841 *** Analyzed by: WFL Date: 06/16/94	ND	0.4	mg/Kg
Zinc, Total METHOD 6010 *** Analyzed by: DQ Date: 06/15/94	52	1	mg/Kg

ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Matrix: Soil
Sample ID: 9406272-01B
Batch ID: VARC940613112201

Reported on: 06/21/94 08:23:57
Analyzed on: 06/13/94 11:22:01
Analyst: SEG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Petroleum Hydrocarbons-Diesel (Soil)
Mod. 8015 - Diesel

COMPOUND	Sample Value mg/Kg	Spike Added mg/Kg	MS % Recovery #	MSD % Recovery #	Relative % Difference #
Petroleum Hydrocarbons	4.8	258.45	107	98	9

NOTES

column to be used to flag recovery and RPD values with an asterisk
* values outsice of QC Limits.

Idelis Williams, QC Officer

HOUSTON ENVIRONMENTAL

ICPQAQC.RC REV.4/94

ICP SPECTROSCOPY
QUALITY ASSURANCE AND CONTROL REPORT

Date of Analysis: 6-15-94 Time: 11:12 AM. Analyst: RR Units: mg/L

Inst. ☑ Thermo-Jarrell Ash 61E ☐ Perkin Elmer Plasma 40 File #: A061594 Method: ☐ 200.7 ☑ 6010 Digest: 3050P TCLP: ☐ Water ☐ Soil ☐ Other ☐ Oil Matrix: ☑ Soil ☐ Water ☐ Leachate

SPL Sample #'s In Batch:

9406354 - 3B	9406221 1d -	4d	
9406119 - 1C - 14C	9406220 - 1d	2d	
	9406417 - 1A		
	9406285 - 1A		

SPL QA/QC Sample ID: #1 9406354 - 3B #2 9406220 - 2d #3 _____

LCSS LOT # 220

Blank and Check Standard				QA/QC	Matrix Spike and Spike Duplicate Data					
Elem.	Method Blank	LCS Theoret.	LCS Rec. (±20%)	Sample Conc.	Spike Added	Spike Conc.	Spk. Dup. Conc.	Spike % Rec.	Spk. Dup. % Rec.	MS-MSD % RPD
BA	NP	1.580	91.1	1.053	2.0	2.966	2.952	95.7	95.0	1
Cd		1.310	86.3	NP	1.0	0.9173	0.9173	91.7	91.7	0
CR		1.870	90.3	0.1172		1.150	1.154	103.3	103.7	0
PB		2.080	93.6	0.2597		1.138	1.102	87.8	84.2	4
AG		0.540	83.0	NP		0.8638	0.8646	86.4	86.5	0
					-				~~88.9~~ RR	+RR
AG	NP	0.540	100.6	NP	1.0	0.8972	0.8885	89.7	88.9	1
BE		0.990	106.3	0.0043		0.9253	0.9224	92.1	91.8	0
CU		1.440	107.0	0.0380		0.9422	0.9354	90.4	89.7	1
NI		1.060	107.2	ND		0.9848	0.9637	98.5	96.4	2
SB		0.560	98.3	NP		0.6603	0.6372	66.0*	63.7*	4
ZN		2.590	110.3	0.0752		1.097	1.065	101.9	98.7	3

*Flags ☐ MS or MSD Out of QA Limits (±25%)
☐ Spike RPD Out of QA Limits (±20%)
☐ See Case Narrative
☐ Within Soil LCS Limits

Analyst _____

Supervisor Approval _____ Date 6/16/94

QA/QC Approval _____ Date 6/16/94

Idelis Williams, QC Officer

SPL QUALITY CONTROL SUMMARY

Atomic Absorption Analysis

Rev. 4/91

Element: As
Test Code: P3050G
Method: GrFAA
Instrument: 3030Z

Date: 6/15/94
Time: 07:18
File #: 0615A

Analyst WFC
Matrix: Soil ☑ Water ☐
Leachate: ☐ Water ☐ Soil ☐ Oil ☐ Other

Units mg/kg

Sample #'s in Batch

06119-1c-14c
06220-1D, 2D
06221-1D-4D

Blank and Check Standard					Matrix Spike and Spike Duplicate Data					
Sample ID	Method Blank	LCS Conc. Theoretical	LCS % Recovery	Sample Conc.	Spike Added	Spike Conc.	Spike Dup. Conc.	Spike % Rec.	Spike Dup. % Rec	% RPD
06220-2D	ND	112.0	102.0%	ND	40.0	35.6	34.9	89.0%	87.2%	2
06378-7c	ND	112.0	100.4%	12.5	40.0	56.1	55.9	109.0%*	108.5%*	0

FLAGS * * = Values Outside QC Range

- ☐ MS or MSD out of QA/QC Limits (% Rec. 75-125)
- ☑ RPD out of QA/QC Limits (20 %)
- ☑ Soil LCS % Rec. Range 54.7 - 166
- ☑ Sample used for QA/QC only
- ☐ See Case Narrative

Analyst Wallace F. Gawel Date 6/15/94

Approved By R Clucas Date 6/15/94

Idelis Williams, QC Officer Date 6/15/94

SPL QUALITY CONTROL SUMMARY

Rev. 4/94

Atomic Absorption Analysis

Element: Cd

Test Code: P3050G

Method: GFAA

Instrument: 3030Z

Date: 6/16/94

Time: 11:10

File #: 0616B

Analyst WFC

Matrix: Soil ☑ Water ☐

Leachate: ☐ Water ☐ Soil ☐ Oil ☐ Other

Units mg/kg

Sample #'s in Batch

06119-1c-14c				

Blank and Check Standard					Matrix Spike and Spike Duplicate Data					
Sample ID	Method Blank	LCS Conc. Theoretical	LCS % Recovery	Sample Conc.	Spike Added	Spike Conc.	Spike Dup. Conc.	Spike % Rec.	Spike Dup. % Rec	% RPD
06220-20	ND	131.0	82.9%	0.57	5.00	4.54	4.66	79.4%*	81.8%*	3

FLAGS * * = Values Outside QC Range

- ☐ MS or MSD out of QA/QC Limits (% Rec. 75-125)
- ☐ RPD out of QA/QC Limits (20 %)
- ☑ Soil LCS % Rec. Range 65.3-183
- ☑ Sample used for QA/QC only
- ☐ See Case Narrative

Analyst Wallace Ward Date 6/16/94

Approved By R Chitwood Date 6/17/94

Idelis Williams, QC Officer Date 6/17/94

SPL QUALITY CONTROL SUMMARY

Atomic Absorption Analysis

Rev. 4/94

Element: CR

Test Code: P3050G

Method: GFAA

Instrument: 3030Z

Date: 6/17/94

Time: 07:15

File #: 0617A

Analyst WFC

Matrix: Soil ☑ Water ☐

Leachate: ☐ Water ☐ Soil ☐ Oil ☐ Other

Units mg/kg

Sample #'s in Batch

06119-1c-14c				

Blank and Check Standard					Matrix Spike and Spike Duplicate Data					
Sample ID	Method Blank	LCS Conc. Theoretical	LCS % Recovery	Sample Conc.	Spike Added	Spike Conc.	Spike Dup. Conc.	Spike % Rec.	Spike Dup. % Rec	% RPD
06220-2D	ND	187.0	98.9%	13.6	20.0	32.8	33.2	96.0%	98.0%	2

* FLAGS *

* = Values Outside QC Range

☐ MS or MSD out of QA/QC Limits (% Rec. 75-125)

☑ RPD out of QA/QC Limits (20 %)

☑ Soil LCS % Rec. Range 10 - 261

☑ Sample used for QA/QC only

☐ See Case Narrative

Analyst Wallace F Laird Date 6/17/94

Approved By R Chuluk Date 6/17/94

Idelis Williams, QC Officer Date

SPL QUALITY CONTROL SUMMARY

Atomic Absorption Analysis

Rev. 4/91

Element: Hg
Test Code: HgSC
Method: 7471
Instrument: B3030

Date: 6/8/94
Time: 15:05
File #: a08E

Analyst JM

Matrix: Soil ☑ Water ☐

Leachate: ☐ Water ☐ Soil ☐ Oil ☐ Other

Units mg/kg

Sample #'s in Batch

9405CA0-11B-18B	9405D83-3D	9405D00-1C,2C,4C,5C,6C,7C,8C	10A,12C-14C	
9405D02-15C	9405D38-1C,2C	9405D39-1A-4A,	7A,8A,13A,14A,	19A,20A,25A,26A
9405D45-2C,3C,4C,5C,	7C,8C,10C-13C	9405D46-32A		
9406112-1A,3E,4C-6C		9406119-1C-14C		
9406220-1D,2D		9406221-1D-4D		

Sample ID	Blank and Check Standard: Method Blank	LCS Conc. Theoretical	LCS % Recovery	Sample Conc.	Matrix Spike and Spike Duplicate Data: Spike Added	Spike Conc.	Spike Dup. Conc.	Spike % Rec.	Spike Dup. % Rec	% RPD
9405CA0-11B	#1 ND	32.0	#1 74.6 *	0.25	2.00	2.04	1.98	89.5	86.5	3
9405D00-1C	#2 ND	32.0	#2 62.4 *	ND		2.08	1.97	104.0	98.5	5
9406112-1A	#3 ND	32.0	#3 72.2 *	ND		1.68	2.04	84.0	102.0	19
9406221-1D	#4 ND	32.0	#4 100.2	ND		2.36	2.21	118.0	110.5	7

FLAGS *

- * = Values Outside QC Range
- ☐ MS or MSD out of QA/QC Limits (% Rec. 75-125)
- ☐ RPD out of QA/QC Limits (20 %)
- ☑ Soil LCS % Rec. Range (53-150)
- ☐ Sample used for QA/QC only
- ☐ See Case Narrative

Analyst Joan Marroquin Date 6/8/94

Approved By Reid Charles Date 6/9/94

J Williams Date 6/9/94

Idelis Williams, QC Officer

WETDUPQA.RC Rev. 4/94

Wet Chemistry QA/QC Validation Report

Test Name: Moisture

SAM Test Code: Moisep | Date: 6/6/94 | Analyst: ST

Method Gravimetric | Time: 2:00 pm | Matrix ☐ Liquid ☑ Soil ☐ Other

# of Samples in Batch: 25 | Reporting Units: % weight

SPL Sample #'s in Batch:

9406068-3C → 4C	9406119-1C → 14C	
9406055 - 4C		
9406112 -1A, 3E, 4C → 6C		
9406121 - 1A → 3A		

Standards	Actual Concentration	Theoretical Concentration	Percent Recovery	QC Limits (**) (Mandatory) Upper Limit	Lower Limit
Blank					
Check Standard 1					
Check Standard 2					
Check Standard 3					
LCS (Outside Source)					

DUPLICATES

QA/QC Duplicate SPL Sample ID	Sample Result <1>	Sample Result <2>	Relative Percent Difference	QC LIMITS (**) (Advisory) Relative Percent Difference Max.
9406055-4C	12	12	0	30.4
9406112-6C	18	20	10.5	↓
9406119-6C	12	13	8.0	
9406119-10C	17	18	5.7	
9406119-14C	20	20	0	

Relative Percent Difference (RPD) Calculation:

$$RPD = \frac{|<1> - <2>|}{(<1> + <2>) \times 0.5} \times 100$$

(**) = Source: SPL Houston Historical Data

* = Indicates Value Outside QA/QC Range

Approved By: [signature] Date: 6/7/94

Reviewed By: [signature] Date: 6/6/94

[signature] Date: 6/7/94

Idelis Williams, QC Officer

SPL QUALITY CONTROL SUMMARY

Atomic Absorption Analysis

Rev. 4/94

Element: PB

Test Code: P3050G

Method: GFAA

Instrument: 30302

Date: 6/15/94

Time: 07:15

File #: 0615A

Analyst WFC

Matrix: Soil ☑ Water ☐

Leachate: ☐ Water ☐ Soil ☐ Oil ☐ Other

Units mg/kg

Sample #'s in Batch

06119-1c-4c	06378-7c			
06282-5D				
06298-1c				
06405-3c, 4c				
06348-7D				

Blank and Check Standard					Matrix Spike and Spike Duplicate Data					
Sample ID	Method Blank	LCS Conc. Theoretical	LCS % Recovery	Sample Conc.	Spike Added	Spike Conc.	Spike Dup. Conc.	Spike % Rec.	Spike Dup. % Rec	% RPD
06378-7c	ND	122.0	85.7%	41.0	40.0	70.0	71.2	72.5%	75.5%	4
06220-2D	ND	122.0	73.9%	16.3	40.0	46.4	46.8	75.2%	76.2%	1

FLAGS *

* = Values Outside QC Range

☐ MS or MSD out of QA/QC Limits (% Rec. 75-125)

☐ RPD out of QA/QC Limits (20 %)

☑ Soil LCS % Rec. Range 62.3 - 178

☑ Sample used for QA/QC only

☑ See Case Narrative

Analyst Wallace Fawal Date 6/15/94

Approved By R Chmielewski Date 6/15/94

R J Williams Date 6/16/94

Idelis Williams, QC Officer

SPL QUALITY CONTROL SUMMARY

Atomic Absorption Analysis

Rev 4/94

Element: Sb
Test Code: P3050G
Method: GFAA
Instrument: 3030Z

Date: 6/15/94
Time: 12:49
File #: 0615B

Analyst WFE

Matrix: Soil ☑ Water ☐

Leachate: ☐ Water ☐ Soil ☐ Oil ☐ Other

Units mg/kg

Sample #'s in Batch

6119-1C-14C			
6220-1B, 2B			
6221-1B-4B			
6062-1B-3B			

Blank and Check Standard					Matrix Spike and Spike Duplicate Data					
Sample ID	Method Blank	LCS Conc. Theoretical	LCS % Recovery	Sample Conc.	Spike Added	Spike Conc.	Spike Dup. Conc.	Spike % Rec.	Spike Dup. % Rec	% RPD
6220-2B	MB	122.0	98.8%	MB	30.0	28.2	28.6	94.0%	95.3%	1
6378-7C	MB	122.0	105.1%	MB	30.0	26.0	28.4	*86.7%	*94.7%	9
6062-3B	MB	122.0	104.4%	49.4	30.0	78.0	79.2	95.3%	99.3%	4
LCS 6/14	MB	122.0	95.7%	NA	30.0					

FLAGS *

* = Values Outside QC Range

- ☐ MS or MSD out of QA/QC Limits (% Rec. 75-125)
- ☑ RPD out of QA/QC Limits (20 %)
- ☑ Soil LCS % Rec. Range 62.3 - 178.0
- ☑ Sample used for QA/QC only
- ☐ See Case Narrative

Analyst Wally T Gawel Date 6/15/94

Approved By R Clarke Date 6/16/94

Idelis Williams, QC Officer Date 6/16/94

SPL QUALITY CONTROL SUMMARY

Atomic Absorption Analysis

Element: TL

Test Code: P3050G

Method: GFAA

Instrument: 3030Z

Date: 6/16/94

Time: 07:18

File #: 0616A

Analyst WFC

Matrix: Soil ☑ Water ☐

Leachate: ☐ Water ☐ Soil ☐ Oil ☐ Other

Units mg/kg

Sample #'s in Batch

06119-1c-14c				

Blank and Check Standard					Matrix Spike and Spike Duplicate Data					
Sample ID	Method Blank	LCS Conc. Theoretical	LCS % Recovery	Sample Conc.	Spike Added	Spike Conc.	Spike Dup. Conc.	Spike % Rec.	Spike Dup. % Rec	% RPD
F 06220-2D	ND	134.0	101.5%	MS	50.0	45.3	46.0	90.6%	92.0%	2

FLAGS * * = Values Outside QC Range

- ☐ MS or MSD out of QA/QC Limits (% Rec. 75-125)
- ☐ RPD out of QA/QC Limits (20 %)
- ☑ Soil LCS % Rec. Range 67 - 205
- ☑ Sample used for QA/QC only
- ☐ See Case Narrative

Analyst Wallace F Tarver Date 6/16/94

Approved By [signature] Date 6-16-94

[signature] Date 6-16-94

Idelis Williams, QC Officer

SpecTech

0616B

PROGRAMMING MODE INSTRUMENT USER METH # 11 - CD DATE: 91/06/16

ELEMENT: CD WAVELENGTH (NM): 228.8 SLIT (NM): 0.7
PYRO COATED TUBE WITH PLATFORM - MAX POWER HEATING - GAS STOP - MATRIX MOD.
PRETREAT TEMP: 900 ATOMIZE TEMP: 1600 CHARACT. MASS (PG) 0.35

1. TECHNIQUE: ZEEMAN
2. LAMP CURRENT (MA): 5
3. SIGNAL PROCESSING: PEAK AREA
4. CALIBRATION: AUTO SELECT
5. TIME (SECONDS): 5.0
6. READ DELAY (SECONDS): 0.0
7. SCREEN FORMAT: 1.0 GRAPHICS
8. PRINTER: MAIN SUPPL
9. RECORDER SIGNAL: 0.2 CONT ABS
10. RECORDER EXP: 1000
11. STATISTICS: 2 AVERAGE & CV
12. NOMINAL WEIGHT 1.0
13. ROLLOVER(ABS): 1.000
14. BG SCALE: 1.0

15. S1: 2.50
16. S2: 5.00
17. S3: 10.00
18. S4:
19. S5:
20. S6:
21. S7:
22. S8:
23. PSLP: 5.00

0616B

CD TIME: 11:10

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.010	0.010	0.002
PEAK AREA (ABS-SECONDS)	0.007	0.007	0.000

READ: 0.006

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.008	0.009	0.002
PEAK AREA (ABS-SECONDS)	0.001	0.002	0.007

READ: 0.001

MEAN= 0.004 STD.DEV.= COEF.VAR.= 87.41 %

****

0.000 AUTOZERO

****

CD

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.679	0.570	0.109
PEAK AREA (ABS-SECONDS)	0.390	0.330	0.060

PEAD: 0.325

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.680	0.570	0.110
PEAK AREA (ABS-SECONDS)	0.391	0.329	0.062

READ: 0.324

MEAN= 0.325 STD.DEV.= COEF.VAR.= 0.20 %

****

2.50 STANDARD 1

****

CD

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.158	0.951	0.209
PEAK AREA (ABS-SECONDS)	0.710	0.596	0.114

CD

	AA	ZAA	SC
PEAK HEIGHT (ABSORBANCE)	0.013	0.012	0.002
PEAK AREA (ABS-SECONDS)	0.005	0.007	0.002

READ: 0.002

	AA	ZAA	SC
PEAK HEIGHT (ABSORBANCE)	0.009	0.003	0.004
PEAK AREA (ABS-SECONDS)	0.004	0.004	0.00[illegible]

READ: -0.001

BLF

MEAN= 0.001 STD.DEV.= COEF.VAR.= 99.00 %

****

0.000 AUTOZERO

****

CD

	AA	ZAA	SC
PEAK HEIGHT (ABSORBANCE)	0.666	0.555	0.11[illegible]
PEAK AREA (ABS-SECONDS)	0.383	0.321	0.06[illegible]

READ: 0.315

	AA	ZAA	SC
PEAK HEIGHT (ABSORBANCE)	0.652	0.544	0.11[illegible]
PEAK AREA (ABS-SECONDS)	0.378	0.317	0.06[illegible]

READ: 0.311

S1

MEAN= 0.313 STD.DEV.= COEF.VAR.= 0.53 %

****

2.50 STANDARD 1

****

CD

	AA	ZAA	SC
PEAK HEIGHT (ABSORBANCE)	1.116	0.909	0.21[illegible]
PEAK AREA (ABS-SECONDS)	0.693	0.569	0.12[illegible]

READ: 4.49

	AA	ZAA	SC
PEAK HEIGHT (ABSORBANCE)	1.107	0.894	0.211
PEAK AREA (ABS-SECONDS)	0.686	0.568	0.118

READ: 4.49

S2

MEAN= 4.49 STD.DEV.= COEF.VAR.= 0.06 %

****

4.49

E-50: READING GREATER THAN HIGHEST STANDARD

****

5.00 STANDARD 2

PEAK HEIGHT (ABSORBANCE)	1.617	1.242	0.409
PEAK AREA (ABS-SECONDS)	1.157	0.919	0.234

READ: 9.64

(CONTINUED)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.602	1.197	0.41
PEAK AREA (ABS-SECONDS)	1.168	0.925	0.21

READ: 9.74

MEAN= 9.69 STD.DEV.= S3 COEF.VAR.= 0.93 %

****

9.69

E-50: READING GREATER THAN HIGHEST STANDARD

****

10.00 STANDARD 3

****

CD 0005

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.114	0.900	0.217
PEAK APEA (ABS-SECONDS)	0.690	0.565	0.125

READ: 4.96

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.108	0.894	0.21(
PEAK AREA (ABS-SECONDS)	0.698	0.569	0.129

READ: 5.01

ICV

MEAN= 4.98 STD.DEV.= COEF.VAR.= 0.78 %

****

CD 0006

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.011	0.010	0.003
PEAK AREA (ABS-SECONDS)	0.003	0.002	0.001

READ: -0.03

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.008	0.006	0.003
PEAK AREA (ABS-SECONDS)	0.002	0.003	0.001

READ: -0.02

ICB

MEAN= -0.02 STD.DEV.= COEF.VAR.= 18.27 %

****

CD 0007

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.008	0.007	0.003
PEAK AREA (ABS-SECONDS)	0.002	0.002	0.000

READ:

PEAK AREA (ABS-SECONDS) 0.000 0.001 0.001 0.001

READ: -0.04

PB 6/19/01

MEAN= -0.04 STD.DEV.= COEF.VAR.= 35.30 %

****

CD 0008

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.128	0.884	0.248
PEAK AREA (ABS-SECONDS)	0.755	0.606	0.149

READ: 5.43

(5.37)(200)(100) = 107.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.116	0.875	0.241
PEAK AREA (ABS-SECONDS)	0.746	0.596	0.150

1000 = 1374.0

READ: 5.32

PBS 200% = 32.0%

MEAN= 5.37 STD.DEV.= COEF.VAR.= 1.83 %

****

CD 0009

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.611	1.152	0.459
PEAK AREA (ABS-SECONDS)	2.397	1.769	0.628

See dilution

READ: 85.88

06119-1c

CD 0010

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.079	0.063	0.016
PEAK AREA (ABS-SECONDS)	0.154	0.037	0.117

READ: 0.24

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.079	0.068	0.011
PEAK AREA (ABS-SECONDS)	0.057	0.040	0.017

READ: 0.25

-2c

MEAN= 0.25 STD.DEV.= COEF.VAR.= 1.64 %

****

CD 0011

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.809	0.668	0.142
PEAK AREA (ABS-SECONDS)	1.016	0.775	0.241

READ: 7.64

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.780	0.648	0.135
PEAK AREA (ABS-SECONDS)	0.979	0.755	0.224

READ: 7.35

-3c

MEAN= 7.49 STD.DEV.= COEF.VAR.= 3.52 %

****

CD 0012

READ: 0.19

	AA	ZAA	B
PEAK HEIGHT (ABSORBANCE)	0.068	0.057	0.061
PEAK AREA (ABS-SECONDS)	0.127	0.037	0.090

READ: 0.23

-4c

MEAN= 0.21 STD.DEV.= COEF.VAR.= 14.82 %

****

CD 0013

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.530	1.150	0.380
PEAK AREA (ABS-SECONDS)	1.162	0.872	0.289

READ: 9.15

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.499	1.151	0.348
PEAK AREA (ABS-SECONDS)	1.099	0.848	0.251

READ: 8.75

-5c

MEAN= 8.95 STD.DEV.= COEF.VAR.= 4.21 %

****

CD 0014

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.051	0.043	0.010
PEAK AREA (ABS-SECONDS)	0.038	0.022	0.016

READ: 0.12

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.045	0.038	0.008
PEAK AREA (ABS-SECONDS)	0.025	0.018	0.007

READ: 0.09

-6c

MEAN= 0.11 STD.DEV.= COEF.VAR.= 20.30 %

****

CD 0015

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.466	0.388	0.078
PEAK AREA (ABS-SECONDS)	0.389	0.246	0.143

READ: 1.87

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.473	0.394	0.079
PEAK AREA (ABS-SECONDS)	0.404	0.250	0.154

READ: 1.90

-7c

MEAN= 1.92 STD.DEV.=

PEAK HEIGHT (ABSORBANCE)	0.240	0.199	0.04
PEAK AREA (ABS-SECONDS)	0.183	0.120	0.06

READ: 0.85

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.220	0.182	0.037
PEAK AREA (ABS-SECONDS)	0.146	0.110	0.035

READ: 0.78 -8c

MEAN= 0.81 STD.DEV.= , COEF.VAR.= 6.41 %

****

CID 0017

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.143	0.116	0.026
PEAK AREA (ABS-SECONDS)	0.093	0.067	0.026

READ: 0.45

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.136	0.113	0.024
PEAK AREA (ABS-SECONDS)	0.094	0.066	0.028

READ: 0.44 -9c

MEAN= 0.44 STD.DEV.= COEF.VAR.= 1.39 %

****

CID 0018

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.139	0.117	0.023
PEAK AREA (ABS-SECONDS)	0.085	0.064	0.021

READ: 0.42

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.138	0.116	0.022
PEAK AREA (ABS-SECONDS)	0.087	0.064	0.024

READ: 0.42 -10c

MEAN= 0.42 STD.DEV.= COEF.VAR.= 0.01 %

****

CID 0019

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.109	0.897	0.211
PEAK AREA (ABS-SECONDS)	0.746	0.609	0.137

READ: 5.46

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.102	0.894	0.210
PEAK AREA (ABS-SECONDS)	0.737	0.602	0.135

READ: 5.38 CAL

MEAN= 5.42 STD.DEV.= COEF.VAR.= 1.17 %

****

CD 0020

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.018	0.016	0.004
PEAK AREA (ABS-SECONDS)	0.014	0.009	0.005

READ: 0.03

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.015	0.014	0.004
PEAK AREA (ABS-SECONDS)	0.011	0.008	0.003

READ: 0.01

CCB

MEAN= 0.02 STD.DEV.= COEF.VAR.= 45.98 %

****

CD 0021

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.500	1.174	0.326
PEAK AREA (ABS-SECONDS)	1.506	1.174	0.332

READ: 15.79

Std dilution

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.436	1.145	0.299
PEAK AREA (ABS-SECONDS)	1.491	1.162	0.329

READ: 15.41

11c

MEAN= 15.60 STD.DEV.= COEF.VAR.= 2.54 %

****

15.60

E-50: READING GREATER THAN HIGHEST STANDARD

****

CD 0022

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.090	0.075	0.016
PEAK AREA (ABS-SECONDS)	0.069	0.043	0.026

READ: 0.27

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.079	0.065	0.014
PEAK AREA (ABS-SECONDS)	0.053	0.039	0.014

READ: 0.24

12c

MEAN= 0.26 STD.DEV.= COEF.VAR.= 8.55 %

****

CD 0023

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.431	0.358	0.073
PEAK AREA (ABS-SECONDS)	0.299	0.228	0.071

READ: 1.72

13c

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.444	0.370	0.074
PEAK AREA (ABS-SECONDS)	0.286	0.223	0.063

CD 0024

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.108	0.091	0.020
PEAK AREA (ABS-SECONDS)	0.079	0.056	0.029

READ: 0.37

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.110	0.091	0.020
PEAK AREA (ABS-SECONDS)	0.072	0.054	0.018

READ: 0.35

-14c

MEAN= 0.36 STD.DEV.= COEF.VAR.= 3.42 %

CD 0025

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.166	0.138	0.028
PEAK AREA (ABS-SECONDS)	0.116	0.084	0.032

READ: 0.58

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.161	0.135	0.026
PEAK AREA (ABS-SECONDS)	0.109	0.081	0.028

READ: 0.55

06220-2) (QC Sh (4)

MEAN= 0.57 STD.DEV.= COEF.VAR.= 3.08 %

CD 0026

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.035	0.855	0.180
PEAK AREA (ABS-SECONDS)	0.638	0.522	0.116

READ: 4.49

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.045	0.858	0.187
PEAK AREA (ABS-SECONDS)	0.658	0.530	0.128

READ: 4.58

-2) Sp 1

MEAN= 4.54 STD.DEV.= COEF.VAR.= 1.59 %

CD 0027

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.049	0.858	0.190
PEAK AREA (ABS-SECONDS)	0.648	0.533	0.115

READ: 4.61

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.058	0.867	0.191
PEAK AREA (ABS-SECONDS)	0.665	0.542	0.123

READ: 4.71

-2) Dup Sp 1

MEAN=

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.778	0.644	0.13
PEAK AREA (ABS-SECONDS)	0.753	0.579	0.17

READ: 5.12

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.772	0.640	0.133
PEAK AREA (ABS-SECONDS)	0.748	0.577	0.171

061119-1c 3X

READ: 5.10

MEAN= 5.11 STD.DEV.= COEF.VAR.= 0.27 %

****

CD 0029

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.474	0.397	0.07
PEAK AREA (ABS-SECONDS)	0.431	0.307	0.12

READ: 2.40

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.475	0.397	0.07
PEAK AREA (ABS-SECONDS)	0.430	0.312	0.11

-11c 3X

READ: 2.44

MEAN= 2.42 STD.DEV.= COEF.VAR.= 1.45 %

****

CD 0030

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.767	0.635	0.13
PEAK AREA (ABS-SECONDS)	0.759	0.586	0.17

READ: 5.20

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.764	0.633	0.131
PEAK AREA (ABS-SECONDS)	0.756	0.585	0.17

CCB2

READ: 5.19

MEAN= 5.19 STD.DEV.= COEF.VAR.= 0.22 %

****

CD 0031

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.010	0.002	0.005
PEAK AREA (ABS-SECONDS)	0.013	0.004	0.009

CCB2

READ: -0.01

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.008	0.008	0.001
PEAK AREA (ABS-SECONDS)	0.012	0.008	0.005

UserTech
9/26/19

PROGRAMMING MODE INSTRUMENT USER METH # 37 - AS

ELEMENT: AS WAVELENGTH (NM): 193.7 SLIT (NM): 0.7
PYRO COATED TUBE WITH PLATFORM - MAX POWER HEATING - GAS STOP - QUARTZ WOOL
PRETREAT TEMP: 1300 ATOMIZE TEMP: 2300 CHARACT. MASS (PG): 17.0

1. TECHNIQUE: ZEEMAN
2. LAMP CURRENT (MA): 9
3. SIGNAL PROCESSING: PEAK AREA
4. CALIBRATION: LINEAR
5. TIME (SECONDS): 5.0
6. READ DELAY (SECONDS): 1.0
7. SCREEN FORMAT: 1.0 GRAPHICS
8. PRINTER: MAIN SUPPLY
9. RECORDER SIGNAL: 0.2 CONT ABS
10. RECORDER EXP: 1.00
11. STATISTICS: 2 AVERAGE & CV
12. NOMINAL WEIGHT: 1.0
13. ROLLOVER(ABS): 2.000
14. BG SCALE: 1.0

15. S1: 25.0
16. S2: 50.0
17. S3: 100.0
18. S4:
19. S5:
20. S6:
21. S7:
22. S8:
23. BLANK: 0.0

0615A

AS

TIME: 07:53

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.028	0.024	0.019
PEAK AREA (ABS-SECONDS)	0.026	0.005	0.021

READ: 0.005

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.031	0.023	0.018
PEAK AREA (ABS-SECONDS)	0.030	0.009	0.020

READ: 0.009

MEAN= 0.007 STD.DEV.= COEF.VAR.= 41.95 %

0.000 AUTOZERO

AS

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.312	0.293	0.020
PEAK AREA (ABS-SECONDS)	0.159	0.135	0.024

READ: 0.128

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.324	0.294	0.030
PEAK AREA (ABS-SECONDS)	0.171	0.140	0.031

READ: 0.133

S1

MEAN= 0.130 STD.DEV.= COEF.VAR.= 2.45 %

25.0 STANDARD 1

AS

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.602	0.571	0.031
PEAK AREA (ABS-SECONDS)	0.304	0.274	0.030

READ: 1.5

MEAN= 1.0 STD.DEV.= COEF.VAR.= 85.72

****

AS 0007

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.031	0.030	0.018
PEAK AREA (ABS-SECONDS)	0.025	0.012	0.013

READ: 1.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.026	0.026	0.022
PEAK AREA (ABS-SECONDS)	0.0[illegible]	0.013	0.020

READ: 1.2

MEAN= 1.1 STD.DEV.= COEF.VAR.= 15.61

****

AS 0008

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.731	0.663	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.349	0.295	0.051

READ: 56.3

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.839	0.769	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.[illegible]	0.303	0.[illegible]

READ: 57.8

MEAN= 57.1 STD.DEV.= COEF.VAR.= 1.88

****

AS 0009

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.938	1.[illegible]96	1.[illegible]
PEAK AREA (ABS-SECONDS)	0.922	0.516	0.[illegible]

READ: 99.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.547	1.301	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.925	0.464	0.461

READ: 89.5

MEAN= 94.6 STD.DEV.= COEF.VAR.= 7.55

****

AS 0010

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	4.470	[illegible]94	[illegible]
PEAK AREA (ABS-SECONDS)	[illegible]	[illegible]	[illegible]

+CD

PB 6/13

$\frac{(57.1)(20)(100)}{1000} = \frac{114.2}{112.0} = 102.0\%$

PBS

20X

06119-1C

See dilution

PEAK AREA (ABS-SECONDS)	0.309	0.[illegible]	0.[illegible]

READ: 51.2

S2

MEAN= 51.2 STD.DEV.= COEF.VAR.= 0.06 %

****

51.2

E-50: READING GREATER THAN HIGHEST STANDARD

****

50.2 STANDARD 2

****

AS

	AA	ZAA	EA
PEAK HEIGHT (ABSORBANCE)	1.228	1.158	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.560	0.514	0.[illegible]

READ: 95.5

(CONTINUED)

	AA	ZAA	EA
PEAK HEIGHT (ABSORBANCE)	1.307	1.241	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.557	0.508	0.[illegible]

READ: 94.3

S3

MEAN= 94.9 STD.DEV.= COEF.VAR.= 0.97 %

****

94.9

E-50: READING GREATER THAN HIGHEST STANDARD

****

98.7 STANDARD 3

****

AS 0005

	AA	ZAA	EA
PEAK HEIGHT (ABSORBANCE)	0.667	0.629	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.282	0.250	0.[illegible]

READ: 47.5

	AA	ZAA	EA
PEAK HEIGHT (ABSORBANCE)	0.674	0.631	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.308	0.271	0.[illegible]

READ: 51.7

ICV

MEAN= 49.6 STD.DEV.= COEF.VAR.= 5.93 %

****

AS 0006

	AA	ZAA	EA
PEAK HEIGHT (ABSORBANCE)	0.028	0.[illegible]	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.030	0.[illegible]	[illegible]

READ: 0.4

AS 0011

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	3.441	2.913	
PEAK AREA (ABS-SECONDS)	1.313	0.732	

READ: 141.9
E-87: VALUE GREATER THAN ROLLOVER ABSORBANCE

AS 0012

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	4.456	3.030	
PEAK AREA (ABS-SECONDS)	1.744	0.887	

READ: 54.9
E-87: VALUE GREATER THAN ROLLOVER ABSORBANCE

AS 0013

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	2.918	1.437	
PEAK AREA (ABS-SECONDS)	1.430	0.730	

READ: 58.4

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	4.459	3.908	
PEAK AREA (ABS SECONDS)	1.408	0.278	

READ: 53.0
E-87: VALUE GREATER THAN ROLLOVER ABSORBANCE

MEAN= 53.2 STD.DEV.= COEF.VAR.= 0.59

AS 0014

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.793	0.346	
PEAK AREA (ABS-SECONDS)	0.445	0.122	

READ: 22.4

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.633	0.192	
PEAK AREA (ABS-SECONDS)	0.454	0.122	

READ: 22.5

MEAN= 22.4 STD.DEV.= COEF.VAR.= 0.16

AS 0015

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	4.464	3.210	
PEAK AREA (ABS-SECONDS)	1.527	0.590	

READ: 112.3
E-87: VALUE GREATER THAN ROLLOVER ABSORBANCE

AS 0016

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	4.467		
PEAK AREA (ABS-SECONDS)			

AS 0017

	AA	[illegible]	[illegible]
PEAK HEIGHT (ABSORBANCE)	2.342	0.650	.111
PEAK AREA (ABS-SECONDS)	1.471	0.193	1 [illegible]

READ: 36.4

	AA	[illegible]	[illegible]
PEAK HEIGHT (ABSORBANCE)	2.242	0.652	[illegible]
PEAK AREA (ABS-SECONDS)	1.458	0.248	[illegible]

READ: 47.1

— 9c

MEAN= 41.8 STD.DEV.= COEF.VAR.= [illegible]

AS 0018

	AA	[illegible]	[illegible]
PEAK HEIGHT (ABSORBANCE)	5.456	[illegible]	
PEAK AREA (ABS-SECONDS)	3.017	[illegible]	

READ: 123.0

— 10c

E-87: VALUE GREATER THAN ROLLOVER ABSORBANCE

AS 0019

	AA	[illegible]	[illegible]
PEAK HEIGHT (ABSORBANCE)	0.648	[illegible]	[illegible]
PEAK AREA (ABS-SECONDS)	0.291	[illegible]	[illegible]

READ: 49.7

	AA	[illegible]	[illegible]
PEAK HEIGHT (ABSORBANCE)	0.692	0.650	[illegible]
PEAK AREA (ABS-SECONDS)	0.294	[illegible]	[illegible]

READ: 49.8

CCV1

MEAN= 49.8 STD.DEV.= COEF.VAR.= 0.17

AS 0020

	AA	[illegible]	[illegible]
PEAK HEIGHT (ABSORBANCE)	0.026	0.028	[illegible]
PEAK AREA (ABS-SECONDS)	0.031	[illegible]	[illegible]

READ: 0.8

	AA	[illegible]	[illegible]
PEAK HEIGHT (ABSORBANCE)	0.036	0.029	[illegible]
PEAK AREA (ABS-SECONDS)	0.034	[illegible]	[illegible]

READ: 0.4

CCB1

MEAN= 0.6 STD.DEV.= COEF.VAR.= 46.2[illegible]

AS 0021

	AA	[illegible]	[illegible]
PEAK HEIGHT (ABSORBANCE)	4.456	[illegible]	[illegible]
PEAK AREA (ABS-SECONDS)	1.637	[illegible]	[illegible]

— 11c

READ: [illegible]

PEAK HEIGHT (ABSORBANCE)	AA 1.106	ZAA 0.107	BC 1.05
PEAK AREA (ABS-SECONDS)	0.626	0.036	0.60

READ: 15.5

PEAK HEIGHT (ABSORBANCE)	AA 1.196	ZAA 0.208	BC 1.05
PEAK AREA (ABS-SECONDS)	0.677	0.087	0.593

READ: 15.6

-12c

MEAN= 15.5 STD.DEV.= COEF.VAR.= 0.58

****

AS 0023

PEAK HEIGHT (ABSORBANCE)	AA 1.158	ZAA 0.232	BC 1.05
PEAK AREA (ABS-SECONDS)	0.739	0.129	0.610

READ: 23.9

PEAK HEIGHT (ABSORBANCE)	AA 1.150	ZAA 0.265	BC 1.05
PEAK AREA (ABS-SECONDS)	0.726	0.131	0.595

READ: 24.2

-13c

MEAN= 24.1 STD.DEV.= COEF.VAR.= 0.90

****

AS 0024

PEAK HEIGHT (ABSORBANCE)	AA 5.441	ZAA 0.309	BC 5.13
PEAK AREA (ABS-SECONDS)	2.010	0.375	1.63

READ: 52.4

-14c

E-07: VALUE GREATER THAN ROLLOVER ABSORBANCE

AS 0025

PEAK HEIGHT (ABSORBANCE)	AA 0.478	ZAA 0.072	BC 0.406
PEAK AREA (ABS-SECONDS)	0.266	0.025	0.241

READ: 3.5

PEAK HEIGHT (ABSORBANCE)	AA 0.502	ZAA 0.077	BC 0.424
PEAK AREA (ABS-SECONDS)	0.271	0.041	0.230

READ: 6.6

06220-15

MEAN= 5.1 STD.DEV.= COEF.VAR.= 42.65

****

AS 0026

PEAK HEIGHT (ABSORBANCE)	AA 0.351	ZAA 0.085	BC 0.266
PEAK AREA (ABS-SECONDS)	0.189	0.043	0.146

READ: 7.1

READ: 6.5

MEAN= 6.8 STD.DEV.= COEF.VAR.= 5.4

AS 0027

	AA	BAA	
PEAK HEIGHT (ABSORBANCE)	0.576	0.211	0.2
PEAK AREA (ABS-SECONDS)	0.354	0.104	0.1

READ: 34.6

	AA	BAA	
PEAK HEIGHT (ABSORBANCE)	0.603	0.245	
PEAK AREA (ABS-SECONDS)	0.373	0.104	

READ: 36.6

MEAN= 35.6 STD.DEV.= COEF.VAR.= 3.94

AS 0028

	AA	BAA	
PEAK HEIGHT (ABSORBANCE)	0.591	0.298	
PEAK AREA (ABS-SECONDS)	0.357	0.131	

READ: 34.1

	AA	BAA	
PEAK HEIGHT (ABSORBANCE)	0.600	0.325	
PEAK AREA (ABS-SECONDS)	0.360	0.133	

READ: 35.7

MEAN= 34.9 STD.DEV.= COEF.VAR.= 3.31

AS 0029

	AA	BAA	
PEAK HEIGHT (ABSORBANCE)	0.545	0.134	0.4
PEAK AREA (ABS-SECONDS)	0.324	0.056	0.2

READ: 9.6

	AA	BAA	
PEAK HEIGHT (ABSORBANCE)	0.577	0.238	0.5
PEAK AREA (ABS-SECONDS)	0.341	0.098	0.2

READ: 9.6

MEAN= 9.6 STD.DEV.= COEF.VAR.= 0.16

AS 0030

	AA	BAA	
PEAK HEIGHT (ABSORBANCE)	4.461		
PEAK AREA (ABS-SECONDS)	1.112		

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	4.463	2.731	0.211
PEAK AREA (ABS-SECONDS)	1.551	0.076	1.4

READ: 13.5

E-87: VALUE GREATER THAN ROLLOVER ABSORBANCE

-2S

MEAN= 1.7 STD.DEV.= COEF.VAR.= 99.99 %

****

AS 0031

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.013	0.286	0.024
PEAK AREA (ABS-SECONDS)	0.575	0.034	0.101

READ: 15.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.128	0.253	0.027
PEAK AREA (ABS-SECONDS)	0.645	0.080	0.023

READ: 14.3

-3S

MEAN= 14.7 STD.DEV.= COEF.VAR.= 3.74 %

****

AS 0032

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.272	0.058	0.221
PEAK AREA (ABS-SECONDS)	0.177	0.024	0.153

READ: 3.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.228	0.061	0.191
PEAK AREA (ABS-SECONDS)	0.139	0.035	0.104

READ: 5.5

-4S

MEAN= 4.5 STD.DEV.= COEF.VAR.= 33.87 %

****

AS 0033

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.631	0.595	0.037
PEAK AREA (ABS-SECONDS)	0.293	0.256	0.039

READ: 48.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.656	0.621	0.040
PEAK AREA (ABS-SECONDS)	0.289	0.252	0.037

READ: 47.9

CCV-2

MEAN= 48.3 STD.DEV.= COEF.VAR.= 1.13 %

****

AS 0034

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.024	0.022	0.001
PEAK AREA (ABS-SECONDS)	0.032	0.005	0.027

READ: 0.4

PEAK AREA (ABS-SECONDS) 0.02[illegible] 0.00[illegible] [illegible]

READ: -0.9

MEAN= -0.6 STD.DEV.= COEF.VAR.= 59.21

****

AS 0035

	AA	[illegible]AA	[illegible]
PEAK HEIGHT (ABSORBANCE)	0.024	0.019	[illegible]
PEAK AREA (ABS-SECONDS)	0.029	0.305	[illegible]

READ: -0.4

	AA	[illegible]AA	[illegible]
PEAK HEIGHT (ABSORBANCE)	0.030	[illegible]	[illegible]
PEAK AREA (ABS-SECONDS)	[illegible]	[illegible]	[illegible]

READ: 1.3

MEAN= 0.4 STD.DEV.= COEF.VAR.= 99.99

****

AS 0035

	AA	[illegible]AA	[illegible]
PEAK HEIGHT (ABSORBANCE)	0.812	[illegible]	[illegible]
PEAK AREA (ABS-SECONDS)	0.351	0.299	[illegible]

READ: 57.2

	AA	[illegible]AA	[illegible]
PEAK HEIGHT (ABSORBANCE)	0.806	0.718	[illegible]
PEAK AREA (ABS-SECONDS)	0.341	0.290	[illegible]

READ: 55.3

MEAN= 56.2 STD.DEV.= COEF.VAR.= [illegible]

****

AS 0037

	AA	[illegible]AA	[illegible]
PEAK HEIGHT (ABSORBANCE)	0.504	0.104	[illegible]
PEAK AREA (ABS-SECONDS)	0.485	[illegible]	[illegible]

READ: 12.0

	AA	[illegible]AA	[illegible]
PEAK HEIGHT (ABSORBANCE)	0.581	0.112	[illegible]
PEAK AREA (ABS-SECONDS)	0.493	0.074	[illegible]

READ: 13.0

MEAN= 12.5 STD.DEV.= COEF.VAR.= 5.59

****

AS 0038

[illegible] AA [illegible]AA [illegible]

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.996	0.437	0.567
PEAK AREA (ABS-SECONDS)	0.617	0.293	0.32[illegible]

READ: 56.1

MEAN= 56.1 STD.DEV.= COEF.VAR.= 0.03 %

****

AS 0039

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.996	0.419	0.59[illegible]
PEAK AREA (ABS-SECONDS)	0.631	0.293	0.3[illegible]

READ: 56.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.069	0.470	0.59[illegible]
PEAK AREA (ABS-SECONDS)	0.629	0.292	0.33[illegible]

READ: 55.9

MEAN= 55.9 STD.DEV.= COEF.VAR.= 0.1[illegible] %

****

AS 0040

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.705	0.627	0.089
PEAK AREA (ABS-SECONDS)	0.313	0.[illegible]38	0.05[illegible]

READ: 49.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.713	0.678	0.0[illegible]5
PEAK AREA (ABS-SECONDS)	0.300	0.263	0.03[illegible]

READ: 50.1

MEAN= 49.6 STD.DEV.= COEF.VAR.= 1.38 %

****

AS 0040

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.028	0.030	0.01[illegible]
PEAK AREA (ABS-SECONDS)	-0.003	0.009	-0.01[illegible]

READ: 0.3

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.016	0.021	0.01[illegible]
PEAK AREA (ABS-SECONDS)	0.005	0.007	-0.007

READ: -0.1

MEAN= 0.1 STD.DEV.= COEF.VAR.= 99.99 %

****

AS 0041

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.869	0.351	0.52[illegible]
PEAK AREA (ABS-SECONDS)	0.244	0.[illegible]7	[illegible]

READ: 49.1

PEAK AREA (ABS-SECONDS) 0.219

READ: 41.4

MEAN= 40.7 STD.DEV.= COEF.VAR.= 2.37 %

****

AS 0042

	AA	AAA	BB
PEAK HEIGHT (ABSORBANCE)	0.392	0.066	0.34
PEAK AREA (ABS-SECONDS)	0.276	0.045	0.23

READ: 7.4

	AA	AAA	BB
PEAK HEIGHT (ABSORBANCE)	0.450	1.022	
PEAK AREA (ABS-SECONDS)	0.293	0.050	

READ: 4.4

MEAN= 5.9 STD.DEV.= COEF.VAR.= 85.64

****

AS 0043

	AA	AAA	BB
PEAK HEIGHT (ABSORBANCE)	4.452	2.892	3.03
PEAK AREA (ABS-SECONDS)	1.660	0.232	1.42

READ: 44.0

E-87: VALUE GREATER THAN ROLLOVER ABSORBANCE

	AA	AAA	BB
PEAK HEIGHT (ABSORBANCE)	5.439	3.422	
PEAK AREA (ABS-SECONDS)	1.861	0.308	

READ: 58.9

E-87: VALUE GREATER THAN ROLLOVER ABSORBANCE

MEAN= 51.4 STD.DEV.= COEF.VAR.= 29.49 %

****

AS 0044

	AA	AAA	BB
PEAK HEIGHT (ABSORBANCE)	5.441	3.0[illegible]	
PEAK AREA (ABS-SECONDS)	2.201		

READ: 20.1

E-87: VALUE GREATER THAN ROLLOVER ABSORBANCE

	AA	AAA	BB
PEAK HEIGHT (ABSORBANCE)	5.448	3.0[illegible]	
PEAK AREA (ABS-SECONDS)	3.110	0.[illegible]	

READ: 52.8

E-87: VALUE GREATER THAN ROLLOVER ABSORBANCE

MEAN= 36.4 STD.DEV.= COEF.VAR.= 63.57 %

****

AS 0045

	AA	AAA	BB
PEAK HEIGHT (ABSORBANCE)			

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.128	0.081	0.057
PEAK AREA (ABS-SECONDS)	0.108	0.043	0.065

READ: 7.1

06488 - Hc (Qc only)

MEAN= 6.6 STD.DEV.= COEF.VAR.= 10.61 %

****

AS 0046

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.356	0.318	0.048
PEAK AREA (ABS-SECONDS)	0.290	0.229	0.06[illegible]

READ: 43.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.351	0.310	0.047
PEAK AREA (ABS-SECONDS)	0.297	0.230	0.06[illegible]

READ: 43.6

- Hc Spk

MEAN= 43.4 STD.DEV.= COEF.VAR.= 0.72 %

****

AS 0047

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.366	0.338	0.044
PEAK AREA (ABS-SECONDS)	0.292	0.229	0.064

READ: 43.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.357	0.328	0.038
PEAK AREA (ABS-SECONDS)	0.290	0.230	0.060

READ: 43.7

- Hc + Duppk

MEAN= 43.6 STD.DEV.= COEF.VAR.= 0.5 %

****

AS 0048

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.411	0.108	0.354
PEAK AREA (ABS-SECONDS)	0.319	0.065	0.255

READ: 11.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.405	0.097	0.334
PEAK AREA (ABS-SECONDS)	0.325	0.065	0.260

READ: 11.3

06119 - 2c 5x

MEAN= 11.3 STD.DEV.= COEF.VAR.= 0.39 %

****

AS 0049

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.385		

READ: 29.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.384	0.254	0.162
PEAK AREA (ABS-SECONDS)	0.303	0.164	0.139

READ: 30.7

MEAN= 30.2 STD.DEV.= COEF.VAR.= 2.24 %

****

AS 0050

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.447	0.046	0.409
PEAK AREA (ABS-SECONDS)	0.331	0.029	0.302

READ: 4.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.446	0.059	0.417
PEAK AREA (ABS-SECONDS)	0.350	0.033	0.317

READ: 5.0

MEAN= 4.6 STD.DEV.= COEF.VAR.= 11.79 %

****

AS 0051

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.425	0.113	0.341
PEAK AREA (ABS-SECONDS)	0.328	0.063	0.265

READ: 11.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.401	0.094	0.324
PEAK AREA (ABS-SECONDS)	0.309	0.064	0.245

READ: 11.1

MEAN= 11.1 STD.DEV.= COEF.VAR.= 0.88 %

****

AS 0052

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.383	0.141	0.284
PEAK AREA (ABS-SECONDS)	0.299	0.085	0.214

READ: 15.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.407	0.154	0.299
PEAK AREA (ABS-SECONDS)	0.298	0.082	0.216

READ: 14.7

MEAN= 15.0 STD.DEV.= COEF.VAR.= 2.30 %

****

PEAK AREA (ABS-SECONDS)	0.347	0.098	0.249

READ: 17.9

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.453	0.157	0.296
PEAK AREA (ABS-SECONDS)	0.355	0.097	0.258

READ: 17.6

-8c 5X

MEAN= 17.7 STD.DEV.= COEF.VAR.= 1.06 %

****

AS 0054

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.688	0.136	0.552
PEAK AREA (ABS-SECONDS)	0.572	0.114	0.458

READ: 21.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.741	0.198	0.611
PEAK AREA (ABS-SECONDS)	0.618	0.137	0.481

READ: 25.5

-10c 5X

MEAN= 23.3 STD.DEV.= COEF.VAR.= 13.67 %

****

AS 0055

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.754	0.549	0.109
PEAK AREA (ABS-SECONDS)	0.351	0.268	0.083

READ: 51.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.688	0.643	0.046
PEAK AREA (ABS-SECONDS)	0.310	0.266	0.044

READ: 50.8

CCV3

MEAN= 50.9 STD.DEV.= COEF.VAR.= 0.46 %

****

AS 0056

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.020	0.018	0.002
PEAK AREA (ABS-SECONDS)	0.008	0.002	0.005

READ: -0.9

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.021	0.022	-0.001
PEAK AREA (ABS-SECONDS)	0.009	0.018	-0.009

READ: 2.1

CCB3

MEAN= 0.6 STD.DEV.= COEF.VAR.= 99.99 %

****

AS 0057

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.391	0.253	0.179
PEAK AREA (ABS-SECONDS)	0.314	0.164	0.151

READ: 30.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.444	0.252	0.207
PEAK AREA (ABS-SECONDS)	0.366	0.177	0.189

READ: 33.2 -11c 5X

MEAN= 31.9 STD.DEV.= COEF.VAR.= 5.72 %

****

AS 0058

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.542	0.086	0.497
PEAK AREA (ABS-SECONDS)	0.401	0.048	0.353

READ: 8.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.580	0.116	0.463
PEAK AREA (ABS-SECONDS)	0.382	0.046	0.336

READ: 7.6 -14c 5X

MEAN= 7.8 STD.DEV.= COEF.VAR.= 4.38 %

****

AS 0059

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.559	0.066	0.508
PEAK AREA (ABS-SECONDS)	0.344	0.015	0.329

READ: 1.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.530	0.015	0.514
PEAK AREA (ABS-SECONDS)	0.335	0.023	0.312

READ: 3.0 06221-2B 5X

MEAN= 2.3 STD.DEV.= COEF.VAR.= 44.12 %

****

AS 0060

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.549	0.093	0.456
PEAK AREA (ABS-SECONDS)	0.357	0.041	0.316

READ: 6.4

06-4-15-2B 5X

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.563	0.091	0.472
PEAK AREA (ABS-SECONDS)	0.359	0.041	0.318

READ: 6.6

MEAN= 6.5 STD.DEV.= COEF.VAR.= 2.72 %

****

AS 0061

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.044	0.212	0.850
PEAK AREA (ABS-SECONDS)	0.667	0.085	0.583

READ: 15.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.072	0.188	0.884
PEAK AREA (ABS-SECONDS)	0.697	0.083	0.614

READ: 14.8

-3B SY

MEAN= 15.0 STD.DEV.= COEF.VAR.=

AS 0062

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.674	0.635	0.039
PEAK AREA (ABS-SECONDS)	0.299	0.261	0.038

READ: 49.8

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.644	0.600	0.044
PEAK AREA (ABS-SECONDS)	0.294	0.256	0.038

READ: 48.8

CCBY

MEAN= 49.3 STD.DEV.= COEF.VAR.= 1.43

AS 0063

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.035	0.025	0.010
PEAK AREA (ABS-SECONDS)	0.040	0.003	0.037

READ: -2.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.031	0.022	0.009
PEAK AREA (ABS-SECONDS)	0.058	0.011	0.047

READ: 0.7

CCBY

MEAN= -0.7 STD.DEV.= COEF.VAR.= 99.99

Opened

Method: ENVIRO94 Standard: STD1-Blank

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Avge	.0000	.0025	-.0011	.0000	.0000	.0330	.0000
SDev	.0000	.0000	.0003	.0000	.0000	.0001	.0000
%RSD	141.4	.5220	27.35	.0000	.9667	.2208	46.29
#1	.0000	.0025	-.0013	.0000	.0000	.0331	.0001
#2	.0000	.0025	-.0009	.0000	.0000	.0330	.0000

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Avge	.0001	.0001	.0002	-.0000	-.0030	.0001	.0001
SDev	.0001	.0000	.0000	.0000	.0007	.0000	.0000
%RSD	71.43	27.35	16.67	141.4	22.56	71.43	.9667
#1	.0001	.0002	.0002	.0000	-.0025	.0000	.0001
#2	.0002	.0001	.0003	-.0001	-.0035	.0001	.0001

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Avge	.0014	-.0000	.0003	.0002	-.0016	-.0001	.0000
SDev	.0000	.0001	.0001	.0000	.0003	.0002	.0000
%RSD	2.926	234.0	19.40	11.84	19.92	265.0	141.4
#1	.0015	.0000	.0003	.0002	-.0018	-.0003	.0000
#2	.0014	-.0001	.0003	.0002	-.0014	.0001	.0000

Elem	Zn2138
Avge	.0007
SDev	.0000
%RSD	6.016
#1	.0007
#2	.0008

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	37890	--	--	--	--	--	--
SDev	366.2813	--	--	--	--	--	--
%RSD	.9666965	--	--	--	--	--	--
#1	38149	--	--	--	--	--	--
#2	37631	--	--	--	--	--	--

Method: ENVIRO94 Standard: STD8

Elem	Ag3280
Avge	.0790
SDev	.0002
%RSD	.2459
#1	.0791
#2	.0789

IntStd	1	2	3	4

Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	36265	--	--	--	--	--	--
SDev	223.4457	--	--	--	--	--	--
%RSD	.6161471	--	--	--	--	--	--
#1	36107	--	--	--	--	--	--
#2	36423	--	--	--	--	--	--

Method: ENVIRO94 Standard: STD3

Elem	Al3082	Be3130	Fe2599	Na5889	Ni2316	Sb2068	Tl1908
Avge	.1274	.5990	.3926	.1505	.2888	.0662	.1029
SDev	.0001	.0006	.0006	.0004	.0025	.0006	.0010
%RSD	.0732	.0937	.1400	.2480	.8704	.9092	1.017
#1	.1273	.5994	.3930	.1502	.2906	.0666	.1036
#2	.1274	.5986	.3922	.1508	.2871	.0658	.1021

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	38098	--	--	--	--	--	--
SDev	155.5635	--	--	--	--	--	--
%RSD	.4083246	--	--	--	--	--	--
#1	38208	--	--	--	--	--	--
#2	37988	--	--	--	--	--	--

Method: ENVIRO94 Standard: STD4

Elem	As1936	Cr2677	Se1960
Avge	.2443	.3214	.1910
SDev	.0016	.0002	.0012
%RSD	.6480	.0693	.6265
#1	.2432	.3213	.1918
#2	.2454	.3216	.1901

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	37838	--	--	--	--	--	--
SDev	222.0315	--	--	--	--	--	--
%RSD	.5867951	--	--	--	--	--	--
#1	37995	--	--	--	--	--	--
#2	37681	--	--	--	--	--	--

Method: ENVIRO94 Standard: STD2

Elem	Ba4934	Ca3179	Cd2288	Co2286	Cu3247	K 7664	Mg2790

Avge	1.040	.8952	.1606	.6641	.3704	.3218	.0670
SDev	.001	.0031	.0002	.0007	.0006	.0012	.0003
%RSD	.0594	.3463	.1429	.1092	.1597	.3656	.4079
#1	1.039	.8974	.1608	.6646	.3708	.3226	.0672
#2	1.040	.8930	.1604	.6636	.3700	.3209	.0668

Elem	Mn2576	Pb2203	Zn2138
Avge	.7776	.0688	.3889
SDev	.0022	.0006	.0011
%RSD	.2759	.8126	.2855
#1	.7791	.0692	.3897
#2	.7761	.0684	.3882

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	37501	--	--	--	--	--	--
SDev	57.98276	--	--	--	--	--	--
%RSD	.1546166	--	--	--	--	--	--
#1	37460	--	--	--	--	--	--
#2	37542	--	--	--	--	--	--

Method: ENVIRO94 Standard: STD5

Elem	V_2924
Avge	.2899
SDev	.0003
%RSD	.1073
#1	.2902
#2	.2897

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	38110	--	--	--	--	--	--
SDev	9.192388	--	--	--	--	--	--
%RSD	.0241204	--	--	--	--	--	--
#1	38104	--	--	--	--	--	--
#2	38117	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: ICV Operator: DQ
Run Time: 06/14/94 11:25:27
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.805	9.718	9.865	10.02	10.08	9.758	9.642

SDev	.001	.037	.014	.00	.01	.011	.077
%RSD	.0449	.3800	.1399	.0333	.0779	.1123	.8004
#1	1.804	9.744	9.855	10.02	10.08	9.751	9.697
#2	1.805	9.692	9.875	10.02	10.09	9.766	9.588
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	9.566	9.643	10.15	9.622	47.96	9.765	9.706
SDev	.003	.004	.03	.007	.88	.035	.008
%RSD	.0334	.0458	.2598	.0722	1.827	.3576	.0778
#1	9.569	9.640	10.13	9.627	48.58	9.790	9.701
#2	9.564	9.646	10.17	9.617	47.34	9.740	9.711
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	50.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	T11908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	9.682	9.586	9.562	9.490	10.01	9.566	9.668
SDev	.030	.019	.022	.026	.03	.159	.003
%RSD	.3076	.1946	.2335	.2731	.2878	1.659	.0337
#1	9.703	9.599	9.546	9.471	9.987	9.679	9.670
#2	9.661	9.573	9.577	9.508	10.03	9.454	9.666
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Zn2138
Units	ppm
Avge	10.62
SDev	.02
%RSD	.1460
#1	10.61
#2	10.63
Errors	QC Pass
Value	10.00
Range	10.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	36851	--	--	--	--	--	--
SDev	234.7594	--	--	--	--	--	--
%RSD	.6370505	--	--	--	--	--	--

#1	37017	--	--	--	--	--	--
#2	36685	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: ICB Operator: DQ
Run Time: 06/14/94 11:29:27
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0020	.0062	-.0136	-.0005	-.0000	-.0040	-.0017
SDev	.0019	.0011	.0033	.0000	.0000	.0091	.0000
%RSD	95.25	17.69	23.99	.2645	16.44	228.0	.5090
#1	.0006	.0054	-.0113	-.0005	-.0000	.0024	-.0017
#2	.0033	.0069	-.0159	-.0005	-.0000	-.0104	-.0017
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0080
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0080

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0027	-.0012	.0005	.0035	.2721	-.0003	-.0000
SDev	.0016	.0023	.0010	.0009	.3771	.0220	.0000
%RSD	61.47	185.1	196.3	25.32	138.6	7726.	16.44
#1	.0038	-.0029	.0012	.0041	.0054	-.0158	-.0000
#2	.0015	.0004	-.0002	.0028	.5388	.0153	-.0000
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	-.0020

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0127	.0091	-.0395	-.0284	.0510	-.0631	.0009
SDev	.0055	.0013	.0267	.0001	.0384	.0288	.0000
%RSD	43.19	13.84	67.65	.2199	75.43	45.58	.5495
#1	.0088	.0100	-.0206	-.0284	.0782	-.0427	.0009
#2	.0165	.0082	-.0583	-.0283	.0238	-.0834	.0009
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100

Elem	Zn2138
Units	ppm
Avge	-.0006
SDev	.0018
%RSD	291.2
#1	.0007
#2	-.0019

Errors	LC Pass
High	.0100
Low	-.0100

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	38498	--	--	--	--	--	--
SDev	101.8234	--	--	--	--	--	--
%RSD	.2644900	--	--	--	--	--	--
#1	38570	--	--	--	--	--	--
#2	38426	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: ICSAI Operator: DQ
Run Time: 06/14/94 11:33:20
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0048	507.6	3.543	.0218	.0009	471.5	-.0083
SDev	.0019	.1	.039	.0008	.0000	.3	.0048
%RSD	40.72	.0220	1.097	3.640	.5341	.0673	57.53
#1	-.0034	507.5	3.571	.0213	.0009	471.7	-.0049
#2	-.0062	507.7	3.516	.0224	.0009	471.3	-.0117
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value		500.0				500.0	
Range		20.00				20.00	

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0086	.0117	-.0038	179.1	-.4085	512.0	-.0382
SDev	.0006	.0007	.0020	.1	.2200	.5	.0011
%RSD	7.056	5.755	53.91	.0642	53.86	.0885	2.830
#1	.0082	.0113	-.0052	179.2	-.5641	511.7	-.0374
#2	.0090	.0122	-.0023	179.0	-.2529	512.3	-.0390
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass	NOCHECK
Value				200.0		500.0	
Range				20.00		20.00	

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.3095	.0056	.0029	-.0356	.2202	.2317	-.0039
SDev	.0012	.0146	.0014	.0348	.0240	.0369	.0053
%RSD	.3850	260.1	47.21	97.82	10.91	15.92	137.5
#1	.3103	-.0047	.0019	-.0602	.2372	.2577	-.0076
#2	.3086	.0159	.0038	-.0110	.2032	.2056	.0001

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							
Elem	Zn2138						
Units	ppm						
Avge	-.0264						
SDev	.0019						
%RSD	7.358						
#1	-.0251						
#2	-.0278						
Errors	NOCHECK						
Value							
Range							
IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	36986	--	--	--	--	--	--
SDev	101.1163	--	--	--	--	--	--
%RSD	.2733944	--	--	--	--	--	--
#1	37057	--	--	--	--	--	--
#2	36914	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: ICSAB1 Operator: DQ
Run Time: 06/14/94 11:37:13
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9383	504.1	3.575	.5257	.4737	471.8	.9320
SDev	.0029	.2	.026	.0037	.0009	.1	.0139
%RSD	.3098	.0311	.7202	.7093	.2005	.0181	1.492
#1	.9404	504.2	3.557	.5230	.4731	471.7	.9419
#2	.9362	504.0	3.594	.5283	.4744	471.8	.9222
Errors	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	500.0		.5000	.5000	500.0	1.000
Range	20.00	20.00		20.00	20.00	20.00	20.00

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4495	.4730	.4826	177.9	-.3334	509.0	.4193
SDev	.0050	.0033	.0010	.1	.1447	.2	.0001
%RSD	1.110	.7030	.2036	.0742	43.41	.0310	.0289
#1	.4531	.4706	.4833	177.9	-.4358	508.9	.4192
#2	.4460	.4753	.4819	178.0	-.2311	509.2	.4193
Errors	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass

Value	.5000	.5000	.5000	200.0		500.0	.5000
Range	20.00	20.00	20.00	20.00		20.00	20.00

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.3162	.8766	.9389	-.0313	.1466	.2746	.4617
SDev	.0015	.0169	.0141	.0408	.0477	.0415	.0043
%RSD	.4848	1.922	1.503	130.2	32.52	15.12	.9349
#1	.3151	.8647	.9488	-.0025	.1803	.2452	.4586
#2	.3173	.8885	.9289	-.0602	.1129	.3039	.4647

Errors	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value		1.000	1.000				.5000
Range		20.00	20.00				20.00

Elem	Zn2138
Units	ppm
Avge	.9033
SDev	.0031
%RSD	.3389
#1	.9011
#2	.9054

Errors	QC Pass
Value	1.000
Range	20.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	36760	--	--	--	--	--	--
SDev	75.66042	--	--	--	--	--	--
%RSD	.2058199	--	--	--	--	--	--
#1	36707	--	--	--	--	--	--
#2	36814	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: PB 6/13 P3010L1 Operator: DQ
Run Time: 06/14/94 11:49:17
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0007	.0382	-.0337	-.0003	.0018	-.0064	.0002
SDev	.0000	.0303	.0001	.0004	.0000	.0053	.0024
%RSD	.0000	79.29	.3888	141.4	.1620	83.42	1516.
#1	-.0007	.0168	-.0338	-.0005	.0018	-.0026	-.0015
#2	-.0007	.0596	-.0336	.0000	.0018	-.0101	.0018

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0080

Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0050
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0021	-.0007	.0026	.0029	-.0979	.0248	.0011
SDev	.0006	.0050	.0011	.0020	.3066	.0115	.0005
%RSD	26.90	729.0	40.93	67.76	313.3	46.52	44.11
#1	.0017	.0028	.0033	.0015	.1189	.0329	.0015
#2	.0025	-.0042	.0018	.0043	-.3147	.0166	.0009
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	-.0020
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0806	.0028	.0105	-.0438	.0287	-.0430	.0000
SDev	.0100	.0000	.0170	.0116	.0361	.0038	.0013
%RSD	12.43	.0000	161.8	26.59	125.8	8.807	6162.
#1	.0735	.0028	.0225	-.0520	.0032	-.0457	.0010
#2	.0877	.0028	-.0015	-.0355	.0542	-.0404	-.0009
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100

Elem	Zn2138
Units	ppm
Avge	.0025
SDev	.0020
%RSD	79.95
#1	.0040
#2	.0011
Errors	LC Pass
High	.0100
Low	-.0100

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	36786	--	--	--	--	--	--
SDev	40.30509	--	--	--	--	--	--
%RSD	.1095649	--	--	--	--	--	
#1	36758	--	--	--	--	--	--
#2	36815	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: LCSW 1 Operator: DQ
Run Time: 06/14/94 11:53:11

Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.914	2.049	1.950	2.096	2.042	1.930	1.942
SDev	.002	.036	.008	.000	.001	.001	.008
%RSD	.1052	1.773	.3911	.0208	.0302	.0595	.4040
#1	1.913	2.075	1.945	2.097	2.042	1.931	1.936
#2	1.916	2.023	1.955	2.096	2.043	1.929	1.947
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.400	2.400	2.400	2.400	2.400	2.400	2.400
Low	1.600	1.600	1.600	1.600	1.600	1.600	1.600

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.980	1.958	2.033	1.984	19.59	1.920	1.998
SDev	.000	.004	.001	.000	.24	.014	.005
%RSD	.0098	.2256	.0479	.0024	1.209	.7416	.2309
#1	1.980	1.961	2.033	1.984	19.42	1.931	1.994
#2	1.980	1.955	2.032	1.984	19.76	1.910	2.001
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.400	2.400	2.400	2.400	24.00	2.400	2.400
Low	1.600	1.600	1.600	1.600	16.00	1.600	1.600

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.114	2.002	1.945	2.025	2.084	1.930	1.987
SDev	.001	.005	.025	.021	.033	.048	.006
%RSD	.0481	.2441	1.283	1.025	1.585	2.485	.2901
#1	2.113	2.006	1.962	2.010	2.108	1.896	1.983
#2	2.115	1.999	1.927	2.040	2.061	1.964	1.991
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	2.400	2.400	2.400	2.400	2.400	2.400	2.400
Low	1.600	1.600	1.600	1.600	1.600	1.600	1.600

Elem	Zn2138
Units	ppm
Avge	1.949
SDev	.004
%RSD	.2102
#1	1.946
#2	1.952
Errors	LC Pass
High	2.400
Low	1.600

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED

Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	36670	--	--	--	--	--	--
SDev	57.27565	--	--	--	--	--	--
%RSD	.1561900	--	--	--	--	--	--
#1	36711	--	--	--	--	--	--
#2	36630	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: PB EX1 6/7 Operator: DQ
Run Time: 06/14/94 11:57:06
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2259
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0022	.0654	-.0220	.0008	.0015	H.1016	.0004
SDev	.0019	.0449	.0471	.0003	.0008	.0138	.0021
%RSD	88.52	68.60	214.5	43.50	50.86	13.61	633.4
#1	.0035	.0337	.0113	.0011	.0010	H.0919	.0020
#2	.0008	H.0971	-.0553	.0006	.0021	H.1114	-.0013
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC High	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0080
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0080

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0015	-.0004	.0050	H1.556	.0198	.0283	H.0024
SDev	.0004	.0010	.0040	.013	.1301	.0200	.0013
%RSD	27.27	251.3	80.47	.8279	656.9	70.82	50.99
#1	.0018	-.0011	.0021	H1.565	.1118	.0141	.0016
#2	.0012	.0003	.0078	H1.547	-.0722	.0424	H.0033
Errors	LC Pass	LC Pass	LC Pass	LC High	LC Pass	LC Pass	LC High
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	-.0020

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	H1400.	.0057	.0113	.0135	.0474	-.0302	.0019
SDev	16.	.0013	.0040	.0332	.0140	.0172	.0014
%RSD	1.175	22.38	35.67	246.3	29.56	56.97	69.77
#1	H1411.	.0066	.0084	-.0100	.0375	-.0180	.0029
#2	H1388.	.0048	.0141	.0370	.0573	-.0423	.0010
Errors	LC High	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100

Elem	Zn2138
Units	ppm
Avge	.0029

SDev	.0037						
%RSD	127.6						
#1	.0003						
#2	.0056						
Errors	LC Pass						
High	.0100						
Low	-.0100						
IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	35058	--	--	--	--	--	--
SDev	1421.992	--	--	--	--	--	--
%RSD	4.056170	--	--	--	--	--	--
#1	36063	--	--	--	--	--	--
#2	34052	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6391-01C EX1 QC ONLI Operator: DQ
Run Time: 06/14/94 12:01:06
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2258
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0048	.2978	-.0021	1.910	.0032	24.85	-.0030
SDev	.0034	.0151	.0367	.011	.0001	.35	.0027
%RSD	70.32	5.074	1723.	.5622	1.684	1.411	88.93
#1	.0024	.3085	.0238	1.917	.0032	24.60	-.0011
#2	.0072	.2871	-.0280	1.902	.0033	25.10	-.0049

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0079	-.0014	.0164	1.588	3.014	5.070	1.467
SDev	.0012	.0010	.0016	.008	.276	.041	.013
%RSD	14.68	70.88	9.522	.4962	9.143	.8155	.8679
#1	.0088	-.0021	.0153	1.593	2.819	5.041	1.458
#2	.0071	-.0007	.0175	1.582	3.208	5.100	1.476

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1365.	.0039	-.0081	-.0052	.0062	-.0395	.0000
SDev	4.	.0076	.0011	.0270	.0021	.0683	.0015
%RSD	.2992	194.2	13.45	519.9	33.99	172.8	5091
#1	1368.	-.0015	-.0088	-.0243	.0077	.0088	-.0010
#2	1362.	.0092	-.0073	.0139	.0047	-.0878	.0011

Elem	Zn2138
Units	ppm
Avge	.4626

SDev	.0077
%RSD	1.675
#1	.4571
#2	.4681

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32485	--	--	--	--	--	--
SDev	429.9209	--	--	--	--	--	--
%RSD	1.323444	--	--	--	--	--	--
#1	32789	--	--	--	--	--	--
#2	32181	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6391-01C SPK1 Operator: DQ
Run Time: 06/14/94 12:04:59
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2258
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9110	2.376	1.930	3.990	1.018	26.42	.9310
SDev	.0238	.054	.057	.051	.000	.94	.0359
%RSD	2.618	2.283	2.938	1.276	.0022	3.562	3.859
#1	.8941	2.338	1.890	4.026	1.018	25.75	.9056
#2	.9278	2.414	1.971	3.954	1.018	27.08	.9564

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9491	.9480	1.022	2.526	15.55	6.174	2.448
SDev	.0320	.0329	.005	.001	1.00	.144	.043
%RSD	3.370	3.471	.4639	.0498	6.439	2.328	1.765
#1	.9265	.9247	1.025	2.527	14.84	6.072	2.417
#2	.9717	.9712	1.018	2.525	16.26	6.275	2.479

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1351.	.9335	.9536	.9806	2.145	1.911	.9770
SDev	8.	.0356	.0833	.0099	.086	.014	.0147
%RSD	.6285	3.810	8.739	1.010	3.993	.7254	1.500
#1	1357.	.9083	.8947	.9876	2.084	1.901	.9666
#2	1345.	.9586	1.013	.9736	2.205	1.920	.9874

Elem	Zn2138
Units	ppm
Avge	1.415
SDev	.056
%RSD	3.986
#1	1.375

#2	1.455						

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	
Avge	32252	--	--	--	--	--	
SDev	2179.303	--	--	--	--	--	
%RSD	6.757110	--	--	--	--	--	
#1	33793	--	--	--	--	--	
#2	30711	--	--	--	--	--	

Method: ENVIRO94 Sample Name: 6391-01C DSPK1 Operator: DQ
Run Time: 06/14/94 12:08:52
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9156	2.426	2.038	3.980	1.030	26.61	.9470
SDev	.0062	.039	.023	.010	.001	.08	.0055
%RSD	.6735	1.616	1.148	.2577	.0882	.2900	.5789
#1	.9200	2.454	2.022	3.988	1.030	26.66	.9431
#2	.9113	2.399	2.055	3.973	1.029	26.55	.9509

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9606	.9584	1.018	2.539	13.75	6.067	2.464
SDev	.0075	.0026	.003	.006	.47	.017	.001
%RSD	.7753	.2669	.2863	.2205	3.392	.2874	.0399
#1	.9659	.9602	1.020	2.543	14.08	6.079	2.465
#2	.9554	.9566	1.016	2.535	13.42	6.054	2.463

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1342.	.9719	.9457	.9860	2.157	1.928	.9903
SDev	2.	.0003	.0369	.0407	.072	.051	.0002
%RSD	.1632	.0300	3.899	4.132	3.326	2.663	.0227
#1	1344.	.9717	.9197	1.015	2.106	1.965	.9905
#2	1340.	.9721	.9718	.9572	2.208	1.892	.9902

Elem	Zn2138
Units	ppm
Avge	1.425
SDev	.011
%RSD	.7914
#1	1.433
#2	1.417

IntStd	1	2	3	4	5	6	7

Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32254	--	--	--	--	--	--
SDev	647.0027	--	--	--	--	--	--
%RSD	2.005930	--	--	--	--	--	--
#1	31797	--	--	--	--	--	--
#2	32712	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6245-01C EX1 6/7 S1 Operator: DQ
Run Time: 06/14/94 12:12:46
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2256
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0002	.4268	-.0281	1.527	.0027	33.42	-.0010
SDev	.0055	.0521	.0132	.013	.0009	.97	.0056
%RSD	2242.	12.20	47.09	.8257	33.90	2.898	559.4
#1	-.0036	.3900	-.0187	1.536	.0020	32.74	-.0049
#2	.0041	.4636	-.0374	1.518	.0033	34.11	.0029

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0189	.0026	.0717	1.646	11.58	4.711	1.201
SDev	.0051	.0011	.0011	.004	.90	.054	.015
%RSD	26.93	42.36	1.587	.2319	7.762	1.142	1.254
#1	.0153	.0018	.0709	1.648	10.94	4.673	1.190
#2	.0225	.0034	.0725	1.643	12.21	4.749	1.211

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1312.	.0273	.0361	-.0186	.0253	-.0385	.0115
SDev	7.	.0147	.0444	.0473	.0165	.0058	.0007
%RSD	.5281	53.82	123.0	254.6	65.38	15.03	5.965
#1	1317.	.0169	.0047	-.0520	.0136	-.0426	.0110
#2	1307.	.0377	.0674	.0149	.0370	-.0344	.0120

Elem	Zn2138
Units	ppm
Avge	1.396
SDev	.035
%RSD	2.529
#1	1.371
#2	1.421

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--

Avge	32992	--	--	--	--	--	--
SDev	1803.122	--	--	--	--	--	--
%RSD	5.465332	--	--	--	--	--	--
#1	34267	--	--	--	--	--	--
#2	31717	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: PB 6/13 P3050P1 Operator: DQ
Run Time: 06/14/94 12:16:40
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0030	.0818	.0001	-.0009	.0027	-.0162	.0012
SDev	.0011	.0058	.0284	.0013	.0006	.0051	.0053
%RSD	37.94	7.117	48200.	141.4	24.30	31.35	460.7
#1	-.0022	.0777	-.0200	.0000	.0032	-.0126	.0026
#2	-.0038	.0859	.0201	-.0018	.0022	-.0198	-.0049
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0080
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0080

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0018	-.0014	.0021	.0133	-.8340	-.0118	.0000
SDev	.0019	.0040	.0003	.0013	.1675	.0582	.0006
%RSD	105.8	290.3	14.02	9.397	20.09	491.7	1262.
#1	-.0005	.0015	.0019	.0124	-.7156	.0293	-.0004
#2	-.0032	-.0042	.0023	.0142	-.9525	-.0530	.0005
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	-.0020

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0865	-.0024	.0095	-.0102	.0233	-.0652	.0012
SDev	.0004	.0104	.0108	.0074	.0523	.0489	.0030
%RSD	.4691	427.9	113.0	72.53	223.9	74.98	247.3
#1	.0868	-.0098	.0171	-.0154	.0603	-.0998	-.0009
#2	.0863	.0049	.0019	-.0049	-.0136	-.0306	.0034
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100

Elem	Zn2138
Units	ppm
Avge	.0053
SDev	.0003
%RSD	5.302

#1	.0055
#2	.0051

Errors	LC Pass
High	.0100
Low	-.0100

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32642	--	--	--	--	--	--
SDev	631.4464	--	--	--	--	--	--
%RSD	1.934489	--	--	--	--	--	--
#1	33088	--	--	--	--	--	--
#2	32195	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: PB-2 1 Operator: DQ
Run Time: 06/14/94 12:20:35
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2298
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0026	H.1302	.0039	.0015	.0023	-.0250	-.0009
SDev	.0023	.0127	.0352	.0004	.0000	.0024	.0000
%RSD	89.01	9.731	901.3	27.97	.4518	9.675	1.350
#1	.0042	H.1392	.0288	.0018	.0023	-.0267	-.0010
#2	.0009	H.1212	-.0210	.0012	.0023	-.0233	.0009

Errors	LC Pass	LC High	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0050
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0050

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0021	-.0002	.0027	.0187	-.2586	-.0015	.0006
SDev	.0020	.0002	.0025	.0010	.3931	.0203	.0000
%RSD	96.56	138.2	92.72	5.590	152.0	1336.	1.889
#1	.0035	-.0004	.0009	.0194	.0194	-.0159	.0006
#2	.0007	-.0000	.0044	.0180	-.5365	.0128	.0006

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	-.0020

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1004	.0050	.0510	-.0037	.0245	-.0476	.0024
SDev	.0081	.0156	.0127	.0135	.0183	.0397	.0015
%RSD	8.091	315.2	24.94	368.9	74.67	83.40	64.90

#1	.1062	.0160	.0600	.0059	.0116	-.0195	.0035
#2	.0947	-.0061	.0420	-.0132	.0374	-.0756	.0013

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100

Elem	Zn2138
Units	ppm
Avge	.0071
SDev	.0010
%RSD	14.18
#1	.0079
#2	.0064

Errors	LC Pass
High	.0100
Low	-.0100

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	31324	--	--	--	--	--	--
SDev	102.5305	--	--	--	--	--	--
%RSD	.3273277	--	--	--	--	--	--
#1	31396	--	--	--	--	--	--
#2	31251	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: LCSS#220 Operator: DQ
Run Time: 06/14/94 12:24:35
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2298
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4484	26.34	1.224	1.440	.8768	21.43	1.131
SDev	.0006	.03	.001	.001	.0003	.01	.004
%RSD	.1349	.1021	.0449	.0490	.0285	.0247	.3684
#1	.4488	26.32	1.224	1.441	.8766	21.43	1.128
#2	.4479	26.36	1.224	1.440	.8769	21.42	1.134

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.7940	61.90	1.660	2.050	1.380	34.00	1.830
Low	.2160	23.40	.5470	1.110	.6330	17.50	.6530

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5200	1.688	1.329	65.35	17.77	18.61	2.381
SDev	.0013	.001	.000	.03	.85	.08	.005
%RSD	.2403	.0645	.0073	.0457	4.776	.4416	.1991
#1	.5191	1.689	1.329	65.37	18.37	18.55	2.379

#2	.5209	1.687	1.329	65.33	17.17	18.67	2.304
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.8310	2.610	2.030	146.0	30.70	31.40	3.850
Low	.3770	1.100	.8770	62.40	14.60	14.00	2.000
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	TI1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	7.078	.9528	1.946	.4860	1.024	1.257	1.720
SDev	.006	.0165	.005	.0222	.054	.023	.006
%RSD	.0818	1.734	.2809	4.562	5.265	1.857	.3459
#1	7.073	.9645	1.950	.4703	.9858	1.240	1.724
#2	7.082	.9411	1.942	.5017	1.062	1.273	1.716
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	9.580	1.510	2.910	1.960	1.780	2.050	2.750
Low	3.610	.6240	1.120	.2350	.6230	.6700	1.430

Elem	Zn2138
Units	ppm
Avge	2.330
SDev	.006
%RSD	.2760
#1	2.325
#2	2.334
Errors	LC Pass
High	3.940
Low	1.480

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	31808	--	--	--	--	--	--
SDev	116.6726	--	--	--	--	--	--
%RSD	.3668085	--	--	--	--	--	--
#1	31890	--	--	--	--	--	--
#2	31725	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: LCSS-2 #220 Operator: DQ
Run Time: 06/14/94 12:28:31
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5430	39.58	1.568	1.652	1.052	25.66	1.391
SDev	.0053	.06	.027	.002	.001	.05	.019
%RSD	.9841	.1473	1.708	.1053	.1088	.1811	1.278
#1	.5467	39.62	1.587	1.653	1.053	25.69	1.369
#2	.5392	39.54	1.549	1.651	1.051	25.63	1.393

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.7940	61.90	1.660	2.050	1.380	34.00	1.830
Low	.2160	23.40	.5470	1.110	.6330	17.50	.6530

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.6255	2.126	1.541	90.44	22.73	23.00	2.899
SDev	.0002	.005	.000	.17	.62	.17	.005
%RSD	.0261	.2138	.0232	.1846	2.732	.7271	.1666
#1	.6254	2.129	1.541	90.56	23.17	23.12	2.901
#2	.6256	2.123	1.541	90.32	22.29	22.88	2.894

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.8310	2.610	2.030	146.0	30.70	31.40	3.850
Low	.3770	1.100	.8770	62.40	14.60	14.00	2.000

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	8.213	1.136	2.335	.5507	1.242	1.679	2.099
SDev	.016	.059	.011	.0149	.071	.045	.004
%RSD	.1902	5.196	.4625	2.698	5.755	2.658	.2133
#1	8.224	1.094	2.343	.5612	1.191	1.711	2.102
#2	8.202	1.177	2.327	.5401	1.293	1.648	2.096

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	9.580	1.510	2.910	1.960	1.780	2.050	2.780
Low	3.610	.6240	1.120	.2350	.6230	.6700	1.430

Elem	Zn2138
Units	ppm
Avge	2.856
SDev	.001
%RSD	.0292
#1	2.857
#2	2.856

Errors	LC Pass
High	3.940
Low	1.480

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	31908	--	--	--	--	--	--
SDev	279.3072	--	--	--	--	--	--
%RSD	.8753378	--	--	--	--	--	--
#1	32106	--	--	--	--	--	--
#2	31711	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6354-03B1 Operator: DQ
Run Time: 06/14/94 12:32:27
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0087	85.82	.6444	1.053	.0113	154.7	.0030
SDev	.0001	.15	.0018	.004	.0007	.1	.0001
%RSD	.6140	.1706	.2765	.3778	5.911	.0915	1.757
#1	-.0088	85.72	.6431	1.056	.0109	154.6	.0030
#2	-.0087	85.93	.6457	1.050	.0118	154.8	.0030

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0715	.1172	.1049	92.15	10.51	10.26	3.709
SDev	.0032	.0062	.0019	.06	.13	.00	.002
%RSD	4.483	5.254	1.857	.0682	1.237	.0375	.0670
#1	.0738	.1215	.1062	92.10	10.42	10.26	3.707
#2	.0692	.1128	.1035	92.19	10.60	10.26	3.710

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.424	.1568	.2597	.0056	.0608	-.0252	.3646
SDev	.022	.0239	.0299	.0677	.0014	.0402	.0037
%RSD	.8994	15.23	11.51	1218.	2.254	159.5	1.020
#1	2.408	.1399	.2386	-.0423	.0617	-.0536	.3620
#2	2.439	.1736	.2808	.0534	.0598	.0032	.3672

Elem	Zn2138
Units	ppm
Avge	.3210
SDev	.0025
%RSD	.7697
#1	.3228
#2	.3193

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	31457	--	--	--	--	--	--
SDev	209.3036	--	--	--	--	--	--
%RSD	.6653642	--	--	--	--	--	--
#1	31309	--	--	--	--	--	
#2	31605	--	--	--	--	--	

Method: ENVIRO94 Sample Name: 6354-03B SPK1 Operator: DQ
Run Time: 06/14/94 12:36:22
Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.8638	222.3	3.443	2.966	.9103	155.7	.9173
SDev	.0019	.2	.124	.002	.0004	.4	.0064
%RSD	.2242	.0743	3.589	.0755	.0444	.2322	.6972
#1	.8652	222.4	3.356	2.968	.9105	155.5	.9127
#2	.8624	222.2	3.530	2.964	.9100	156.0	.9219

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9860	1.150	1.012	157.2	28.37	25.93	4.966
SDev	.0015	.002	.001	.2	.08	.06	.001
%RSD	.1490	.1987	.0986	.1490	.2759	.2374	.0130
#1	.9849	1.148	1.011	157.0	28.43	25.89	4.967
#2	.9870	1.151	1.012	157.3	28.32	25.98	4.966

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.574	1.088	1.138	.5277	1.877	1.949	1.385
SDev	.005	.010	.056	.0108	.012	.070	.001
%RSD	.1431	.8741	4.895	2.046	.6145	3.610	.0814
#1	3.571	1.095	1.099	.5201	1.885	1.899	1.385
#2	3.578	1.081	1.178	.5354	1.869	1.999	1.384

Elem	Zn2138
Units	ppm
Avge	1.401
SDev	.006
%RSD	.4322
#1	1.405
#2	1.397

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	31609	--	--	--	--	--	--
SDev	219.2031	--	--	--	--	--	--
%RSD	.6934832	--	--	--	--	--	--
#1	31764	--	--	--	--	--	--
#2	31454	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6354-03B DSPK1 Operator: DQ
Run Time: 06/14/94 12:40:16
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm

Avge	.8646	220.2	3.443	2.952	.9067	196.3	.9173
SDev	.0013	.4	.063	.004	.0013	1.1	.0043
%RSD	.1515	.1906	1.824	.1216	.1472	.5689	.4675
#1	.8655	219.9	3.398	2.950	.9058	197.1	.9203
#2	.8637	220.5	3.487	2.955	.9076	195.6	.9143

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9774	1.154	1.006	151.4	28.59	25.62	4.838
SDev	.0052	.004	.002	.5	.52	.03	.019
%RSD	.5326	.3512	.1617	.3450	1.809	.1046	.3921
#1	.9810	1.157	1.005	151.7	28.22	25.63	4.850
#2	.9737	1.151	1.008	151.0	28.95	25.60	4.826

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	T11908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.826	1.083	1.102	.4985	1.914	1.945	1.361
SDev	.025	.000	.005	.0502	.118	.064	.000
%RSD	.6586	.0175	.4287	10.07	6.175	3.266	.0356
#1	3.844	1.083	1.098	.5340	1.831	1.990	1.361
#2	3.808	1.083	1.105	.4630	1.998	1.900	1.361

Elem	Zn2138
Units	ppm
Avge	1.403
SDev	.005
%RSD	.3281
#1	1.406
#2	1.400

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32486	--	--	--	--	--	
SDev	628.6179	--	--	--	--	--	--
%RSD	1.935013	--	--	--	--	--	--
#1	32042	--	--	--	--	--	--
#2	32931	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6221-01D1 Operator: DQ
Run Time: 06/14/94 12:44:10
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0029	17.21	.0517	.6302	.0036	62.91	.0100
SDev	.0032	.05	.0038	.0004	.0007	.36	.0001
%RSD	109.0	.2734	7.363	.0681	18.27	.5663	1.548

#1	-.0052	17.17	.0544	.6299	.0041	62.66	.0099
#2	-.0007	17.24	.0490	.6305	.0031	63.16	.0101

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0203	.0701	.1105	25.29	1.768	3.427	.6516
SDev	.0041	.0024	.0013	.07	.263	.014	.0009
%RSD	20.07	3.498	1.145	.2651	14.88	.4211	.1295
#1	.0174	.0683	.1096	25.24	1.582	3.437	.6522
#2	.0232	.0718	.1114	25.33	1.954	3.417	.6510

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.730	.0339	.5135	-.0294	.0764	-.0052	.0715
SDev	.008	.0091	.0126	.0190	.0384	.0050	.0008
%RSD	.2783	26.89	2.445	64.67	50.24	96.54	1.074
#1	2.724	.0275	.5046	-.0160	.1036	-.0087	.0710
#2	2.735	.0404	.5223	-.0428	.0493	-.0016	.0720

Elem	Zn2138
Units	ppm
Avge	2.352
SDev	.022
%RSD	.9165
#1	2.337
#2	2.368

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	33378	--	--	--	--	--	--
SDev	346.4823	--	--	--	--	--	--
%RSD	1.038056	--	--	--	--	--	--
#1	33623	--	--	--	--	--	--
#2	33133	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6221-02D1 Operator: DQ
Run Time: 06/14/94 12:48:04
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0088	106.3	.7271	.8834	.0079	174.3	.0078
SDev	.0010	.1	.0604	.0005	.0000	.5	.0026
%RSD	11.88	.1191	8.305	.0551	.0115	.2586	32.96
#1	-.0080	106.2	.7698	.8831	.0079	174.6	.0096
#2	-.0095	106.3	.6844	.8838	.0079	174.0	.0060

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576

Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0231	.2638	.0928	54.28	8.797	8.572	1.018
SDev	.0062	.0011	.0011	.02	.570	.026	.000
%RSD	26.81	.4378	1.191	.0456	6.479	.2993	.0103
#1	.0275	.2646	.0935	54.30	9.200	8.554	1.018
#2	.0187	.2629	.0920	54.26	8.394	8.590	1.018

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.776	.1349	.3770	-.0299	.0949	.0406	.0722
SDev	.006	.0129	.0180	.0062	.0450	.0158	.0014
%RSD	.1064	9.526	4.774	20.84	47.42	38.96	1.955
#1	5.771	.1258	.3643	-.0255	.1268	.0518	.0732
#2	5.780	.1440	.3897	-.0343	.0631	.0294	.0712

Elem	Zn2138
Units	ppm
Avge	1.842
SDev	.004
%RSD	.2196
#1	1.845
#2	1.839

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	34328	--	--	--	--	--	--
SDev	3.535534	--	--	--	--	--	--
%RSD	.0102991	--	--	--	--	--	--
#1	34331	--	--	--	--	--	--
#2	34326	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6221-03D1 Operator: DQ
Run Time: 06/14/94 12:51:57
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0097	36.67	.2737	1.392	.0031	116.3	.0576
SDev	.0043	.08	.0609	.001	.0000	.2	.0051
%RSD	44.01	.2162	22.26	.0479	.2475	.1630	8.821
#1	-.0067	36.73	.3168	1.392	.0031	116.4	.0612
#2	-.0127	36.61	.2306	1.393	.0031	116.1	.0540

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0582	.5921	.2659	66.21	4.546	4.819	1.372
SDev	.0011	.0025	.0006	.10	.707	.053	.003
%RSD	1.959	.4248	.2293	.1440	15.55	1.091	.1976

#1	.0590	.5939	.2663	66.28	5.046	4.856	1.379
#2	.0574	.5903	.2655	66.15	4.046	4.782	1.376

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.475	.3290	6.477	.0285	.0806	.0327	.0591
SDev	.016	.0165	.103	.0125	.0632	.0378	.0001
%RSD	.3633	5.026	1.593	43.81	78.42	115.5	.2250
#1	4.486	.3173	6.550	.0374	.1252	.0060	.0590
#2	4.463	.3407	6.404	.0197	.0359	.0595	.0592

Elem	Zn2138
Units	ppm
Avge	7.579
SDev	.009
%RSD	.1189
#1	7.586
#2	7.573

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	33848	--	--	--	--	--	--
SDev	65.05383	--	--	--	--	--	--
%RSD	.1921940	--	--	--	--	--	--
#1	33894	--	--	--	--	--	--
#2	33802	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6221-04D1 Operator: DQ
Run Time: 06/14/94 12:55:50
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0014	5.438	.0549	.3642	.0017	11.13	.0102
SDev	.0011	.012	.0335	.0010	.0007	.02	.0001
%RSD	75.26	.2248	60.93	.2803	44.25	.1704	.9196
#1	-.0022	5.429	.0786	.3635	.0011	11.12	.0101
#2	-.0007	5.446	.0312	.3649	.0022	11.14	.0103

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0124	.3491	.0610	66.07	.2704	.7183	.5691
SDev	.0027	.0021	.0004	.08	.8949	.0566	.0024
%RSD	21.70	.6090	.7105	.1206	331.0	7.873	.4294
#1	.0105	.3476	.0607	66.01	-.3624	.6783	.5673
#2	.0143	.3506	.0613	66.12	.9032	.7583	.5709

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.052	.1584	2.217	.0078	.0070	.0206	.0305
SDev	.006	.0039	.008	.0069	.0211	.0357	.0017
%RSD	.1898	2.487	.3633	87.98	300.5	173.2	5.577
#1	3.056	.1556	2.211	.0030	.0219	.0458	.0293
#2	3.048	.1611	2.223	.0127	-.0079	-.0046	.0317

Elem	Zn2138
Units	ppm
Avge	1.490
SDev	.002
%RSD	.1200
#1	1.489
#2	1.492

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32932	--	--	--	--	--	--
SDev	204.3539	--	--	--	--	--	--
%RSD	.6205234	--	--	--	--	--	--
#1	33077	--	--	--	--	--	--
#2	32788	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6220-01D1 Operator: DQ
Run Time: 06/14/94 12:59:43
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2748
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0069	14.36	.0785	1.501	.0037	408.5	.0103
SDev	.0022	.04	.0106	.002	.0007	.7	.0001
%RSD	31.61	.2803	13.48	.1509	19.84	.1657	.4721
#1	-.0084	14.33	.0859	1.502	.0032	409.0	.0102
#2	-.0053	14.39	.0710	1.499	.0042	408.0	.0103

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0115	.0387	.0711	20.01	.9378	11.80	.6020
SDev	.0001	.0046	.0049	.02	1.056	.07	.0008
%RSD	.4078	11.93	6.927	.0989	112.6	.5981	.1402
#1	.0115	.0354	.0676	20.02	.1909	11.75	.6026
#2	.0115	.0419	.0746	19.99	1.685	11.85	.6015

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	17.07	.0292	.3490	-.0058	.1191	-.0503	.0491
SDev	.02	.0104	.0203	.0260	.0420	.0380	.0013

%RSD	.1012	35.57	5.819	446.4	35.24	75.52	2.694
#1	17.08	.0365	.3346	.0126	.0894	-.0771	.0500
#2	17.05	.0218	.3634	-.0242	.1488	-.0234	.0481

Elem	Zn2138
Units	ppm
Avge	1.245
SDev	.001
%RSD	.1161
#1	1.246
#2	1.244

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32774	--	--	--	--	--	--
SDev	104.6518	--	--	--	--	--	--
%RSD	.3193135	--	--	--	--	--	--
#1	32848	--	--	--	--	--	--
#2	32700	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6220-02D1 Operator: DQ
Run Time: 06/14/94 13:03:36
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0038	8.364	.0771	.6210	.0043	14.37	.0047
SDev	.0000	.025	.0089	.0003	.0000	.02	.0027
%RSD	.0378	.2995	11.56	.0460	.0554	.1085	57.69
#1	-.0038	8.347	.0708	.6208	.0043	14.36	.0066
#2	-.0038	8.382	.0834	.6212	.0043	14.38	.0028

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0103	.0170	.0380	8.947	.2024	2.926	.5940
SDev	.0006	.0052	.0023	.009	.2092	.005	.0003
%RSD	6.323	30.69	6.162	.0955	103.4	.1776	.0496
#1	.0108	.0207	.0397	8.941	.3503	2.930	.5942
#2	.0099	.0133	.0363	8.953	.0544	2.923	.5938

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.776	.0049	.1346	.0043	.0143	.0065	.0486
SDev	.016	.0061	.0065	.0132	.0069	.0127	.0015
%RSD	.5855	123.3	4.812	311.0	48.16	196.4	3.063
#1	2.788	.0006	.1300	.0136	.0192	-.0025	.0496
#2	2.765	.0092	.1392	-.0051	.0094	.0155	.0475

Elem	Zn2138
Units	ppm
Avge	.0782
SDev	.0012
%RSD	1.508
#1	.0774
#2	.0791

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32310	--	--	--	--	--	--
SDev	14.84924	--	--	--	--	--	--
%RSD	.0459594	--	--	--	--	--	--
#1	32320	--	--	--	--	--	--
#2	32299	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6220-02D SPK1 Operator: DQ
Run Time: 06/14/94 13:07:30
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.8972	72.41	2.433	2.540	.9253	15.71	.9621
SDev	.0065	.14	.104	.006	.0028	.13	.0031
%RSD	.7290	.1907	4.274	.2309	.3073	.8090	.3191
#1	.8926	72.31	2.359	2.544	.9233	15.62	.9599
#2	.9018	72.51	2.506	2.536	.9273	15.80	.9643

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9689	1.029	.9422	38.77	11.08	7.999	1.697
SDev	.0029	.015	.0011	.22	.89	.124	.004
%RSD	.3044	1.437	.1208	.5660	8.005	1.546	.2359
#1	.9668	1.019	.9414	38.62	10.45	7.911	1.694
#2	.9710	1.040	.9430	38.93	11.71	8.086	1.700

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.553	.9848	1.144	.6603	1.982	1.963	1.027
SDev	.018	.0063	.022	.0120	.090	.076	.001
%RSD	.4942	.6367	1.904	1.824	4.562	3.896	.1195
#1	3.541	.9804	1.128	.6518	1.918	2.017	1.026
#2	3.565	.9893	1.159	.6688	2.046	1.909	1.027

Elem	Zn2138
Units	ppm
Avge	1.097

SDev	.007
%RSD	.6529
#1	1.092
#2	1.102

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	33170	--	--	--	--	--	--
SDev	560.7357	--	--	--	--	--	--
%RSD	1.690465	--	--	--	--	--	--
#1	33567	--	--	--	--	--	--
#2	32774	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6220-02D DSPK1 Operator: DQ
Run Time: 06/14/94 13:11:23
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.8885	75.31	2.352	2.540	.9224	15.14	.9394
SDev	.0094	.28	.018	.007	.0026	.10	.0153
%RSD	1.052	.3656	.7536	.2779	.2827	.6901	1.628
#1	.8819	75.12	2.365	2.545	.9206	15.06	.9286
#2	.8951	75.51	2.340	2.535	.9243	15.21	.9502

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9541	1.025	.9354	39.91	10.22	8.065	1.628
SDev	.0047	.004	.0016	.20	.51	.091	.011
%RSD	.4944	.3649	.1701	.4983	5.002	1.130	.6582
#1	.9507	1.023	.9365	39.77	9.858	8.001	1.621
#2	.9574	1.028	.9343	40.05	10.58	8.130	1.636

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.335	.9637	1.083	.6372	1.910	1.845	1.029
SDev	.004	.0138	.029	.0066	.007	.008	.004
%RSD	.1325	1.436	2.723	1.043	.3426	.4147	.3341
#1	3.338	.9539	1.063	.6325	1.906	1.851	1.026
#2	3.332	.9735	1.104	.6419	1.915	1.840	1.041

Elem	Zn2138
Units	ppm
Avge	1.065
SDev	.009
%RSD	.8415
#1	1.059

#2	1.072						
IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	
Wavlen	371.030	--	--	--	--	--	--
Avge	33182	--	--	--	--	--	--
SDev	630.7393	--	--	--	--	--	--
%RSD	1.900848	--	--	--	--	--	--
#1	33628	--	--	--	--	--	--
#2	32736	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: CCV1 Operator: DQ
Run Time: 06/14/94 13:29:41
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.850	9.642	10.31	9.706	10.11	10.45	10.27
SDev	.000	.002	.18	.010	.02	.04	.07
%RSD	.0227	.0231	1.739	.1066	.2295	.4108	.7046
#1	1.849	9.644	10.44	9.699	10.13	10.48	10.32
#2	1.850	9.641	10.19	9.714	10.09	10.42	10.22
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	10.05	10.05	9.946	9.818	45.95	9.967	10.10
SDev	.03	.03	.025	.000	.60	.022	.02
%RSD	.2568	.3409	.2506	.0035	1.301	.2170	.1520
#1	10.07	10.08	9.929	9.817	46.37	9.952	10.12
#2	10.03	10.03	9.964	9.818	45.53	9.982	10.09
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	50.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	9.328	10.12	10.43	9.923	10.38	10.00	9.849
SDev	.066	.01	.01	.001	.02	.04	.017
%RSD	.7122	.1243	.1335	.0108	.1789	.3553	.1743
#1	9.281	10.13	10.42	9.922	10.37	9.977	9.861
#2	9.375	10.11	10.44	9.924	10.39	10.03	9.837
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Zn2138
Units	ppm
Avge	Q11.32
SDev	.06
%RSD	.5206
#1	Q11.36
#2	Q11.28
Errors	QC Fail
Value	10.00
Range	10.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32928	--	--	--	--	--	--
SDev	239.7092	--	--	--	--	--	--
%RSD	.7279909	--	--	--	--	--	--
#1	33097	--	--	--	--	--	--
#2	32758	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: CCB1 Operator: DQ
Run Time: 06/14/94 13:33:41
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0016	.0300	-.0053	.0003	.0011	.0086	.0024
SDev	.0011	.0107	.0049	.0004	.0000	.0049	.0001
%RSD	69.45	35.57	93.19	141.4	3.078	57.21	5.159
#1	.0008	.0225	-.0018	.0006	.0011	.0051	.0023
#2	.0023	.0376	-.0088	.0000	.0011	.0121	.0025
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0080
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0090

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	-.0005	.0007	.0023	-.2452	-.0068	.0014
SDev	.0024	.0027	.0009	.0032	.3084	.0250	.0005
%RSD	729.1	588.9	133.5	141.9	125.8	366.9	32.15
#1	.0021	.0015	.0013	.0045	-.0271	-.0245	.0018
#2	-.0014	-.0024	.0000	-.0000	-.4633	.0109	.0011
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	-.0020

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0617	.0069	.0185	-.0251	.0906	-.0565	.0011
SDev	.0152	.0029	.0286	.0131	.0030	.0149	.0028
%RSD	24.67	42.95	154.6	52.02	3.341	26.42	260.3
#1	.0725	.0048	.0387	-.0344	.0885	-.0671	.0031
#2	.0510	.0090	-.0017	-.0159	.0927	-.0460	.0009
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100

Elem	Zn2138
Units	ppm
Avge	.0052
SDev	.0018
%RSD	35.05
#1	.0039
#2	.0064
Errors	LC Pass
High	.0100
Low	-.0100

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	33963	--	--	--	--	--	--
SDev	576.9991	--	--	--	--	--	--
%RSD	1.698905	--	--	--	--	--	--
#1	34371	--	--	--	--	--	--
#2	33555	--	--	--	--	--	--

Method: ENVIRO94 Standard: STD2

Elem	Ba4934	Ca3179	Cd2288	Co2286	Cu3247	K_7664	Mg2790
Avge	1.003	.9423	.1689	.6888	.3604	.3115	.0681
SDev	.001	.0035	.0001	.0012	.0004	.0013	.0002
%RSD	.1168	.3667	.0559	.1729	.1153	.4088	.2455
#1	1.002	.9447	.1690	.6896	.3607	.3124	.0680
#2	1.003	.9398	.1688	.6880	.3601	.3106	.0682

Elem	Mn2576	Pb2203	Zn2138
Avge	.7979	.0734	.4094
SDev	.0019	.0002	.0013
%RSD	.2326	.3059	.3066
#1	.7992	.0736	.4103
#2	.7966	.0733	.4085

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	34158	--	--	--	--	--	--
SDev	123.7437	--	--	--	--	--	--
%RSD	.3622738	--	--	--	--	--	--
#1	34070	--	--	--	--	--	--
#2	34245	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: CCV1 Operator: DQ
Run Time: 06/14/94 13:43:25
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.842	9.640	10.22	10.10	10.13	9.760	9.603
SDev	.001	.003	.02	.02	.00	.004	.021
%RSD	.0581	.0346	.2257	.1580	.0143	.0395	.2191
#1	1.842	9.642	10.23	10.09	10.13	9.763	9.618
#2	1.841	9.638	10.20	10.11	10.13	9.757	9.588
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	9.569	9.951	10.24	9.745	48.16	9.712	9.738
SDev	.006	.016	.00	.026	.01	.000	.006
%RSD	.0637	.1632	.0330	.2704	.0270	.0030	.0626
#1	9.565	9.962	10.24	9.763	48.17	9.712	9.742
#2	9.573	9.939	10.24	9.726	48.15	9.712	9.734
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	50.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	9.346	10.03	9.521	9.793	10.23	9.911	9.788
SDev	.037	.05	.004	.037	.01	.046	.007
%RSD	.4002	.5129	.0385	.3746	.1124	.4677	.0730
#1	9.319	10.07	9.523	9.819	10.23	9.878	9.794
#2	9.372	9.995	9.518	9.767	10.22	9.944	9.783
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Zn2138

Units	ppm
Avge	10.61
SDev	.01
%RSD	.1040
#1	10.61
#2	10.60
Errors	QC Pass
Value	10.00
Range	10.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	34146	--	--	--	--	--	--
SDev	214.2534	--	--	--	--	--	--
%RSD	.6274533	--	--	--	--	--	--
#1	33995	--	--	--	--	--	--
#2	34298	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: CCB1 Operator: DQ
Run Time: 06/14/94 13:47:20
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0029	.0051	-.0106	-.0009	.0006	.0024	.0004
SDev	.0010	.0016	.0370	.0004	.0007	.0014	.0024
%RSD	35.81	30.78	349.7	46.81	120.1	57.54	540.5
#1	-.0036	.0040	.0156	-.0011	.0010	.0014	.0021
#2	-.0021	.0063	-.0367	-.0006	.0001	.0034	-.0013
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0090
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0090

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0020	-.0009	-.0004	.0029	-1.120	-.0367	.0002
SDev	.0012	.0002	.0023	.0001	.278	.0419	.0000
%RSD	61.62	21.18	613.2	3.119	24.79	114.2	4.376
#1	.0011	-.0008	-.0020	.0030	-1.317	-.0663	.0002
#2	.0028	-.0010	.0013	.0028	-.9239	-.0071	.0003
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	.0020

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm

Avge	.0548	.0028	.0195	-.0083	-.0068	-.0046	-.0009
SDev	.0046	.0000	.0108	.0125	.0134	.0554	.0000
%RSD	8.301	.0000	55.33	151.5	196.5	1200.	.0008
#1	.0580	.0028	.0271	-.0171	.0026	-.0438	-.0009
#2	.0516	.0028	.0119	.0006	-.0162	.0346	.0009
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100

Elem	Zn2138
Units	ppm
Avge	.0026
SDev	.0029
%RSD	107.4
#1	.0047
#2	.0006
Errors	LC Pass
High	.0100
Low	-.0100

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	34656	--	--	--	--	--	--
SDev	129.4005	--	--	--	--	--	--
%RSD	.3733911	--	--	--	--	--	--
#1	34747	--	--	--	--	--	--
#2	34564	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6417-01A 1 Operator: DQ
Run Time: 06/14/94 13:51:14
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0974	3.637	2.781	.4887	.0029	13.05	.0168
SDev	.0027	.021	.068	.0001	.0007	.09	.0249
%RSD	2.814	.5845	2.454	.0232	24.21	.6821	148.6
#1	-.0993	3.652	2.829	.4888	.0024	13.11	.0344
#2	-.0955	3.622	2.732	.4886	.0034	12.99	-.0009

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9179	25.33	2.407	2863.	1.553	.1380	21.70
SDev	.0116	.11	.011	27.	.064	.0192	.11
%RSD	1.265	.4470	.4495	.9507	4.107	13.90	.5155
#1	.9261	25.41	2.400	2882.	1.508	.1244	21.78

#2	.9097	25.25	2.415	2843.	1.598	.1515	21.62

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.210	1.544	1.262	.2945	.2447	9.566	-.0526
SDev	.018	.001	.016	.0616	.0348	.391	.0136
%RSD	.5649	.0339	1.268	20.90	14.22	4.088	25.92
#1	3.223	1.544	1.250	.3380	.2693	9.289	-.0623
#2	3.197	1.544	1.273	.2510	.2201	9.842	-.0430

Elem	Zn2138
Units	ppm
Avge	64.42
SDev	.54
%RSD	.8406
#1	64.80
#2	64.03

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	30636	--	--	--	--	--	--
SDev	497.8032	--	--	--	--	--	--
%RSD	1.624896	--	--	--	--	--	--
#1	30284	--	--	--	--	--	--
#2	30988	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6285-01A 1 Operator: DQ
Run Time: 06/14/94 13:55:07
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0142	k21.79	.1372	49.66	.0044	k26.06	.3030
SDev	.0035	.62	.0251	.04	.0000	.26	.0009
%RSD	24.28	2.832	18.31	.0726	.6607	.9951	.3119
#1	-.0118	k21.36	.1550	49.69	.0044	k25.87	.3036
#2	-.0167	22.23	.1194	49.64	.0044	26.24	.3023

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0344	k7.968	35.81	k8.837	6.872	k6.124	.3399
SDev	.0011	.030	.04	.019	.782	.313	.0008
%RSD	3.159	.3823	.1151	.2190	11.37	5.119	.2259
#1	.0352	k7.946	35.78	k8.851	7.424	k6.346	.3394
#2	.0336	7.989	35.84	8.824	6.319	5.903	.3405

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm

Avge	8.732	.0823	k34.24	-1.378	k-.1540	k-.0073	k-.0168
SDev	.026	.0103	.03	.034	.0722	.0781	.0001
%RSD	.2932	12.58	.0875	2.487	46.90	1069.	.4881
#1	8.750	.0896	k34.21	-1.353	k-.2051	k-.0625	k-.0168
#2	8.714	.0750	34.26	-1.402	-.1029	.0479	-.0169

Elem	Zn2138
Units	ppm
Avge	S6842.
SDev	7677.
%RSD	112.2
#1	S12270.
#2	1414.

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	31758	--	--	--	--	--	--
SDev	174.6554	--	--	--	--	--	--
%RSD	.5499485	--	--	--	--	--	--
#1	31882	--	--	--	--	--	--
#2	31635	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-01C 1 Operator: DQ
Run Time: 06/14/94 13:59:00
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0041	k16.99	.1888	.6345	.0065	S5999.	.0115
SDev	.0049	.03	.0188	.0018	.0008	49.	.0059
%RSD	118.3	.1754	9.975	.2870	11.42	.8198	50.79
#1	-.0007	k17.02	.1755	.6358	.0060	S6033.	.0157
#2	-.0075	k16.97	.2022	.6332	.0071	S5964.	.0074

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0282	k.0554	.2684	k89.08	6.572	k228.8	4.307
SDev	.0038	.0001	.0004	.22	.929	.7	.003
%RSD	13.35	.1954	.1547	.2425	14.13	.3072	.0742
#1	.0308	k.0553	.2681	k89.23	7.229	k229.3	4.309
#2	.0255	k.0555	.2687	k88.93	5.916	k228.3	4.305

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.093	.1020	k.2711	-.0367	k1.313	k.1005	k.0545
SDev	.004	.0008	.0036	.0511	.115	.0411	.0022
%RSD	.0862	.7961	1.332	139.2	8.732	40.87	4.064

#1	5.097	.1026	k.2685	-.0728	k1.395	k.1296	k.0560
#2	5.090	.1015	k.2737	-.0006	k1.232	k.0715	k.0529

Elem	Zn2138
Units	ppm
Avge	k.8175
SDev	.0247
%RSD	3.018
#1	k.8350
#2	k.8001

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	29290	--	--	--	--	--	--
SDev	239.7092	--	--	--	--	--	--
%RSD	.8183855	--	--	--	--	--	--
#1	29121	--	--	--	--	--	--
#2	29460	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-02C 1 Operator: DQ
Run Time: 06/14/94 14:02:54
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0148	111.3	.9516	.6633	.0079	7.129	.0064
SDev	.0043	.2	.1103	.0001	.0006	.038	.0001
%RSD	28.96	.1798	11.59	.0191	7.974	.5295	1.983
#1	-.0118	111.5	.8736	.6634	.0075	7.156	.0065
#2	-.0179	111.2	1.030	.6632	.0084	7.102	.0063

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0941	.1094	.1529	209.8	4.428	8.913	1.280
SDev	.0008	.0013	.0007	.6	.641	.011	.003
%RSD	.8564	1.186	.4456	.2708	14.48	.1179	.1961
#1	.0935	.1085	.1524	210.2	4.882	8.905	1.282
#2	.0946	.1103	.1533	209.4	3.975	8.920	1.278

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.970	.1017	.1655	-.0190	.0333	.0893	.2154
SDev	.010	.0293	.0263	.0063	.0807	.0197	.0011
%RSD	.3238	28.84	15.91	33.02	242.1	22.03	.5116
#1	2.977	.0810	.1469	-.0235	.0904	.1032	.2162
#2	2.963	.1224	.1841	-.0146	-.0237	.0754	.2146

Elem	Zn2138

Units	ppm
Avge	.3348
SDev	.0002
%RSD	.0494
#1	.3349
#2	.3347

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32137	--	--	--	--	--	--
SDev	367.6955	--	--	--	--	--	--
%RSD	1.144150	--	--	--	--	--	--
#1	31877	--	--	--	--	--	--
#2	32397	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-03C 1 Operator: DQ
Run Time: 06/14/94 14:06:47
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2208
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0032	k27.38	.2820	1.018	.0058	S5866.	.0052
SDev	.0012	.02	.0004	.004	.0000	11.	.0028
%RSD	37.13	.0751	.1281	.3693	.2122	.1837	54.00
#1	-.0024	k27.39	.2822	1.021	.0058	S5874.	.0072
#2	-.0041	k27.36	.2817	1.015	.0058	S5859.	.0032

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0338	k.2586	.1970	k94.61	10.53	k184.1	5.053
SDev	.0040	.0016	.0009	.18	.26	.6	.011
%RSD	11.98	.6041	.4829	.1947	2.470	.3280	.2141
#1	.0309	k.2597	.1963	k94.48	10.35	k183.7	5.045
#2	.0366	k.2575	.1977	k94.74	10.72	k184.6	5.060

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.824	.0814	k.3729	.0441	k1.354	k-.1056	k.0722
SDev	.012	.0064	.0461	.0216	.061	.0110	.0063
%RSD	.2573	7.858	12.36	49.03	4.509	10.38	8.795
#1	4.833	.0769	k.4055	.0594	k1.397	k-.0979	k.0679
#2	4.815	.0859	k.3404	.0288	k1.310	k-.1134	k.0767

Elem	Zn2138
Units	ppm
Avge	k.7845
SDev	.0043
%RSD	.5488

#1	k.7815
#2	k.7876

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	29941	--	--	--	--	--	--
SDev	55.15433	--	--	--	--	--	--
%RSD	.1842100	--	--	--	--	--	--
#1	29902	--	--	--	--	--	--
#2	29980	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-04C 1 Operator: DQ
Run Time: 06/14/94 14:10:40
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2298
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0211	123.7	1.093	1.000	.0115	8.404	.0027
SDev	.0002	.3	.049	.003	.0001	.044	.0001
%RSD	.9149	.2523	4.526	.2794	1.017	.5243	2.603
#1	-.0210	123.4	1.128	1.002	.0115	8.373	.0026
#2	-.0212	123.9	1.058	.9983	.0116	8.435	.0027

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0577	.1722	.1277	271.5	2.815	8.477	.6235
SDev	.0050	.0017	.0012	1.1	1.042	.064	.0001
%RSD	8.716	1.003	.9572	.4089	37.02	.7537	.0207
#1	.0542	.1734	.1268	270.8	2.078	8.432	.6236
#2	.0613	.1710	.1286	272.3	3.552	8.522	.6234

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.152	.1015	.1537	.0327	.0015	.1802	.2942
SDev	.014	.0040	.0150	.0406	.0166	.0225	.0001
%RSD	.4429	3.909	9.767	124.2	1105.	12.49	.0411
#1	3.142	.0987	.1644	.0040	-.0103	.1643	.2943
#2	3.162	.1043	.1431	.0615	.0133	.1962	.2941

Elem	Zn2138
Units	ppm
Avge	.3034
SDev	.0023
%RSD	.7659
#1	.3017
#2	.3050

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32250	--	--	--	--	--	--
SDev	304.7630	--	--	--	--	--	--
%RSD	.9450163	--	--	--	--	--	--
#1	32465	--	--	--	--	--	--
#2	32034	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-05C 1 Operator: DQ
Run Time: 06/14/94 14:14:34
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0231	88.58	.7986	.6881	.0073	17.01	.0050
SDev	.0011	.07	.0019	.0011	.0000	.03	.0025
%RSD	4.951	.0812	.2426	.1600	.2495	.1739	31.69
#1	-.0239	88.53	.7972	.6889	.0073	16.98	.0062
#2	-.0223	88.64	.7999	.6873	.0073	17.03	.0098

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1159	.1157	.2235	214.1	3.785	17.59	6.490
SDev	.0015	.0044	.0029	.1	.069	.01	.002
%RSD	1.312	3.823	1.291	.0314	1.831	.0596	.0307
#1	.1169	.1188	.2256	214.1	3.736	17.58	6.491
#2	.1148	.1126	.2215	214.2	3.834	17.60	6.489

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.776	.1741	.1625	-.0103	.0042	.1286	.1993
SDev	.028	.0415	.0422	.0065	.0782	.0513	.0005
%RSD	1.015	23.84	25.95	62.43	1854.	39.88	.2452
#1	2.756	.1448	.1923	-.0149	.0595	.0923	.1997
#2	2.796	.2035	.1326	-.0058	-.0511	.1648	.1990

Elem	Zn2138
Units	ppm
Avge	.5688
SDev	.0035
%RSD	.6203
#1	.5713
#2	.5663

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--

Wavlen	371.030	--	--	--	--	--	--
Avge	32718	--	--	--	--	--	--
SDev	72.83200	--	--	--	--	--	--
%RSD	.2226087	--	--	--	--	--	
#1	32666	--	--	--	--	--	--
#2	32769	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-06C 1 Operator: DQ
Run Time: 06/14/94 14:18:27
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0044	22.17	.1649	.1012	.0025	2.827	.0023
SDev	.0010	.00	.0106	.0002	.0007	.036	.0000
%RSD	23.43	.0124	6.455	.1869	28.02	1.260	1.930
#1	-.0037	22.17	.1724	.1011	.0031	2.852	.0023
#2	-.0051	22.17	.1574	.1014	.0020	2.802	.0022

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0191	.0165	.0614	50.40	1.983	1.912	.6254
SDev	.0026	.0013	.0007	.21	.145	.018	.0019
%RSD	13.36	8.132	1.122	.4229	7.326	.9478	.3007
#1	.0209	.0155	.0610	50.55	1.880	1.899	.6267
#2	.0173	.0174	.0619	50.25	2.085	1.925	.6240

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.505	.0261	.0663	.0102	.0533	-.0008	.0457
SDev	.003	.0016	.0124	.0130	.0287	.0197	.0032
%RSD	.1237	6.059	18.70	126.5	53.86	2363.	6.923
#1	2.507	.0273	.0751	.0194	.0330	-.0147	.0479
#2	2.503	.0250	.0576	.0011	.0736	.0131	.0435

Elem	Zn2138
Units	ppm
Avge	.1958
SDev	.0055
%RSD	2.827
#1	.1997
#2	.1919

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	34089	--	--	--	--	--	--
SDev	214.9605	--	--	--	--	--	--

%RSD	.6305860	--	--	--	--	--	--
#1	33937	--	--	--	--	--	--
#2	34241	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-07C 1 Operator: DQ
Run Time: 06/14/94 14:22:21
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0171	70.63	.5975	.7538	.0074	468.2	.0063
SDev	.0011	.01	.0136	.0014	.0000	.2	.0051
%RSD	6.260	.0116	2.269	.1859	.2441	.0431	81.97
#1	-.0163	70.64	.6071	.7529	.0074	468.3	.0026
#2	-.0178	70.63	.5879	.7548	.0073	468.0	.0099

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0789	.1046	.1749	168.3	6.231	24.96	6.705
SDev	.0008	.0000	.0016	.0	.046	.03	.005
%RSD	1.029	.0039	.9126	.0234	.7406	.1189	.0714
#1	.0794	.1046	.1761	168.3	6.264	24.98	6.708
#2	.0783	.1046	.1738	168.3	6.199	24.94	6.702

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.353	.1309	.1259	-.0426	.1099	.0204	.1538
SDev	.014	.0063	.0125	.0132	.0088	.0363	.0026
%RSD	.4051	4.827	9.934	31.03	7.961	178.1	1.719
#1	3.362	.1353	.1348	-.0333	.1161	-.0053	.1520
#2	3.343	.1264	.1171	-.0520	.1037	.0460	.1557

Elem	Zn2138
Units	ppm
Avge	.4904
SDev	.0076
%RSD	1.548
#1	.4958
#2	.4851

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32432	--	--	--	--	--	
SDev	70.71068	--	--	--	--	--	--
%RSD	.2180275	--	--	--	--	--	--
#1	32382	--	--		--		

#2	32482	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-08C 1 Operator: DQ
Run Time: 06/14/94 14:26:15
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0231	93.72	.7834	.6489	.0092	7.177	.0047
SDev	.0003	.31	.1180	.0000	.0009	.016	.0025
%RSD	1.330	.3315	15.06	.0043	9.657	.2273	54.07
#1	-.0233	93.50	.7000	.6488	.0098	7.189	.0029
#2	-.0229	93.94	.8668	.6489	.0085	7.166	.0064

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1140	.1165	.2152	225.2	5.026	19.46	4.289
SDev	.0049	.0018	.0058	.2	.797	.05	.003
%RSD	4.254	1.543	2.686	.0762	15.86	.2526	.0777
#1	.1174	.1177	.2111	225.3	4.463	19.42	4.291
#2	.1106	.1152	.2192	225.0	5.590	19.49	4.287

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.723	.1645	.1864	.0198	.0575	.1326	.2124
SDev	.001	.0318	.0234	.0058	.0727	.0515	.0001
%RSD	.0353	19.35	12.56	29.27	126.5	38.86	.0326
#1	2.723	.1420	.2030	.0157	.1089	.0961	.2125
#2	2.722	.1870	.1699	.0239	.0061	.1690	.2124

Elem	Zn2138
Units	ppm
Avge	.5241
SDev	.0080
%RSD	1.531
#1	.5298
#2	.5185

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	31638	--	--	--	--	--	--
SDev	433.4565	--	--	--	--	--	--
%RSD	1.370029	--	--	--	--	--	--
#1	31332	--	--	--	--	--	--
#2	31945	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: CCV2 Operator: DQ
Run Time: 06/14/94 14:39:55
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.844	9.648	10.29	10.04	10.08	9.801	9.752
SDev	.005	.060	.09	.02	.01	.058	.020
%RSD	.2549	.6192	.8267	.1568	.1288	.5890	.2016
#1	1.841	9.606	10.35	10.05	10.07	9.760	9.738
#2	1.847	9.691	10.23	10.03	10.09	9.842	9.766
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	9.643	10.01	10.19	9.809	47.46	9.829	9.827
SDev	.035	.05	.00	.035	.38	.022	.025
%RSD	.3614	.5047	.0050	.3610	.7937	.2240	.2580
#1	9.618	9.979	10.19	9.784	47.73	9.813	9.809
#2	9.667	10.05	10.19	9.834	47.20	9.844	9.845
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	50.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	9.420	10.17	9.685	9.890	10.27	10.22	9.816
SDev	.001	.12	.047	.066	.07	.02	.024
%RSD	.0069	1.210	.4805	.6636	.6847	.2346	.2433
#1	9.420	10.09	9.652	9.843	10.22	10.20	9.799
#2	9.419	10.26	9.718	9.936	10.32	10.23	9.833
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Zn2138
Units	ppm
Avge	10.69
SDev	.05
%RSD	.4977
#1	10.65
#2	10.73
Errors	QC Pass
Value	10.00
Range	10.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32552	--	--	--	--	--	--
SDev	451.8413	--	--	--	--	--	--
%RSD	1.388081	--	--	--	--	--	--
#1	32871	--	--	--	--	--	--
#2	32232	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: CCB2 Operator: DQ
Run Time: 06/14/94 14:43:50
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0022	.0488	-.0446	.0000	.0011	-.0123	.0007
SDev	.0000	.0102	.0269	.0000	.0000	.0037	.0025
%RSD	.5496	20.80	60.23	.0000	1.404	30.42	364.2
#1	-.0022	.0560	-.0636	.0000	.0011	-.0097	.0024
#2	-.0022	.0417	-.0256	.0000	.0011	-.0150	-.0011
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0080
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0080

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	-.0036	.0028	.0015	-.4421	.0023	.0019
SDev	.0031	.0010	.0013	.0022	.0927	.0253	.0011
%RSD	33530.	28.05	47.66	151.8	20.96	1097.	58.14
#1	-.0022	-.0043	.0018	.0030	-.3766	-.0156	.0011
#2	.0022	-.0029	.0037	-.0001	-.5077	.0202	H.0027
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	.0020

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0667	.0049	.0161	.0076	.0035	-.0086	.0012
SDev	.0037	.0030	.0008	.0199	.0723	.0206	.0029
%RSD	5.525	61.04	4.927	261.2	2094.	238.0	253.4
#1	.0693	.0028	.0156	-.0065	.0546	-.0232	.0032
#2	.0641	.0070	.0167	.0217	-.0477	.0059	-.0009
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100

Elem	Zn2138

Units	ppm
Avge	.0060
SDev	.0014
%RSD	23.03
#1	.0050
#2	.0070
Errors	LC Pass
High	.0100
Low	-.0100

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	33072	--	--	--	--	--	--
SDev	261.6295	--	--	--	--	--	--
%RSD	.7910907	--	--	--	--	--	--
#1	33257	--	--	--	--	--	--
#2	32887	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-09C 1 Operator: DQ
Run Time: 06/14/94 14:47:44
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0205	83.52	.6512	.4855	.0078	11.22	.0069
SDev	.0023	.17	.0211	.0038	.0000	.05	.0055
%RSD	11.16	.2057	3.242	.7920	.2767	.4633	79.49
#1	-.0221	83.40	.6661	.4882	.0078	11.18	.0030
#2	-.0188	83.64	.6363	.4828	.0078	11.25	.0108

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0986	.1112	.2774	174.2	3.990	13.61	3.982
SDev	.0023	.0021	.0006	.4	.014	.12	.016
%RSD	2.291	1.866	.2006	.2458	.3617	.8456	.4082
#1	.0970	.1126	.2778	173.9	4.000	13.53	3.971
#2	.1002	.1097	.2770	174.5	3.979	13.69	3.994

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.985	.1245	.1566	.0072	-.0046	.1037	.1942
SDev	.030	.0003	.0120	.0559	.0067	.0763	.0037
%RSD	.9890	.2431	7.644	772.1	146.5	73.54	1.886
#1	2.964	.1243	.1650	-.0323	-.0094	.0498	.1916
#2	3.006	.1247	.1481	.0468	.0002	.1577	.1969

Elem	Zn2138

Units	ppm
Avge	.5494
SDev	.0037
%RSD	.6765
#1	.5468
#2	.5520

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	30717	--	--	--	--	--	--
SDev	76.36753	--	--	--	--	--	--
%RSD	.2486165	--	--	--	--	--	--
#1	30771	--	--	--	--	--	--
#2	30663	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-10C 1 Operator: DQ
Run Time: 06/14/94 14:51:37
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0149	175.6	1.456	.9715	.0095	9.635	.0027
SDev	.0000	.1	.020	.0032	.0000	.015	.0104
%RSD	.2457	.0350	1.358	.3298	.2812	.1554	386.2
#1	-.0148	175.6	1.470	.9737	.0095	9.625	-.0047
#2	-.0149	175.5	1.443	.9692	.0095	9.646	.0101

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0687	.1751	.3490	292.2	5.042	12.98	.7592
SDev	.0030	.0016	.0009	.4	.241	.04	.0014
%RSD	4.378	.9129	.2585	.1211	4.786	.3137	.1775
#1	.0709	.1740	.3484	291.9	4.871	12.95	.7601
#2	.0666	.1762	.3497	292.4	5.212	13.01	.7582

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.818	.1438	.1910	.0139	.0998	.1932	.3140
SDev	.007	.0049	.0011	.0664	.0524	.0230	.0007
%RSD	.2486	3.428	.6010	478.9	52.48	11.88	.2152
#1	2.823	.1403	.1902	.0609	.0627	.2094	.3144
#2	2.813	.1473	.1918	-.0331	.1368	.1770	.3135

Elem	Zn2138
Units	ppm
Avge	.5656
SDev	.0016
%RSD	.2879

#1	.5667
#2	.5644

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32148	--	--	--	--	--	--
SDev	82.73149	--	--	--	--	--	--
%RSD	.2573417	--	--	--	--	--	--
#1	32207	--	--	--	--	--	--
#2	32090	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-11C 1 Operator: DQ
Run Time: 06/14/94 14:55:30
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0090	42.07	.4269	.9626	.0057	1424.	.0051
SDev	.0000	.01	.0306	.0033	.0000	7.	.0027
%RSD	.4935	.0123	7.165	.3392	.6150	.4820	53.21
#1	-.0091	42.08	.4053	.9603	.0058	1428.	.0032
#2	-.0090	42.07	.4485	.9649	.0057	1419.	.0070

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0546	.0743	.2444	190.2	9.050	215.6	8.795
SDev	.0071	.0019	.0052	.6	.846	.2	.029
%RSD	13.01	2.534	2.143	.3070	9.349	.1065	.3267
#1	.0596	.0757	.2481	190.6	9.649	215.8	8.815
#2	.0495	.0730	.2407	189.8	8.452	215.4	8.774

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	4.775	.1390	.2153	-.0420	.4046	.2233	.0993
SDev	.005	.0088	.0018	.0001	.0183	.0081	.0010
%RSD	.0947	6.345	.8267	.1272	4.528	3.609	1.053
#1	4.778	.1453	.2166	-.0419	.3916	.2290	.0985
#2	4.771	.1328	.2141	-.0420	.4176	.2176	.1000

Elem	Zn2138
Units	ppm
Avge	.5743
SDev	.0002
%RSD	.0357
#1	.5742
#2	.5745

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	
Avge	30238	--	--	--	--	--	
SDev	161.2203	--	--	--	--	--	
%RSD	.5331714	--	--	--	--	--	--
#1	30124	--	--	--	--	--	
#2	30352	--	--	--	--		

Method: ENVIRO94 Sample Name: 6119-12C 1 Operator: DQ
Run Time: 06/14/94 14:59:23
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0136	43.58	.3678	.5142	.0055	17.25	.0029
SDev	.0001	.10	.0741	.0001	.0000	.07	.0054
%RSD	.4050	.2313	20.16	.0112	.4943	.3892	186.2
#1	-.0136	43.50	.4202	.5143	.0055	17.21	-.0009
#2	-.0136	43.65	.3154	.5142	.0055	17.30	.0067

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0428	.0768	.1152	94.86	1.676	9.336	1.312
SDev	.0018	.0043	.0007	.22	.363	.026	.004
%RSD	4.138	5.615	.6240	.2311	21.63	.2789	.3055
#1	.0440	.0738	.1157	94.71	1.932	9.355	1.315
#2	.0415	.0799	.1147	95.02	1.419	9.318	1.309

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.524	.0403	.1235	-.0037	.0549	.0355	.1202
SDev	.012	.0126	.0114	.0139	.0052	.0449	.0041
%RSD	.4587	31.36	9.215	377.0	9.396	126.5	3.439
#1	2.515	.0314	.1315	-.0135	.0586	.0037	.1232
#2	2.532	.0493	.1154	.0061	.0513	.0673	.1173

Elem	Zn2138
Units	ppm
Avge	.2426
SDev	.0056
%RSD	2.317
#1	.2386
#2	.2465

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	

Wavlen	371.030	--	--	--	--	--	--
Avge	31366	--	--	--	--	--	--
SDev	133.6432	--	--	--	--	--	--
%RSD	.4260834	--	--	--	--	--	--
#1	31460	--	--	--	--	--	--
#2	31271	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-13C 1 Operator: DQ
Run Time: 06/14/94 15:03:16
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0168	56.03	.4162	.7460	.0076	33.94	.0028
SDev	.0001	.07	.0289	.0004	.0000	.06	.0000
%RSD	.4011	.1187	6.931	.0574	.4663	.1761	1.104
#1	-.0168	55.99	.4366	.7463	.0076	33.98	.0029
#2	-.0167	56.08	.3958	.7457	.0076	33.90	.0028

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0869	.0784	.2452	117.1	3.029	10.42	8.242
SDev	.0003	.0018	.0002	.1	.501	.03	.010
%RSD	.3183	2.240	.0813	.0571	16.56	.2703	.1173
#1	.0867	.0797	.2451	117.1	3.383	10.40	8.249
#2	.0871	.0772	.2454	117.0	2.674	10.44	8.235

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.755	.1017	.1379	.0057	.0162	-.0083	.1454
SDev	.039	.0214	.0234	.0002	.0460	.0719	.0006
%RSD	1.432	21.00	16.96	4.198	283.6	865.7	.4434
#1	2.783	.0866	.1214	.0059	.0488	-.0592	.1459
#2	2.727	.1168	.1545	.0056	-.0163	.0426	.1450

Elem	Zn2138
Units	ppm
Avge	.5023
SDev	.0012
%RSD	.2387
#1	.5031
#2	.5014

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	31476	--	--	--	--	--	--
SDev	131.5219	--	--	--	--	--	--

%RSD	.4178481	--	--	--	--	--	--
#1	31383	--	--	--	--	--	--
#2	31569	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-14C 1 Operator: DO
Run Time: 06/14/94 15:07:10
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0179	146.3	1.246	.9526	.0100	9.063	.0027
SDev	.0022	.0	.020	.0023	.0007	.006	.0052
%RSD	12.49	.0051	1.599	.2395	7.192	.0675	195.8
#1	-.0163	146.3	1.260	.9543	.0105	9.059	-.0010
#2	-.0195	146.3	1.232	.9510	.0095	9.068	.0063

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0575	.1752	.2225	325.9	3.115	11.73	.7416
SDev	.0007	.0006	.0022	.1	.637	.07	.0024
%RSD	1.237	.3235	.9670	.0392	20.45	.5801	.3162
#1	.0570	.1756	.2240	325.8	3.565	11.78	.7433
#2	.0581	.1748	.2210	326.0	2.665	11.68	.7400

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.714	.1334	.2011	-.0566	.0453	.2367	.2987
SDev	.011	.0331	.0185	.0464	.0251	.0996	.0011
%RSD	.4047	24.85	9.179	81.85	55.42	42.09	.3703
#1	2.722	.1568	.1880	-.0894	.0631	.1662	.2995
#2	2.706	.1099	.2141	-.0239	.0276	.3071	.2979

Elem	Zn2138
Units	ppm
Avge	.4348
SDev	.0026
%RSD	.5941
#1	.4367
#2	.4330

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32334	--	--	--	--	--	--
SDev	41.01219	--	--	--	--	--	--
%RSD	.1268392	--	--	--	--	--	--
#1	32363	--	--	--	--	--	--

#2	32305	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: LCSS PB X50 1 Operator: DQ
Run Time: 06/14/94 15:11:03
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0001	.2801	-.0186	.0401	.0011	9.205	.0059
SDev	.0011	.0093	.0178	.0010	.0000	.011	.0050
%RSD	1263.	3.336	95.99	2.538	1.085	.1186	85.33
#1	-.0007	.2867	-.0060	.0408	.0011	9.197	.0023
#2	.0008	.2735	-.0311	.0394	.0011	9.213	.0095

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0194	.0422	.1416	1.090	-.1142	.4403	.0373
SDev	.0001	.0028	.0002	.002	.2812	.0090	.0003
%RSD	.7004	6.627	.1658	.1816	246.2	2.037	.7679
#1	.0193	.0403	.1418	1.092	.0846	.4340	.0375
#2	.0195	.0442	.1414	1.089	-.3130	.4467	.0371

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2988	-.0044	17.17	-.0204	.0176	-.0724	.0031
SDev	.0027	.0043	.01	.0066	.0385	.0210	.0029
%RSD	.8972	97.69	.0372	32.24	219.1	28.95	92.98
#1	.3007	-.0075	17.17	-.0250	-.0096	-.0576	.0051
#2	.2969	-.0014	17.18	-.0157	.0448	-.0872	.0011

Elem	Zn2138
Units	ppm
Avge	12.46
SDev	.02
%RSD	.1220
#1	12.47
#2	12.44

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	33562	--	--	--	--	--	--
SDev	202.9397	--	--	--	--	--	--
%RSD	.6046619	--	--	--	--	--	--
#1	33706	--	--	--	--	--	--
#2	33419	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6285-01A X10 Operator: DQ
Run Time: 06/14/94 15:25:41
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0037	2.283	-.0059	4.938	.0011	2.849	.0340
SDev	.0000	.002	.0099	.001	.0000	.012	.0001
%RSD	.2811	.1090	167.7	.0204	.6197	.4319	.3914
#1	-.0037	2.285	.0011	4.937	.0011	2.857	.0341
#2	-.0037	2.281	-.0130	4.938	.0011	2.840	.0339

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0042	.8589	3.690	.9498	.1936	.6523	.0379
SDev	.0006	.0052	.001	.0053	.2308	.0085	.0004
%RSD	14.94	.6005	.0336	.5578	119.2	1.297	1.020
#1	.0047	.8625	3.689	.9535	.3568	.6583	.0376
#2	.0038	.8552	3.691	.9461	.0304	.6463	.0382

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9275	.0049	3.887	-.1687	.0413	.0039	-.0010
SDev	.0179	.0145	.008	.0250	.0571	.0692	.0000
%RSD	1.933	299.5	.2039	14.82	138.3	1797.	.0422
#1	.9402	.0151	3.892	-.1510	.0009	.0528	-.0010
#2	.9148	-.0054	3.881	-.1864	.0816	-.0451	-.0010

Elem	Zn2138
Units	ppm
Avge	375.4
SDev	1.5
%RSD	.4053
#1	376.4
#2	374.3

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	33711	--	--	--	--	--	--
SDev	115.9655	--	--	--	--	--	--
%RSD	.3439990	--	--	--	--	--	--
#1	33629	--	--	--	--	--	--
#2	33793	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-01C X10 Operator: DQ
Run Time: 06/14/94 15:29:35

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0022	1.677	-.0138	.0613	.0022	196.7	.0044
SDev	.0022	.009	.0281	.0013	.0000	.4	.0026
%RSD	98.60	.5426	204.4	2.176	.0911	.1906	58.64
#1	-.0038	1.670	.0061	.0623	.0022	197.0	.0062
#2	-.0007	1.683	-.0337	.0604	.0022	196.4	.0026

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0031	.0069	.0266	9.801	-.1905	23.08	.4704
SDev	.0013	.0001	.0024	.019	.1314	.03	.0019
%RSD	39.87	1.751	9.131	.1892	68.99	.1282	.3958
#1	.0023	.0070	.0283	9.814	-.2834	23.06	.4691
#2	.0040	.0068	.0249	9.788	-.0975	23.10	.4717

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.5149	-.0025	.0493	.0082	.0785	-.0018	.0046
SDev	.0150	.0015	.0001	.0065	.0202	.0337	.0000
%RSD	2.907	59.26	.1920	79.22	25.74	1903.	.0569
#1	.5255	-.0015	.0494	.0036	.0928	-.0256	.0046
#2	.5043	-.0036	.0492	.0128	.0642	.0221	.0046

Elem	Zn2138
Units	ppm
Avge	.0956
SDev	.0032
%RSD	3.405
#1	.0979
#2	.0933

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32698	--	--	--	--	--	--
SDev	21.21320	--	--	--	--	--	--
%RSD	.0648761	--	--	--	--	--	--
#1	32683	--	--	--	--	--	--
#2	32713	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: 6119-03C X10 1 Operator: DQ
Run Time: 06/14/94 15:33:28
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm		ppm	ppm	ppm

Avge	-.0022	2.675	.0035	.1001	.0021	239.4	.0007
SDev	.0000	.003	.0108	.0000	.0001	.9	.0026
%RSD	1.168	.1170	309.0	.0219	2.372	.3934	367.6
#1	-.0022	2.677	-.0041	.1001	.0021	238.7	-.0011
#2	-.0022	2.672	.0111	.1001	.0022	240.1	.0026

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0031	.0266	.0203	10.38	-.0175	18.74	.5489
SDev	.0013	.0010	.0017	.02	.6698	.09	.0018
%RSD	43.68	3.689	8.558	.1803	3829.	.4822	.3237
#1	.0021	.0273	.0191	10.36	-.4911	18.68	.5477
#2	.0040	.0259	.0216	10.39	.4562	18.81	.5502

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4884	.0321	.0595	.0031	.0944	-.0724	.0087
SDev	.0115	.0034	.0317	.0139	.0292	.0699	.0002
%RSD	2.346	10.76	53.19	454.3	30.90	96.66	2.001
#1	.4803	.0297	.0371	-.0068	.0738	-.1218	.0086
#2	.4965	.0345	.0819	.0129	.1150	-.0229	.0088

Elem	Zn2138
Units	ppm
Avge	.0906
SDev	.0011
%RSD	1.199
#1	.0899
#2	.0914

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	33086	--	--	--	--	--	--
SDev	556.4930	--	--	--	--	--	--
%RSD	1.681934	--	--	--	--	--	--
#1	33480	--	--	--	--	--	--
#2	32693	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: CCV3 Operator: DQ
Run Time: 06/14/94 15:41:50
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.845	9.651	10.34	10.04	10.06	9.828	9.830
SDev	.003	.027	.04	.01	.00	.023	.025
%RSD	.1509	.2802	.3873	.0900	.0182	.2311	.2532

#1	1.847	9.670	10.32	10.04	10.06	9.844	9.813
#2	1.843	9.632	10.37	10.03	10.06	9.812	9.848
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	9.641	10.02	10.18	9.787	47.65	9.790	9.831
SDev	.024	.01	.01	.001	.49	.056	.005
%RSD	.2456	.0734	.0889	.0118	1.032	.5702	.0518
#1	9.658	10.01	10.18	9.786	48.00	9.830	9.835
#2	9.625	10.02	10.19	9.788	47.30	9.751	9.828
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	50.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	9.382	10.13	9.736	9.821	10.26	10.15	9.801
SDev	.009	.08	.003	.104	.06	.00	.007
%RSD	.0981	.7754	.0274	1.060	.5647	.0182	.0715
#1	9.389	10.18	9.734	9.895	10.22	10.15	9.796
#2	9.376	10.07	9.737	9.747	10.30	10.14	9.806
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Zn2138
Units	ppm
Avge	10.68
SDev	.02
%RSD	.2008
#1	10.70
#2	10.67
Errors	QC Pass
Value	10.00
Range	10.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32454	--	--	--	--	--	--
SDev	48.08326	--	--	--	--	--	--
%RSD	.1481582	--	--	--	--	--	--
#1	32488	--	--	--	--	--	--
#2	32420	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: CCB3 Operator: DQ
Run Time: 06/14/94 15:45:46
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0038	.0404	.0138	-.0015	.0012	-.0134	.0025
SDev	.0022	.0049	.0178	.0013	.0000	.0011	.0000
%RSD	58.27	12.05	128.6	85.05	.5550	8.116	.8936
#1	-.0022	.0369	.0264	-.0006	.0012	-.0126	.0025
#2	-.0053	.0438	.0012	-.0024	.0012	-.0141	.0026
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0080
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0080

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0009	.0008	-.0005	.0007	-1.274	-.0111	.0016
SDev	.0031	.0013	.0012	.0012	1.056	.0063	.0016
%RSD	365.7	174.1	229.5	162.9	82.85	56.97	103.4
#1	-.0031	.0017	.0003	.0016	-.5277	-.0066	H.0027
#2	.0014	-.0002	-.0013	-.0001	L-2.021	-.0156	.0004
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	-.0020

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0504	.0007	-.0039	-.0243	.0151	-.0415	.0022
SDev	.0137	.0030	.0061	.0001	.0353	.0417	.0015
%RSD	27.17	447.3	157.8	.3591	234.1	100.6	66.07
#1	.0601	-.0014	-.0082	-.0243	-.0099	-.0709	.0033
#2	.0407	.0028	.0004	-.0242	.0401	-.0120	.0012
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100

Elem	Zn2138
Units	ppm
Avge	.0041
SDev	.0022
%RSD	54.36
#1	.0025
#2	.0057
Errors	LC Pass
High	.0100

Low	-.0100						
IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32798	--	--	--	--	--	--
SDev	103.2376	--	--	--	--	--	
%RSD	.3147680	--	--	--	--	--	
#1	32871	--	--	--	--	--	--
#2	32725	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: ICSAF Operator: DQ
Run Time: 06/14/94 15:49:41
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0070	505.3	3.658	.0220	.0022	478.6	-.0065
SDev	.0000	.5	.068	.0014	.0000	.6	.0026
%RSD	.4144	.1083	1.867	6.433	.6401	.1301	39.80
#1	-.0069	504.9	3.609	.0210	.0022	478.2	-.0083
#2	-.0070	505.7	3.706	.0230	.0022	479.1	-.0047
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK
Value		500.0				500.0	
Range		20.00				20.00	

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0055	.0196	-.0019	185.2	-.6181	519.4	-.0381
SDev	.0007	.0018	.0037	.2	.4259	.4	.0007
%RSD	12.33	9.395	193.9	.1057	68.91	.0815	1.873
#1	.0050	.0183	-.0045	185.1	-.3169	519.1	-.0375
#2	.0060	.0209	.0007	185.4	-.9193	519.7	-.0386
Errors	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	QC Pass	NOCHECK
Value				200.0		500.0	
Range				20.00		20.00	

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.3568	-.0090	.0628	-.0471	.1548	.1033	-.0081
SDev	.0084	.0075	.0278	.0598	.0657	.0897	.0015
%RSD	2.358	83.54	44.31	126.9	42.43	86.89	19.04
#1	.3508	-.0144	.0825	-.0895	.1084	.1667	-.0091
#2	.3627	-.0037	.0431	-.0048	.2013	.0398	-.0070
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Zn2138
Units	ppm
Avge	-.0241
SDev	.0022
%RSD	9.047
#1	-.0226
#2	-.0257
Errors	NOCHECK
Value	
Range	

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32218	--	--	--	--	--	--
SDev	147.7853	--	--	--	--	--	--
%RSD	.4586971	--	--	--	--	--	--
#1	32323	--	--	--	--	--	--
#2	32114	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: ICSABF Operator: DQ
Run Time: 06/14/94 15:53:35
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9630	502.7	3.720	.5264	.4738	472.7	.9448
SDev	.0005	.1	.032	.0027	.0008	.5	.0034
%RSD	.0504	.0223	.8527	.5152	.1752	.1088	.3630
#1	.9634	502.8	3.697	.5283	.4733	473.1	.9424
#2	.9627	502.6	3.742	.5245	.4744	472.3	.9472
Errors	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.000	500.0		.5000	.5000	500.0	1.000
Range	20.00	20.00		20.00	20.00	20.00	20.00

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4564	.4952	.4865	183.0	-.6564	513.8	.4261
SDev	.0016	.0050	.0019	.1	.4565	1.4	.0005
%RSD	.3600	1.000	.3823	.0396	69.55	.2780	.1263
#1	.4552	.4917	.4851	183.0	-.3336	514.8	.4257
#2	.4575	.4987	.4878	182.9	-.9792	512.8	.4265
Errors	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value	.5000	.5000	.5000	200.0		500.0	.5000
Range	20.00	20.00	20.00	20.00		20.00	20.00

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.3582	.9533	.9873	-.0058	-.0290	.2372	.4703
SDev	.0006	.0224	.0332	.0259	.1029	.0882	.0016
%RSD	.1614	2.354	3.363	444.6	354.8	37.19	.3356
#1	.3578	.9374	.9639	.0125	.0438	.2996	.4691
#2	.3586	.9691	1.011	-.0241	-.1018	.1748	.4714
Errors	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value		1.000	1.000				.5000
Range		20.00	20.00				20.00

Elem	Zn2138
Units	ppm
Avge	.9092
SDev	.0017
%RSD	.1867
#1	.9104
#2	.9080
Errors	QC Pass
Value	1.000
Range	20.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32743	--	--	--	--	--	--
SDev	206.4752	--	--	--	--	--	
%RSD	.6305934	--	--	--	--	--	--
#1	32889	--	--	--	--	--	--
#2	32597	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: CCV4 Operator: DQ
Run Time: 06/14/94 15:58:25
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.845	9.680	10.30	10.06	10.07	9.746	9.722
SDev	.003	.019	.06	.00	.00	.036	.062
%RSD	.1774	.1982	.5971	.0284	.0054	.3678	.6366
#1	1.843	9.666	10.26	10.07	10.07	9.721	9.678
#2	1.847	9.693	10.34	10.06	10.07	9.771	9.766
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.000	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576

Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	9.602	9.974	10.23	9.720	47.37	9.710	9.771
SDev	.003	.007	.00	.009	.11	.018	.013
%RSD	.0279	.0742	.0123	.0978	.2336	.1852	.1321
#1	9.600	9.968	10.23	9.713	47.29	9.723	9.761
#2	9.603	9.979	10.23	9.726	47.45	9.697	9.780
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	50.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	9.471	10.00	9.609	9.808	10.25	10.07	9.776
SDev	.016	.02	.027	.032	.13	.04	.016
%RSD	.1705	.2432	.2830	.3255	1.262	.3574	.1586
#1	9.483	9.983	9.628	9.786	10.16	10.09	9.787
#2	9.460	10.02	9.590	9.831	10.34	10.04	9.765
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Range	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Elem	Zn2138
Units	ppm
Avge	10.64
SDev	.03
%RSD	.2655
#1	10.62
#2	10.66
Errors	QC Pass
Value	10.00
Range	10.00

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32481	--	--	--	--	--	--
SDev	387.4945	--	--	--	--	--	--
%RSD	1.192988	--	--	--	--	--	--
#1	32755	--	--	--	--	--	--
#2	32207	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: CCB4 Operator: DQ
Run Time: 06/14/94 16:02:20
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3092	As1936	Ba4934	Be3130	Ca3179	Cd2288

Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0024	.0450	-.0175	-.0003	.0011	-.0150	.0025
SDev	.0066	.0007	.0405	.0004	.0000	.0028	.0001
%RSD	268.4	1.553	230.8	141.4	2.463	18.84	3.992
#1	-.0022	.0455	-.0462	-.0006	.0011	-.0169	.0024
#2	H.0071	.0446	.0111	.0000	.0012	-.0130	.0026
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0060	.0900	.2000	.0060	.0040	.0700	.0080
Low	-.0060	-.0900	-.2000	-.0060	-.0040	-.0700	-.0080
Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0004	.0014	.0019	.0008	-.2825	.0246	.0008
SDev	.0012	.0034	.0002	.0012	.5074	.0194	.0006
%RSD	274.4	255.3	10.82	157.6	179.6	78.90	75.33
#1	.0013	-.0011	.0018	-.0001	-.6413	.0109	.0004
#2	-.0004	.0038	.0021	.0016	.0763	.0384	.0012
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0200	.0100	.0300	2.000	.1000	.0020
Low	-.0100	-.0200	-.0100	-.0300	-2.000	-.1000	-.0020
Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0572	.0070	.0244	-.0064	.0239	-.0535	-.0009
SDev	.0063	.0060	.0337	.0383	.0047	.0759	.0000
%RSD	11.12	85.50	138.0	602.6	19.65	142.0	.0110
#1	.0527	.0028	.0482	.0207	.0205	.0002	-.0009
#2	.0617	.0112	.0006	-.0334	.0272	-.1072	-.0009
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2000	.0600	.1000	.1000	.2000	.2000	.0100
Low	-.2000	-.0600	-.1000	-.1000	-.2000	-.2000	-.0100

Elem	Zn2138
Units	ppm
Avge	.0039
SDev	.0006
%RSD	14.41
#1	.0035
#2	.0043
Errors	LC Pass
High	.0100
Low	-.0100

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	32996	--	--	--	--	--	--

SDev	458.9123	--	--	--	--	--	--
%RSD	1.390833	--	--	--	--	--	--
#1	33320	--	--	--	--	--	--
#2	32671	--	--	--	--	--	--

PROGRAMMING MODE INSTRUMENT USER METH # 34 - PB DATE: 94/06/15

ELEMENT: PB WAVELENGTH (NM): 283.3 SLIT (NM): 0.7
PYRO COATED TUBE WITH PLATFORM - MAX POWER HEATING - GAS STOP - MATRIX MOD.
PRETREAT TEMP: 850 ATOMIZE TEMP: 1800 CHARACT. MASS (PG): 12.0

1. TECHNIQUE: ZEEMAN
2. LAMP CURRENT (MA): 10
3. SIGNAL PROCESSING: PEAK AREA
4. CALIBRATION: AUTO SELECT
5. TIME (SECONDS): 5.0
6. READ DELAY (SECONDS): 0.0
7. SCREEN FORMAT: 1.0 GRAPHICS
8. PRINTER: MAIN SUPPL
9. RECORDER SIGNAL: 0.2 CONT ABS
10. RECORDER EXP: 1000
11. STATISTICS: 2 AVERAGE & CV
12. NOMINAL WEIGHT 1.0
13. ROLLOVER(ABS): 1.500
14. BG SCALE: 1.0

15. S1: 25.0 16. S2: 50.0 17. S3: 100.0
18. S4: 19. S5: 20. S6:
21. S7: 22. S8: 23. RSLT: 50.0

0615A

TIME: 07:15

PB

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.015	0.014	0.004
PEAK AREA (ABS-SECONDS)	0.006	0.009	-0.003

READ: 0.009

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.047	0.039	0.009
PEAK AREA (ABS-SECONDS)	0.021	0.023	-0.001

READ: 0.023

MEAN= 0.016 STD.DEV.= COEF.VAR.= 59.55 %

****

0.000 AUTOZERO

****

PB

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.328	0.261	0.067
PEAK AREA (ABS-SECONDS)	0.179	0.147	0.032

READ: 0.181

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.319	0.253	0.065
PEAK AREA (ABS-SECONDS)	0.177	0.143	0.034

READ: 0.127

S1

MEAN= 0.129 STD.DEV.= COEF.VAR.= 2.43 %

****

25.0 STANDARD 1

****

PB

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.532	0.414	0.117
PEAK AREA (ABS-SECONDS)	0.305	0.244	0.062

READ: 44.1

READ: 51.0

MEAN= 47.5 STD.DEV.= COEF.VAR.= 10.39 %

S2

****

47.5

E-50: READING GREATER THAN HIGHEST STANDARD

****

50.0 STANDARD 2

****

PB

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.876	0.661	0.216
PEAK AREA (ABS-SECONDS)	0.541	0.421	0.119

READ: 88.9

(CONTINUED)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.880	0.665	0.216
PEAK AREA (ABS-SECONDS)	0.532	0.416	0.116

READ: 87.6

S3

MEAN= 88.2 STD.DEV.= COEF.VAR.= 1.18 %

****

88.2

E-50: READING GREATER THAN HIGHEST STANDARD

****

100.0 STANDARD 3

****

PB 0005

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.519	0.406	0.115
PEAK AREA (ABS-SECONDS)	0.298	0.237	0.061

READ: 44.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.602	0.469	0.134
PEAK AREA (ABS-SECONDS)	0.358	0.270	0.092

READ: 53.5

ICV

MEAN= 48.8 STD.DEV.= COEF.VAR.= 15.50 %

****

PB 0006

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.022	0.020	0.004
PEAK AREA (ABS-SECONDS)	0.009	0.014	-0.005

READ: -0.4

	AA	ZAA	BG
HEIGHT (ABSORBANCE)			

MEAN= -0.5 STD.DEV.= COEF.VAR.= 27.83 %

****

PB 0007

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.019	0.015	0.006
PEAK AREA (ABS-SECONDS)	0.012	0.010	0.002

READ: -1.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.017	0.014	0.004
PEAK AREA (ABS-SECONDS)	0.010	0.009	0.001

PB 6/13

READ: -1.2

MEAN= -1.2 STD.DEV.= COEF.VAR.= 6.80 %

****

PB 0008

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.424	0.336	0.089
PEAK AREA (ABS-SECONDS)	0.244	0.200	0.045

READ: 36.3

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.426	0.337	0.089
PEAK AREA (ABS-SECONDS)	0.242	0.195	0.048

PBS

READ: 35.2

MEAN= 35.7 STD.DEV.= COEF.VAR.= 2.27 %

****

PB 0009

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.036	0.031	0.006
PEAK AREA (ABS-SECONDS)	0.022	0.017	0.005

READ: 0.3

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.038	0.032	0.006
PEAK AREA (ABS-SECONDS)	0.026	0.019	0.007

06484 - 5C

READ: 0.6

MEAN= 0.4 STD.DEV.= COEF.VAR.= 50.75 %

****

PB 0010

06485 - 4C

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.074	0.062	0.012
PEAK AREA (ABS-SECONDS)	0.042	0.033	0.009

PEAK AREA (ABS-SECONDS)	0.043	0.033	0.010

READ: 3.2

MEAN= 3.2 STD.DEV.= COEF.VAR.= 1.40 %

****

PB 0011

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.349	0.280	0.069
PEAK AREA (ABS-SECONDS)	0.200	0.158	0.041

READ: 27.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.345	0.277	0.069
PEAK AREA (ABS-SECONDS)	0.199	0.157	0.042

READ: 27.4 — 4c spk

MEAN= 27.6 STD.DEV.= COEF.VAR.= 0.75 %

****

PB 0012

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.346	0.277	0.069
PEAK AREA (ABS-SECONDS)	0.199	0.157	0.042

READ: 27.3

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.342	0.276	0.067
PEAK AREA (ABS-SECONDS)	0.200	0.154	0.046

READ: 26.7 — 4c Duplspk

MEAN= 27.0 STD.DEV.= COEF.VAR.= 1.60 %

****

PB 0013

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.170	0.138	0.032
PEAK AREA (ABS-SECONDS)	0.127	0.080	0.047

READ: 12.3

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.166	0.136	0.030
PEAK AREA (ABS-SECONDS)	0.117	0.077	0.041

READ: 11.5 — 06431-1c

MEAN= 11.9 STD.DEV.= COEF.VAR.= 4.39 %

****

PB 0014

	AA	ZAA	BG

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.181	0.147	0.035
PEAK AREA (ABS-SECONDS)	0.122	0.083	0.038

READ: 12.8

2c

MEAN= 13.0 STD.DEV.= COEF.VAR.= 1.49 %

****

PB 0015

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.864	0.655	0.216
PEAK AREA (ABS-SECONDS)	0.623	0.405	0.218

READ: 93.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.900	0.676	0.227
PEAK AREA (ABS-SECONDS)	0.636	0.419	0.217

READ: 100.1

3c

MEAN= 96.7 STD.DEV.= COEF.VAR.= 8.25 %

****

PB 0016

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.216	0.171	0.045
PEAK AREA (ABS-SECONDS)	0.161	0.111	0.051

READ: 18.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.210	0.167	0.043
PEAK AREA (ABS-SECONDS)	0.153	0.104	0.049

READ: 16.9

4c

MEAN= 17.5 STD.DEV.= COEF.VAR.= 5.30 %

****

PB 0017

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.147	0.116	0.032
PEAK AREA (ABS-SECONDS)	0.118	0.078	0.040

READ: 11.8

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.147	0.117	0.030
PEAK AREA (ABS-SECONDS)	0.103	0.076	0.027

READ: 11.4

5c

MEAN= 11.6 STD.DEV.= COEF.VAR.= 2.54 %

****

PEAK AREA (ABS-SECONDS)	0.021	0.013	0.007

READ: -0.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.026	0.021	0.005
PEAK AREA (ABS-SECONDS)	0.015	0.013	0.002

READ: -0.5

-6c

MEAN= -0.5 STD.DEV.= COEF.VAR.= 0.18 %

****

PB 0019

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.922	1.278	0.682
PEAK AREA (ABS-SECONDS)	1.531	1.008	0.521

READ: 148.3

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	2.005	1.305	0.700
PEAK AREA (ABS-SECONDS)	1.506	1.046	0.560

READ: 155.6

-7c

MEAN= 152.0 STD.DEV.= COEF.VAR.= 2.71 %

****

E-51: ABSORBANCE BEYOND CALIBRATION FUNCTION

****

PB 0020

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.131	0.105	0.026
PEAK AREA (ABS-SECONDS)	0.070	0.057	0.013

READ: 7.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.122	0.097	0.026
PEAK AREA (ABS-SECONDS)	0.066	0.050	0.015

READ: 0.5

06427-1E

MEAN= 7.1 STD.DEV.= COEF.VAR.= 11.62 %

****

PB 0021

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.585	0.458	0.128
PEAK AREA (ABS-SECONDS)	0.324	0.257	0.067

READ: 49.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.566	0.444	0.122
PEAK AREA (ABS-SECONDS)	0.319	0.254	0.065

READ: 48.4

CC4

MEAN= 48.7 STD.DEV.= C

PEAK AREA (ABS-SECONDS)	0.010	0.007	0.003

READ: -1.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.009	0.007	0.002
PEAK AREA (ABS-SECONDS)	0.004	0.006	-0.001

READ: -1.9

CCB1

MEAN= -1.8 STD.DEV.= COEF.VAR.= 8.48 %

****

PB 0023

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.008	0.007	0.001
PEAK AREA (ABS-SECONDS)	0.009	0.007	0.002

READ: -1.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.008	0.007	0.001
PEAK AREA (ABS-SECONDS)	0.00	0.006	-0.002

PB 6/13

READ: -1.8

MEAN= -1.7 STD.DEV.= COEF.VAR.= 4.43 %

****

PB 0024

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.436	0.345	0.092
PEAK AREA (ABS-SECONDS)	0.248	0.196	0.051

READ: 35.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.437	0.345	0.092
PEAK AREA (ABS-SECONDS)	0.181	0.132	0.049

PB 5

READ: 34.7

MEAN= 35.1 STD.DEV.= COEF.VAR.= 2.07 %

****

PB 0025

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.033	0.014	0.019
PEAK AREA (ABS-SECONDS)	0.072	0.009	0.063

READ: -1.8

06/17 - 1A - 10X 1/4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.031	0.015	.031
PEAK AREA (ABS-SECONDS)	0.057	0.010	.057

READ: -1.9

PB 0026

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.268	0.216	0.054
PEAK AREA (ABS-SECONDS)	0.247	0.160	0.087

READ: 28.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.270	0.218	0.055
PEAK AREA (ABS-SECONDS)	0.245	0.158	0.087

READ: 27.6

1c Spk

MEAN= 27.8 STD.DEV.= COEF.VAR.= 1.39 %

****

PB 0027

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.265	0.216	0.051
PEAK AREA (ABS-SECONDS)	0.261	0.160	0.100

READ: 28.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.262	0.210	0.053
PEAK AREA (ABS-SECONDS)	0.251	0.159	0.092

READ: 27.8

1c Spk

MEAN= 27.9 STD.DEV.= COEF.VAR.= 0.75 %

****

PB 0028

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.153	0.008	0.147
PEAK AREA (ABS-SECONDS)	0.167	0.006	0.161

READ: -1.9

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.128	0.008	0.121
PEAK AREA (ABS-SECONDS)	0.151	0.005	0.145

READ: -2.0

06382-1A 10x

MEAN= -1.9 STD.DEV.= COEF.VAR.= 2.90 %

****

PB 0029

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.096	0.007	0.090
PEAK AREA (ABS-SECONDS)	0.111	0.005	0.106

READ: -2.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.080	0.007	0.075
PEAK AREA (ABS-SECONDS)	0.101	0.004	0.097

READ: -2.1

-2A 10X

MEAN= -2.1 STD.DEV.= COEF.VAR.= 2.59 %

****

PB 0030

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.056	0.012	0.044
PEAK AREA (ABS-SECONDS)	0.070	0.008	0.062

READ: -1.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.059	0.012	0.047
PEAK AREA (ABS-SECONDS)	0.063	0.007	0.056

READ: -1.6

-3A 10X

MEAN= -1.6 STD.DEV.= COEF.VAR.= 4.10 %

****

PB 0031

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.010	0.009	0.004
PEAK AREA (ABS-SECONDS)	0.010	0.008	0.002

READ: -1.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.009	0.008	0.002
PEAK AREA (ABS-SECONDS)	0.00[illegible]	0.005	0.001

PB6/13

READ: -2.0

MEAN= -1.8 STD.DEV.= COEF.VAR.= 16.54 %

****

PB 0032

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.819	0.630	0.189
PEAK AREA (ABS-SECONDS)	0.504	0.397	0.108

READ: 89.8

89.1 (20) (100) = 178.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.822	0.628	[illegible]
PEAK AREA (ABS-SECONDS)	0.506	0.398	[illegible]

READ: 88.4

(100) = 178.8

= 85.7%

PB5 20X

MEAN= 89.1 STD.DEV.= COEF.VAR.= 1.93 %

****

PB 0033

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.979	0.732	0.250
PEAK AREA (ABS-SECONDS)	1.213	0.790	0.423

PEAK HEIGHT (ABSORBANCE)	1.179	0.855	0.328
PEAK AREA (ABS-SECONDS)	1.303	0.821	0.482

See dilution

READ: 109.7

0619-1c

MEAN= 104.8 STD.DEV.= COEF.VAR.= 0.65 %

****

E-51: ABSORBANCE BEYOND CALIBRATION FUNCTION

****

PB 0034

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.894	0.678	0.216
PEAK AREA (ABS-SECONDS)	0.546	0.419	0.127

READ: 100.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.901	0.684	0.219
PEAK AREA (ABS-SECONDS)	0.545	0.418	0.127

READ: 99.4

-2c

MEAN= 99.8 STD.DEV.= COEF.VAR.= 0.90 %

****

PB 0035

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.651	1.114	0.538
PEAK AREA (ABS-SECONDS)	1.605	1.096	0.509

READ: 147.9

See dilution

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.662	1.132	0.531
PEAK AREA (ABS-SECONDS)	1.535	0.966	0.568

READ: 140.2

-3c

MEAN= 144.1 STD.DEV.= COEF.VAR.= 2.87 %

****

E-51: ABSORBANCE BEYOND CALIBRATION FUNCTION

****

PB 0036

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.916	0.693	0.223
PEAK AREA (ABS-SECONDS)	0.595	0.449	0.146

READ: 118.9

See Repeat

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.852	0.647	0.204
PEAK AREA (ABS-SECONDS)	0.514	0.390	0.124

READ: 87.2

-4c

MEAN= 1 STD.DEV.=

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.890	0.676	0.215
PEAK AREA (ABS-SECONDS)	0.538	0.409	0.129

READ: 95.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.875	0.663	0.212
PEAK AREA (ABS-SECONDS)	0.534	0.402	0.132

READ: 92.1

4c

MEAN= 93.6 STD.DEV.= COEF.VAR.= 3.95 %

****

PB 0037

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.318	0.948	0.375
PEAK AREA (ABS-SECONDS)	0.873	0.649	0.224

READ: 53.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.295	0.938	0.367
PEAK AREA (ABS-SECONDS)	0.350	0.040	0.215

READ: 47.8

5c

MEAN= 50.5 STD.DEV.= COEF.VAR.= 2.61 %

****

E-51: ABSORBANCE BEYOND CALIBRATION FUNCTION

****

PB 0038

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.607	0.476	0.133
PEAK AREA (ABS-SECONDS)	0.324	0.260	0.064

READ: 49.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.592	0.462	0.130
PEAK AREA (ABS-SECONDS)	0.320	0.253	0.067

READ: 48.0

6c

MEAN= 48.9 STD.DEV.= COEF.VAR.= 2.93 %

****

PB 0039

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.614	0.479	0.137
PEAK AREA (ABS-SECONDS)	0.332	0.264	0.068

READ: 50.6

CCV

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.608	0.474	0.134
PEAK AREA (ABS-SECONDS)	0.326	0.261	0.065

READ: 49.8

PB 0040

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.011	0.009	0.004
PEAK AREA (ABS-SECONDS)	0.008	0.008	-0.001

READ: -1.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.012	0.008	0.005
PEAK AREA (ABS-SECONDS)	0.010	0.008	0.003

READ: -1.6

CCBz

MEAN= -1.5 STD.DEV.= COEF.VAR.= 6.97 %

****

PB 0041

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.836	0.643	0.194
PEAK AREA (ABS-SECONDS)	0.599	0.378	0.221

READ: 82.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.795	0.615	0.182
PEAK AREA (ABS-SECONDS)	0.613	0.383	0.231

READ: 84.3

0611 9-7c

MEAN= 83.5 STD.DEV.= COEF.VAR.= 2.29 %

****

PB 0042

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.947	0.714	0.234
PEAK AREA (ABS-SECONDS)	0.818	0.576	0.241

READ: -46.1

See dilution

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.826	0.690	0.230
PEAK AREA (ABS-SECONDS)	0.781	0.552	0.230

READ: -305.7

-8c

MEAN= -113.0 STD.DEV.= COEF.VAR.= 99.99 %

****

E-51: ABSORBANCE BEYOND CALIBRATION FUNCTION

****

PB 0043

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.768	0.588	0.181
PEAK AREA (ABS-SECONDS)	0.630	0.431	0.215

READ: 106.6

MEAN= 108.1 STD.DEV.= COEF.VAR.= 3.72 %

108.1

E-50: READING GREATER THAN HIGHEST STANDARD

PB 0044

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.834	0.634	0.200
PEAK AREA (ABS-SECONDS)	0.675	0.496	0.179

READ: 187.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.836	0.637	0.201
PEAK AREA (ABS-SECONDS)	0.674	0.495	0.179

READ: 183.4

MEAN= 185.2 STD.DEV.= COEF.VAR.= 2.84 %

185.2

E-50: READING GREATER THAN HIGHEST STANDARD

PB 0045

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.492	1.057	0.436
PEAK AREA (ABS-SECONDS)	1.116	0.685	0.431

READ: 70.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.417	1.006	0.412
PEAK AREA (ABS-SECONDS)	1.153	0.715	0.438

READ: 81.2

MEAN= 76.0 STD.DEV.= COEF.VAR.= 6.35 %

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E-51: ABSORBANCE BEYOND CALIBRATION FUNCTION

PB 0046

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.578	0.451	0.127
PEAK AREA (ABS-SECONDS)	0.475	0.291	0.185

READ: 57.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.581	0.458	0.123
PEAK AREA (ABS-SECONDS)	0.457	0.286	0.171

READ: 55.9

MEAN= 56.5 STD.DEV.= COEF.VAR.= 1.71 %

PB 0017

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)			

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.848	0.648	0.202
PEAK AREA (ABS-SECONDS)	0.642	0.423	0.219
READ: 102.1			

-13c

MEAN= 101.0 STD.DEV.= COEF.VAR.= 2.73 %

****

PB 0048

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.869	0.659	0.213
PEAK AREA (ABS-SECONDS)	0.675	0.501	0.174
READ: 202.8			

-14c

PB 0049

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.984	0.736	0.247
PEAK AREA (ABS-SECONDS)	0.724	0.436	0.288
READ: 109.9			

See dilution 06282-5b

PB 0050

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.534	0.419	0.115
PEAK AREA (ABS-SECONDS)	0.345	0.188	0.158
READ: 33.7			

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.516	0.406	0.110
PEAK AREA (ABS-SECONDS)	0.338	0.184	0.155
READ: 32.9			

06248-1c

MEAN= 33.3 STD.DEV.= COEF.VAR.= 1.94 %

****

PB 0051

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.619	0.478	0.141
PEAK AREA (ABS-SECONDS)	0.368	0.288	0.081
READ: 56.3			

See Report

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.550	0.426	0.124
PEAK AREA (ABS-SECONDS)	0.304	0.235	0.069
READ: 44.0			

CCV3

MEAN= 50.0 STD.DEV.= COEF.VAR.= 20.81 %

****

PB 0051

	AA	ZAA	BG
PEAK HEIGHT (ABS	0.516	0.480	
PEAK AREA (ABS	0.326		

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.510	0.474	0.196
PEAK AREA (ABS-SECONDS)	0.338	0.264	0.074

READ: 50.7

CCK3

MEAN= 50.9 STD.DEV.= COEF.VAR.= 0.51 %

****

PB 0052

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.625	0.485	0.140
PEAK AREA (ABS-SECONDS)	0.305	0.237	0.068

READ: 44.3

PB 0052

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.008	0.008	0.002
PEAK AREA (ABS-SECONDS)	0.008	0.008	0.001

READ: -1.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.008	0.006	0.003
PEAK AREA (ABS-SECONDS)	0.007	0.005	0.002

READ: -2.0

CCB3

MEAN= -1.8 STD.DEV.= COEF.VAR.= 20.04 %

****

PB 0053

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.714	0.550	0.164
PEAK AREA (ABS-SECONDS)	0.726	0.157	0.[illegible]

READ: 125.3

See dilution

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.734	0.570	0.165
PEAK AREA (ABS-SECONDS)	0.709	0.456	0.252

READ: 125.1

06405-3C

MEAN= 125.2 STD.DEV.= COEF.VAR.= 0.39 %

****

125.2

E-50: READING GREATER THAN HIGHEST STANDARD

****

PB 0054

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.610	0.487	0.124
PEAK AREA (ABS-SECONDS)	0.526	0.311	0.216

READ: 62.2

4C

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.551	0.436	0.115
PEAK AREA (ABS-SECONDS)	0.517	0.304	0.213

READ: 60.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.477	0.376	0.101
PEAK AREA (ABS-SECONDS)	0.402	0.201	0.211

READ: 36.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.491	0.383	0.101
PEAK AREA (ABS-SECONDS)	0.386	0.209	0.178

READ: 38.3

06348-79

MEAN= 37.4 STD.DEV.= COEF.VAR.= 3.43 %

****

PB 0056

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.415	0.332	0.083
PEAK AREA (ABS-SECONDS)	0.318	0.210	0.108

READ: 38.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.416	0.336	0.080
PEAK AREA (ABS-SECONDS)	0.329	0.233	0.096

READ: 43.6

06378-79

MEAN= 41.0 STD.DEV.= COEF.VAR.= 10.06 %

****

PB 0057

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.008	0.006	0.007
PEAK AREA (ABS-SECONDS)	0.009	0.004	0.005

READ: -2.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.008	0.006	0.007
PEAK AREA (ABS-SECONDS)	0.015	0.004	0.011

PB6113

READ: -2.2

MEAN= -2.2 STD.DEV.= COEF.VAR.= 2.84 %

****

$\frac{(76.9)(20)(80)}{1990} = \frac{153.8}{206.0}$

73.9%

PB 0058

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.002	0.752	0.250
PEAK AREA (ABS-SECONDS)	0.478	0.368	0.110

READ: 77.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.006	0.7[illegible]	[illegible]

MEAN= 76.9 STD.DEV.= COEF.VAR.= 1.57 %

****

PB 0059

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.696	0.546	0.150
PEAK AREA (ABS-SECONDS)	0.460	0.339	0.121

READ: 70.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.718	0.562	0.158
PEAK AREA (ABS-SECONDS)	0.464	0.338	0.126

READ: 69.8

-7c spk

MEAN= 70.0 STD.DEV.= COEF.VAR.= 0.42 %

****

PB 0060

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.754	0.588	0.168
PEAK AREA (ABS-SECONDS)	0.476	0.347	0.129

READ: 72.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.730	0.572	0.161
PEAK AREA (ABS-SECONDS)	0.465	0.339	0.126

READ: 70.0

-7c buppk

MEAN= 71.2 STD.DEV.= COEF.VAR.= 3.33 %

****

PB 0061

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.129	0.840	0.290
PEAK AREA (ABS-SECONDS)	0.517	0.374	0.144

READ: 81.0

See dilution

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.132	0.848	0.284
PEAK AREA (ABS-SECONDS)	0.506	0.370	0.136

06220-2D (Qc only)

READ: 79.9

MEAN= 80.5 STD.DEV.= COEF.VAR.= 1.51 %

****

PB 0061

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.310	0.247	0.064
PEAK AREA (ABS-SECONDS)	0.131	0.101	0.030

READ: 16.3

5x

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.310	0.246	0.064
PEAK AREA (ABS-SECONDS)	0.131	0.101	0.030

READ: 16.3

-2D (Qc only)

PB 0062

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.726	0.562	0.165
PEAK AREA (ABS-SECONDS)	0.321	0.247	0.074
READ: 46.6			
PEAK HEIGHT (ABSORBANCE)	0.725	0.562	0.164
PEAK AREA (ABS-SECONDS)	0.320	0.245	0.075
READ: 46.1			

MEAN= 46.4 STD.DEV.= COEF.VAR.= 0.79 %

PB 0063

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.731	0.567	0.165
PEAK AREA (ABS-SECONDS)	0.318	0.249	0.069
READ: 47.1			
PEAK HEIGHT (ABSORBANCE)	0.728	0.564	0.165
PEAK AREA (ABS-SECONDS)	0.317	0.246	0.071
READ: 46.5			

MEAN= 46.8 STD.DEV.= COEF.VAR.= 1.13 %

PB 0064

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.464	0.367	0.097
PEAK AREA (ABS-SECONDS)	0.268	0.179	0.088
READ: 32.0			
PEAK HEIGHT (ABSORBANCE)	0.429	0.342	0.087
PEAK AREA (ABS-SECONDS)	0.274	0.178	0.096
READ: 31.7			

MEAN= 31.9 STD.DEV.= COEF.VAR.= 0.73 %

PB 0065

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.525	0.416	0.110
PEAK AREA (ABS-SECONDS)	0.381	0.247	0.134
READ: 46.6			
PEAK HEIGHT (ABSORBANCE)	0.521	0.413	0.109
PEAK AREA (ABS-SECONDS)	0.376	0.244	0.132
READ: 45.9			

PB 0066

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.397	0.313	0.084
PEAK AREA (ABS-SECONDS)	0.254	0.175	0.079
READ: 31.2			
PEAK HEIGHT (ABSORBANCE)	0.403	0.310	0.086
PEAK AREA (ABS-SECONDS)	0.253	0.176	0.077
READ: 31.4			

5C 5X

MEAN= 31.3 STD.DEV.= COEF.VAR.= 0.51 %

PB 0067

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.175	0.138	0.037
PEAK AREA (ABS-SECONDS)	0.114	0.075	0.039
READ: 11.3			
PEAK HEIGHT (ABSORBANCE)	0.174	0.140	0.035
PEAK AREA (ABS-SECONDS)	0.111	0.074	0.037
READ: 11.1			

8C 10X

MEAN= 11.2 STD.DEV.= COEF.VAR.= 1.19 %

PB 0068

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.240	0.190	0.050
PEAK AREA (ABS-SECONDS)	0.154	0.105	0.049
READ: 17.1			
PEAK HEIGHT (ABSORBANCE)	0.236	0.186	0.049
PEAK AREA (ABS-SECONDS)	0.153	0.105	0.047
READ: 17.1			

9C 5X

MEAN= 17.1 STD.DEV.= COEF.VAR.= 0.07 %

PB 0069

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.271	0.218	0.053
PEAK AREA (ABS-SECONDS)	0.172	0.119	0.053
READ: 19.7			

10C 5X

READ: 19.9

MEAN= 19.8 STD.DEV.= COEF.VAR.= 0.69 %

****

PB 0070

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.582	0.455	0.128
PEAK AREA (ABS-SECONDS)	0.340	0.271	0.069

READ: 52.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.617	0.482	0.135
PEAK AREA (ABS-SECONDS)	0.325	0.257	0.067

READ: 49.0

CCVf

MEAN= 50.6 STD.DEV.= COEF.VAR.= 5.34 %

****

PB 0071

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.452	0.360	0.092
PEAK AREA (ABS-SECONDS)	0.295	0.192	0.103

READ: 32.6

PB 0072

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.007	0.007	0.000
PEAK AREA (ABS-SECONDS)	0.006	0.008	-0.002

READ: -1.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.007	0.005	0.002
PEAK AREA (ABS-SECONDS)	0.007	0.004	0.003

READ: -2.2

CCBf

MEAN= -1.9 STD.DEV.= COEF.VAR.= 23.62 %

****

PB 0073 WFC

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.277	0.218	0.059
PEAK AREA (ABS-SECONDS)	0.172	0.117	0.055

READ: 19.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.277	0.218	0.060
PEAK AREA (ABS-SECONDS)	0.176	0.121	0.054

READ: 20.3

06119-14C SX

MEAN= 19.9 STD.DEV.= COEF.VAR.= 2.81 %

****

PB 0073 WFC

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.265	0.212	0.054
PEAK AREA (ABS-SECONDS)	0.187	0.108	0.079

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.226	0.181	0.045
PEAK AREA (ABS-SECONDS)	0.193	0.106	0.087

READ: 17.2

06282-5D 5X

MEAN= 17.4 STD.DEV.= COEF.VAR.= 1.37 %

****

FB 0075

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.199	0.159	0.040
PEAK AREA (ABS-SECONDS)	0.187	0.114	0.074

READ: 18.8

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.214	0.170	0.044
PEAK AREA (ABS-SECONDS)	0.182	0.119	0.063

READ: 18.6

06405-3C 5X

MEAN= 18.7 STD.DEV.= COEF.VAR.= 0.43 %

****

FB 0075

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.401	0.320	0.081
PEAK AREA (ABS-SECONDS)	0.288	0.171	0.118

READ: 30.2

5X

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.401	0.322	0.081
PEAK AREA (ABS-SECONDS)	0.298	0.174	0.123

READ: 31.0

06119-11C

MEAN= 30.6 STD.DEV.= COEF.VAR.= 1.91 %

****

FB 0076

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.595	0.464	0.131
PEAK AREA (ABS-SECONDS)	0.321	0.259	0.062

READ: 48.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.586	0.458	0.130
PEAK AREA (ABS-SECONDS)	0.315	0.249	0.067

READ: 47.1

EU15

MEAN= 47.6 STD.DEV.= COEF.VAR.= 1.89 %

****

FB 0077

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)			

	AA	ZAA	DS
PEAK HEIGHT (ABSORBANCE)	0.008	0.006	0.003
PEAK AREA (ABS-SECONDS)	0.008	0.005	0.003

CCBs

READ: -2.1

MEAN= -2.0 STD.DEV.= COEF.VAR.= 4.97 %

****

OptTech

~~21~~

&&PROGRAMMING MODE INSTRUMENT USER METH # 31 - CR DATE: 94/05/17

ELEMENT: CR WAVELENGTH (NM): 357.9 SLIT (NM): 0.7
PYRO COATED TUBE WITH PLATFORM - MAX POWER HEATING - GAS STOP - MATRIX MOD.
PRETREAT TEMP: 1650 ATOMIZE TEMP: 2500 CHARACT. MASS (PG) 3.8

1. TECHNIQUE: ZEEMAN
2. LAMP CURRENT (MA): 20
3. SIGNAL PROCESSING: PEAK AREA
4. CALIBRATION: AUTO SELECT
5. TIME (SECONDS): 5.0
6. READ DELAY (SECONDS): 0.0
7. SCREEN FORMAT: 1.0 GRAPHICS
8. PRINTER: MAIN SUPPL
9. RECORDER SIGNAL: 0.2 CONT ABS
10. RECORDER EXP: 1000
11. STATISTICS: 2 AVERAGE & CV
12. NOMINAL WEIGHT 1.0
13. ROLLOVER(ABS): 1.500
14. BG SCALE: 1.0

15. S1: 10.0 16. S2: 20.0 17. S3: 40.0
18. S4: 19. S5: 20. S6:
21. S7: 22. S8: 23. BGLP: 20.0

0617A

CP TIME: 07:15

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.029	0.024	0.005
PEAK AREA (ABS-SECONDS)	0.024	0.014	0.010

READ: 0.014

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.030	0.027	0.005
PEAK AREA (ABS-SECONDS)	0.018	0.013	0.006

READ: 0.013

MEAN= 0.013 STD.DEV.= COEF.VAR.= 7.26 %

****

0.000 AUTOZERO

****

CP

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.134	0.129	0.009
PEAK AREA (ABS-SECONDS)	0.185	0.176	0.009

READ: 0.163

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.138	0.132	0.008
PEAK AREA (ABS-SECONDS)	0.191	0.181	0.011

READ: 0.168

S1

MEAN= 0.165 STD.DEV.= COEF.VAR.= 2.07 %

****

10.0 STANDARD 1

****

CP

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.256	0.246	0.012
PEAK AREA (ABS-SECONDS)	0.353	0.341	0.012

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.259	0.248	0.011
PEAK AREA (ABS-SECONDS)	0.367	0.348	0.019

READ: 20.3

MEAN= 20.1 STD.DEV.= S2 COEF.VAR.= 1.50 %

****

20.1

E-50: READING GREATER THAN HIGHEST STANDARD

****

20.0 STANDARD 2

****

CR

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.488	0.465	0.013
PEAK AREA (ABS-SECONDS)	0.680	0.652	0.028

READ: 38.3

(CONTINUED)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.481	0.461	0.020
PEAK AREA (ABS-SECONDS)	0.693	0.662	0.031

READ: 38.9

S3

MEAN= 38.6 STD.DEV.= COEF.VAR.= 1.07 %

****

38.6

E-50: READING GREATER THAN HIGHEST STANDARD

****

40.0 STANDARD 3

****

CR 0005

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.266	0.254	0.012
PEAK AREA (ABS-SECONDS)	0.375	0.360	0.015

READ: 21.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.259	0.248	0.011
PEAK AREA (ABS-SECONDS)	0.361	0.350	0.011

READ: 20.4

JCH

MEAN= 20.7 STD.DEV.= COEF.VAR.= 2.18 %

****

CR 0006

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.034	0.031	0.003
PEAK AREA (ABS-SECONDS)	0.035	0.031	0.003

READ: 1.1

READ: 0.2

FCB

MEAN= 0.6 STD.DEV.= COEF.VAR.= 99.99 %

****

CR 0007

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.026	0.024	0.006
PEAK AREA (ABS-SECONDS)	0.021	0.014	0.008

READ: 0.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.026	0.021	0.004
PEAK AREA (ABS-SECONDS)	0.022	0.015	0.005

PB 6/13

READ: 0.1

MEAN= 0.1 STD.DEV.= COEF.VAR.= 78.90 %

****

CR 0008

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.306	0.293	0.014
PEAK AREA (ABS-SECONDS)	0.420	0.400	0.020

READ: 28.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.302	0.288	0.014
PEAK AREA (ABS-SECONDS)	0.420	0.399	0.021

PB 5

READ: 28.5

MEAN= 28.5 STD.DEV.= COEF.VAR.= 0.13 %

****

CR 0009

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.036	0.035	0.005
PEAK AREA (ABS-SECONDS)	0.029	0.027	0.002

READ: 0.8

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.029	0.026	0.004
PEAK AREA (ABS-SECONDS)	0.025	0.016	0.009

READ: 0.2

06382-1A 10X

MEAN= 0.5 STD.DEV.= COEF.VAR.= 87.85 %

****

CR 0010

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.026	0.022	0.004
PEAK AREA (ABS-SECONDS)	0.017	0.012	0.005

READ: -0.1

2A 10X

	AA	ZAA	BG

MEAN= -0.1 STD.DEV.= COEF.VAR.= 22.16 %

****

CR 0011

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.029	0.026	0.004
PEAK AREA (ABS-SECONDS)	0.014	0.014	-0.001

READ: 0.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.024	0.024	0.005
PEAK AREA (ABS-SECONDS)	0.022	0.014	0.000

READ: 0.0

-3A 10 F

MEAN= 0.1 STD.DEV.= COEF.VAR.= 16.46 %

****

CR 0012

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.024	0.021	0.004
PEAK AREA (ABS-SECONDS)	0.023	0.014	0.000

READ: 0.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.020	0.020	0.004
PEAK AREA (ABS-SECONDS)	0.015	0.013	0.000

PB 6/15

READ: 0.0

MEAN= 0.0 STD.DEV.= COEF.VAR.= 99.99 %

****

CR 0013

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.301	0.290	0.012
PEAK AREA (ABS-SECONDS)	0.407	0.391	0.015

READ: 23.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.239	0.231	0.010
PEAK AREA (ABS-SECONDS)	0.333	0.325	0.009

PB S

READ: 18.9

MEAN= 20.9 STD.DEV.= COEF.VAR.= 14.36 %

****

CR 0014

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.072	0.069	0.004
PEAK AREA (ABS-SECONDS)	0.085	0.083	0.002

PEAK AREA (ABS-SECONDS)	0.064 0.079	0.062 0.072	0.005 0.007

READ: 3.5

06523-1B

MEAN= 3.8 STD.DEV.= COEF.VAR.= 12.39 %

****

CR 0015

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.046	0.046	0.007
PEAK AREA (ABS-SECONDS)	0.055	0.047	0.008

READ: 2.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.048	0.046	0.006
PEAK AREA (ABS-SECONDS)	0.058	0.046	0.007

READ: 1.9

-2B

MEAN= 2.0 STD.DEV.= COEF.VAR.= 1.37 %

****

CR 0016

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.031	0.027	0.006
PEAK AREA (ABS-SECONDS)	0.031	0.026	0.005

READ: 0.8

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.028	0.023	0.004
PEAK AREA (ABS-SECONDS)	0.025	0.023	0.002

READ: 0.6

-3B

MEAN= 0.7 STD.DEV.= COEF.VAR.= 16.24 %

****

CR 0017

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.238	0.229	0.011
PEAK AREA (ABS-SECONDS)	0.337	0.319	0.018

READ: 18.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.246	0.227	0.011
PEAK AREA (ABS-SECONDS)	0.345	0.327	0.018

READ: 19.0

-4B spk

MEAN= 18.7 STD.DEV.= COEF.VAR.= 3.09 %

****

CR 0018

	AA	ZAA	BG

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.250	0.237	0.013
PEAK AREA (ABS-SECONDS)	0.350	0.331	0.019

READ: 19.2

SB Duplicate

MEAN= 19.1 STD.DEV.= COEF.VAR.= 0.73 %

****

CR 0019

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.028	0.026	0.003
PEAK AREA (ABS-SECONDS)	0.025	0.022	0.003

READ: 0.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.019	0.019	0.00[illegible]
PEAK AREA (ABS-SECONDS)	0.023	0.015	0.00[illegible]

PB 6/13

READ: 0.1

MEAN= 0.3 STD.DEV.= COEF.VAR.= 99.63 %

****

CR 0020

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.233	0.226	0.010
PEAK AREA (ABS-SECONDS)	0.336	0.320	0.016

READ: 18.5

$$\frac{(18.5)(100)(100)}{1000} = 185.0$$

$$\frac{185.0}{187.0} = 98.9\%$$

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.230	0.226	0.012
PEAK AREA (ABS-SECONDS)	0.[illegible]	0.[illegible]	0.019

PBS

READ: 18.4

MEAN= 18.5 STD.DEV.= COEF.VAR.= 0.72 %

****

CR 0021

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.684	0.714	0.000
PEAK AREA (ABS-SECONDS)	0.501	0.743	-0.242

See dilutions 06119-1c

READ: 45.7

CR 0022

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.946	0.898	0.049
PEAK AREA (ABS-SECONDS)	1.369	1.302	0.066

See dilution -2c

READ: 84.4

CR 0023

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.212	0.204	0.011
PEAK AREA (ABS-SECONDS)	0.334	0.322	0.01[illegible]

READ: 18.7

PEAK AREA (ABS-SECONDS)	0.391	0.371	0.010

READ: 18.6 CCV,

MEAN= 18.6 STD.DEV.= COEF.VAR.= 0.11 %

****

CR 0024

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.015	0.013	0.004
PEAK AREA (ABS-SECONDS)	0.022	0.016	0.005

READ: 0.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.011	0.010	0.004
PEAK AREA (ABS-SECONDS)	0.012	0.008	0.004

READ: -0.3 CCB,

MEAN= 0.0 STD.DEV.= COEF.VAR.= 99.99 %

****

CR 0025

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	See dilution	1.286	0.087
PEAK AREA (ABS-SECONDS)	2.680	2.693	0.017

READ: 190.8 -3c

E-07: VALUE GREATER THAN ROLLOVER ABSORBANCE

CR 0026

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	See dilution	1.046	0.049
PEAK AREA (ABS-SECONDS)	1.705	1.664	0.041

READ: 111.5 -4c

CR 0027

See dilution

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.021	0.979	0.052
PEAK AREA (ABS-SECONDS)	1.585	1.521	0.063

READ: 100.6 -5c

CR 0028

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.255	0.245	0.015
PEAK AREA (ABS-SECONDS)	0.408	0.386	0.021

READ: 22.8

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.256	0.246	0.019
PEAK AREA (ABS-SECONDS)	0.418	0.391	0.032

READ: 23.0 -6c

MEAN= 22.9 STD.DEV.= COEF.VAR.= 0.59 %

****

CR 0029

AA

CR 0030

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.957	0.918	0.051
PEAK AREA (ABS-SECONDS)	1.498	1.426	0.070
READ: 93.5			

CR 0031

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.971	0.883	0.047
PEAK AREA (ABS-SECONDS)	1.502	1.452	0.069
READ: 95.5			

CR 0032

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.284	1.205	0.082
PEAK AREA (ABS-SECONDS)	2.281	2.169	0.113
READ: 152.3			

CR 0033

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.824	0.812	0.016
PEAK AREA (ABS-SECONDS)	1.026	1.105	0.079
READ: 70.3			

CR 0034

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.709	0.732	0.042
PEAK AREA (ABS-SECONDS)	1.210	1.154	0.056
READ: 73.8			

CR 0035

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.212	0.204	0.009
PEAK AREA (ABS-SECONDS)	0.333	0.320	0.013
READ: 18.5			

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.213	0.203	0.010
PEAK AREA (ABS-SECONDS)	0.337	0.320	0.017
READ: 18.5			

MEAN= 18.5 STD.DEV.= COEF.VAR.= 0.08 %

****

CR 0036

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.016	0.016	0.002
PEAK AREA (ABS-SECONDS)	0.011	0.020	0.009
READ: 0.4			

MEAN= 0.1 STD.DEV.= COEF.VAR.= 99.99 %

****

CR 0037

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.602	0.580	0.032
PEAK AREA (ABS-SECONDS)	0.9[illegible]	0.886	0.041

READ: 55.2

See dilution -13c

CR 0038

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.20[illegible]	1.135	0.07[illegible]
PEAK AREA (ABS-SECONDS)	[illegible]	1.935	0.113

READ: 182.9

See dilution -14c

CR 0039

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.163	0.152	0.012
PEAK AREA (ABS-SECONDS)	0.264	0.244	0.020

READ: 13.9

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.152	0.143	0.009
PEAK AREA (ABS-SECONDS)	0.250	0.236	0.015

READ: 13.4

06220-25 (Qc only)

MEAN= 13.6 STD.DEV.= COEF.VAR.= 2.54 %

****

CR 0040

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.352	0.339	0.015
PEAK AREA (ABS-SECONDS)	0.558	0.542	0.016

READ: 32.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.361	0.347	0.018
PEAK AREA (ABS-SECONDS)	0.575	0.552	0.023

READ: 33.2

-25 opt

MEAN= 32.8 STD.DEV.= COEF.VAR.= 1.40 %

****

CR 0041

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.357	0.345	0.012
PEAK AREA (ABS-SECONDS)	0.574	0.552	0.022

READ: 33.2

-25 90up opt

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.359	0.344	0.015
PEAK AREA (ABS-SECONDS)	0.581	0.553	0.028

READ: 33.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.202	0.194	0.009
PEAK AREA (ABS-SECONDS)	0.334	0.318	0.016

READ: 18.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.200	0.192	0.009
PEAK AREA (ABS-SECONDS)	0.328	0.314	0.014

READ: 18.2

PBS #2

MEAN= 18.3 STD.DEV.= COEF.VAR.= 1.02 %

****

CR 0043

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.095	0.102	-0.002
PEAK AREA (ABS-SECONDS)	0.117	0.169	-0.057

READ: 9.8

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.090	0.098	0.000
PEAK AREA (ABS-SECONDS)	0.102	0.159	-0.057

READ: 8.7

0611G-1C 5X

MEAN= 9.0 STD.DEV.= COEF.VAR.= 4.52 %

****

CR 0044

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.187	0.178	0.010
PEAK AREA (ABS-SECONDS)	0.301	0.287	0.014

READ: 16.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.191	0.180	0.010
PEAK AREA (ABS-SECONDS)	0.305	0.291	0.014

READ: 16.7

-2C 5X

MEAN= 16.6 STD.DEV.= COEF.VAR.= 0.93 %

****

CR 0045

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.062	0.061	0.001
PEAK AREA (ABS-SECONDS)	0.101	0.098	0.003

READ: 5.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.062	0.060	0.002
PEAK AREA (ABS-SECONDS)	0.111	0.098	0.013

READ: 5.0

-3C 50X

MEAN= 5.2 STD.DEV.= COEF.VAR.= [illegible] %

****

CR 0046

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.067	0.063	0.008
PEAK AREA (ABS-SECONDS)	0.112	0.100	0.017

READ: 5.2

1c 20x

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.066	0.063	0.006
PEAK AREA (ABS-SECONDS)	0.108	0.100	0.008

READ: 5.2

MEAN= 5.2 STD.DEV.= COEF.VAR.= 0.7% %

****

CR 0047

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.112	0.110	0.0[illegible]
PEAK AREA (ABS-SECONDS)	0.177	0.175	0.00[illegible]

READ: 9.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.115	0.113	0.006
PEAK AREA (ABS-SECONDS)	0.181	0.177	0.004

READ: 9.8

5c 10x

MEAN= 9.7 STD.DEV.= COEF.VAR.= 0.81 %

****

CR 0048

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.181	0.174	0.014
PEAK AREA (ABS-SECONDS)	0.302	0.299	0.011

READ: 16.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.182	0.174	0.019
PEAK AREA (ABS-SECONDS)	0.306	0.293	0.013

READ: 16.9

7c 5x

MEAN= 16.8 STD.DEV.= COEF.VAR.= 1.20 %

****

CR 0049

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.202	0.193	0.014
PEAK AREA (ABS-SECONDS)	0.323	0.310	0.013

READ: 17.9

6c 5x

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.196	0.188	0.015
PEAK AREA (ABS-SECONDS)	0.317	0.310	0.00[illegible]

READ: 18.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.205	0.197	0.015
PEAK AREA (ABS-SECONDS)	0.392	0.321	0.011

READ: 18.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.204	0.200	0.015
PEAK AREA (ABS-SECONDS)	0.388	0.322	0.012

READ: 18.7

MEAN= 18.6 STD.DEV.= COEF.VAR.= 0.10 %

****

CR 0051

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.212	0.202	0.015
PEAK AREA (ABS-SECONDS)	0.388	0.326	0.012

READ: 18.9

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.228	0.216	0.012
PEAK AREA (ABS-SECONDS)	0.369	0.352	0.01[illegible]

READ: 20.5

MEAN= 19.7 STD.DEV.= COEF.VAR.= 5.88 %

****

CR 0052

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.048	0.044	0.006
PEAK AREA (ABS-SECONDS)	0.082	0.073	0.009

READ: 3.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.040	0.038	0.005
PEAK AREA (ABS-SECONDS)	0.067	0.063	0.004

READ: 3.0

MEAN= 3.3 STD.DEV.= COEF.VAR.= 13.48 %

****

CR 0053

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.044	0.041	0.005
PEAK AREA (ABS-SECONDS)	0.073	0.067	0.006

READ: 3.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.044	0.041	0.005
PEAK AREA (ABS-SECONDS)	0.070	0.063	0.005

READ: 3.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.136	0.142	-0.001
PEAK AREA (ABS-SECONDS)	0.180	0.228	-0.048

READ: 12.9

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.138	0.142	0.002
PEAK AREA (ABS-SECONDS)	0.190	0.230	-0.041

READ: 13.0 — 11c 5x

MEAN= 13.0 STD.DEV.= COEF.VAR.= 0.80 %

****

CR 0055

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.158	0.152	0.010
PEAK AREA (ABS-SECONDS)	0.257	0.242	0.015

READ: 13.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.157	0.151	0.010
PEAK AREA (ABS-SECONDS)	0.254	0.242	0.012

READ: 13.7 — 12c 5x

MEAN= 13.7 STD.DEV.= COEF.VAR.= 0.09 %

****

CP 0056

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.121	0.119	0.004
PEAK AREA (ABS-SECONDS)	0.192	0.192	0.000

READ: 10.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.123	0.119	0.005
PEAK AREA (ABS-SECONDS)	0.195	0.190	0.006

READ: 10.6 — 13c 5x

MEAN= 10.7 STD.DEV.= COEF.VAR.= 1.04 %

****

CR 0057

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.038	0.036	0.004
PEAK AREA (ABS-SECONDS)	0.064	0.063	0.001

READ: 2.9 — 14c 5x

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.036	0.036	0.001

MEAN= 2.8 STD.DEV.= COEF.VAR.= 7.53 %

****

CR 0058

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.219	0.210	0.011
PEAK AREA (ABS-SECONDS)	0.354	0.337	0.018

READ: 19.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.224	0.214	0.010
PEAK AREA (ABS-SECONDS)	0.360	0.345	0.015

READ: 20.1

MEAN= 19.8 STD.DEV.= COEF.VAR.= 1.80 %

****

CR 0059

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.016	0.017	0.004
PEAK AREA (ABS-SECONDS)	0.021	0.022	0.001

READ: 0.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.011	0.011	0.004
PEAK AREA (ABS-SECONDS)	0.015	0.011	0.004

READ: -0.1

MEAN= 0.2 STD.DEV.= COEF.VAR.= 99.99 %

****

Woodward Clyde

(Totals) 6119-18

9405D00
D02
D45

0608E

PROGRAMMING MODE USER METH # 06 - HG DATE: 94/06/08

ELEMENT: HG WAVELENGTH (NM): 253.7 SLIT (NM): 0.7
FLAME: AIR-ACETYLENE, OXIDIZING (LEAN, BLUE)
CHAR CONC: 4.2 SENS. CHECK (MG/L): 200.0 LINEAR TO (MG/L): 300.0

1. TECHNIQUE: AA-BG 2. LAMP CURRENT (MA): 6
3. SIGNAL PROCESSING: HOLD 4. CALIBRATION: LINEAR
5. NOMINAL WEIGHT: 1.0 6. STATISTICS: SINGLE READING
7. TIME (SECONDS): 1.0 8. READ DELAY (SECONDS): 0.0
9. SCREEN FORMAT: BASIC DATA 10. PRINTER: MAIN SUPPL
11. RECORDER SIGNAL: 0.2 CONT ABS 12. RECORDER EXP: 1000

13. S1: 0.50 14. S2: 1.00 15. S3: 5.00
16. S4: 10.00 17. S5: 18. S6:
19. S7: 20. S8: 21. RSLP:

TIME: 15:05

HG

	AA	AA-BG	BG
ABSORBANCE	0.001	-0.001	0.002

0.000 AUTOZERO

****

HG

	AA	AA-BG	BG
ABSORBANCE	0.010	0.011	0.000

0.50 STANDARD 1

****

HG

	AA	AA-BG	BG
ABSORBANCE	0.120	0.020	0.100

0.99 STANDARD 2

****

HG

	AA	AA-BG	BG
ABSORBANCE	0.191	0.100	0.091

5.00 STANDARD 3

****

HG

	AA	AA-BG	BG
ABSORBANCE	0.199	0.157	0.042

9.96 STANDARD 4

****

2.67 ICN

HG 0002

	AA	AA-BG	BG
ABSORBANCE	0.001	0.000	0.001

0.11 ICB

HG 0003

	AA	AA-BG	BG
ABSORBANCE	0.002	0.001	0.001

0.06 PB-1

HG 0004

	AA	AA-BG	BG
ABSORBANCE	0.003	0.000	0.003

0.02 PB-2

HG 0005

	AA	AA-BG	BG
ABSORBANCE	0.016	0.013	0.003

0.75 Lot 219 LCSS-1

HG 0006

	AA	AA-BG	BG
ABSORBANCE	0.121	0.118	0.003

5.97 Lot 219 LCSS-1

HG 0007

	AA	AA-BG	BG
ABSORBANCE	0.095	0.087	0.008

4.39 Lot 219 LCSS-2

HG 0008

	AA	AA-BG	BG
ABSORBANCE	0.007	0.005	0.002

0.25 910 ECAO-11B

HG 0009

	AA	AA-BG	BG
ABSORBANCE	0.043	0.04[illegible]	.00[illegible]

2.04 11B Spk

HG 0010

1.98 11B spk dup

HG 0011

	AA	AA-BG	BG
ABSORBANCE	0.004	0.002	0.002

0.09 12B

HG 0012

	AA	AA-BG	BG
ABSORBANCE	0.012	0.010	0.002

0.50 13B

HG 0013

	AA	AA-BG	BG
ABSORBANCE	0.005	0.003	0.002

0.11 14B

HG 0014

	AA	AA-BG	BG
ABSORBANCE	0.002	0.001	0.001

0.04 15B

HG 0015

	AA	AA-BG	BG
ABSORBANCE	0.003	0.001	0.002

0.07 16B

HG 0016

	AA	AA-BG	BG
ABSORBANCE	0.002	0.000	0.001

0.01 17B

HG 0017

	AA	AA-BG	BG
ABSORBANCE	0.002	0.000	0.002

18B

0.01

HG 0018

	AA	AA-BG	BG
ABSORBANCE	0.001	0.000	0.000

0.00 9405083-3D

HG 0019

0.05 9405D00-1C (sample.)

HG 0020

	AA	AA-BG	BG
ABSORBANCE	0.055	0.054	0.001

2.72 CCV1

HG 0021

	AA	AA-BG	BG
ABSORBANCE	0.002	0.001	0.001

0.05 CCB1

HG 0022

	AA	AA-BG	BG
ABSORBANCE	0.001	0.000	0.001

9.05 2C

HG 0023

	AA	AA-BG	BG
ABSORBANCE	0.042	0.041	0.001

2.08 4C (.7* 1C)

HG 0024

	AA	AA-BG	BG
ABSORBANCE	0.039	0.039	0.000

1.97 5C (spkdup 1C)

HG 0025

	AA	AA-BG	BG
ABSORBANCE	0.000	-0.001	0.001

-0.04 6C (duplicate 1C)

HG 0026

	AA	AA-BG	BG
ABSORBANCE	0.000	-0.001	0.001

0.00 7C

HG 0027

	AA	AA-BG	BG
ABSORBANCE	0.001	0.000	0.001

0.07 8C

HG 0028

-0.05 KA

IIG 0029

	AA	AA-BG	BG
ABSORBANCE	-0.001	0.002	0.000

-0.09 12C

IIG 0030

	AA	AA-BG	BG
ABSORBANCE	[illegible]	[illegible]	[illegible]

-0.10 13C

IIG 0031

	AA	AA-BG	BG
ABSORBANCE	-0.001	-0.002	0.000

-0.09 14C

IIG 0032

	AA	AA-BG	BG
ABSORBANCE	[illegible]	[illegible]	[illegible]

2.23 CA'C

I.G 0033

	AA	AA-BG	BG
ABSORBANCE	0.000	-0.001	0.000

-0.04 CCBZ

IIG 0034

	AA	AA-BG	BG
ABSORBANCE	-0.001	-0.002	[illegible]

-0.10 9405D0 2-15C

IIG 0035

	AA	AA-BG	BG
ABSORBANCE	-0.001	[illegible]	[illegible]

0.06 9405D 33-1C

IIG 0036

	AA	AA-BG	BG
ABSORBANCE	[illegible]	[illegible]	[illegible]

-0.1 2C

IIG 0037

0.11 94C5D39-1A

HG 0038

	AA	AA-BG	BG
ABSORBANCE	0.002	0.002	0.001

-0.11 2A

HG 0039

	AA	AA-BG	BG
ABSORBANCE	-0.002	[illegible]	[illegible]

[illegible] 3A

[illegible] 0040

	AA	[illegible]	BG
[illegible]	[illegible]	[illegible]	[illegible]

0.09 4A

HG 0041

	AA	[illegible]	BG
ABSORBANCE	[illegible]	[illegible]	[illegible]

[illegible] 7A

[illegible] 0042

	AA	AA-BG	BG
[illegible]	[illegible]	[illegible]	.001

-0.11 8A

HG 0043

	AA	AA-BG	BG
ABSORBANCE	-0.002	-0.003	0.000

-0.13 13A

HG 0044

	AA	AA-BG	BG
[illegible]	[illegible]	[illegible]	[illegible]

CCl_3

[illegible]

[illegible] 0045

	AA	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

0.02 CCl_3

[illegible] 0046

	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

HG 0047

	AA	AA-BG	BG
ABSORBANCE	0.005	0.003	0.001

0.17

19A

HG 0048

	AA	AA-BG	BG
ABSORBANCE	0.004	0.001	0.[illegible]

0.07

20A

HG 0049

	AA	AA-BG	BG
ABSORBANCE	0.[illegible]	-0.001	0.[illegible]

-0.03

25A

HG 0050

	AA	AA-BG	BG
ABSORBANCE	0.001	0.000	0.001

0.01

26A

HG 0051

	AA	AA-BG	BG
ABSORBANCE	0.003	0.000	0.003

0.01

9405015-2C

HG 0052

	AA	AA-BG	BG
ABSORBANCE	0.002	0.000	0.002

-0.02

3C

HG 0053

HG 0053 (CONTINUED)

	AA	AA-BG	BG
ABSORBANCE	0.003	0.000	0.003

-0.02

4C

HG 0054

	AA	AA-BG	BG
ABSORBANCE	0.003	0.[illegible]	0.003

-0.01

5C

HG [illegible]

		BG
[illegible]	[illegible]	[illegible]

	AA	AA-BG	BG
ABSORBANCE	0.049	0.045	0.004

2.27 CW4

****

HG 0057

	AA	AA-BG	BG
ABSORBANCE	0.004	0.000	0.003

0.01 CW3

****

HG 0058

	AA	AA-BG	BG
ABSORBANCE	0.001	0.001	0.000

-0.05 BC

****

HG 0059

	AA	AA-BG	BG
ABSORBANCE	0.001	0.000	0.001

-0.02 10C

****

HG 0060

	AA	AA-BG	BG
ABSORBANCE	0.001	0.000	0.001

-0.01 11C

****

HG 0061

	AA	AA-BG	BG
ABSORBANCE	0.004	0.001	0.003

0.06 12C

****

HG 0062

HG 0063 (CONTINUED)

	AA	AA-BG	BG
ABSORBANCE	0.000	-0.001	0.001

0.0 13C

****

HG 0064

	AA	AA-BG
ABSORBANCE	0.000	0.000

0.01

****

HG 0065

9405D46-32A (composite of 4 JARs)

ABSORBANCE 0.119 0.114

5.70 Lot 219 Less-3

HG 0066

	AA	AA-BG	BG
ABSORBANCE	0.004	-0.002	0.006

-0.08 940612-1A

HG 0067

	AA	AA-BG	BG
ABSORBANCE	0.[illegible]	0.0[illegible]	.006

1.69 1A spk

HG 0068

	AA	AA-BG	BG
ABSORBANCE	[illegible]	0.046	[illegible]

2.04 1A dup blk

HG 0069

	AA	AA-BG	BG
ABSORBANCE	0.003	0.002	0.001

0.12 3E

HG 0070

	AA	AA-BG	BG
ABSORBANCE	0.001	-0.002	0.003

-0.12 4C

HG 0071

HG 0071 (CONTINUED)

	AA	AA-BG	BG
ABSORBANCE	0.005	0.001	0.004

0.04 5C

HG 0072

	AA	AA-BG	BG
ABSORBANCE	0.010	[illegible]	[illegible]

2.20 CC's

HG 0073

	AA	AA-BG	BG

ABSORBANCE	[illegible]	[illegible]	[illegible]

0.14

9406112-6C

HG 0075

	AA	AA-BG	BG
ABSORBANCE	0.001	-0.002	0.003

0.09

PB-1

HG 0076

	AA	AA-BG	BG
ABSORBANCE	0.069	0.060	0.009

3.04

lot 219 / Less-1 SLL #105

LC 0077

	AA	AA-BG	BG
ABSORBANCE	0.2	0.201	0.00

9406109-1C

[illegible] 0078

[illegible]	0.044	[illegible]	[illegible]

1C 5pk

HG 0079

	AA	AA-BG	BG
[illegible]	0.04	0.04	[illegible]

1C 5pk duplicate

HG 0080

HG 0080 (CONTINUED)

	AA	AA-BG	BG
ABSORBANCE	0.00	0.000	0.00

2C

0.02

[illegible] 0082

[illegible]	[illegible]	[illegible]	[illegible]

3C

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]

0.11 5C

117 0084			
ABSORBANCE	AA 0.000	AA-BG -0.001	BG 0.001

-0.06 6C

118 0085			
ABSORBANCE	AA 0.001	AA-BG -0.001	BG 0.002

-0.07 7C

119 0086			
ABSORBANCE	AA 0.000	AA-BG -0.002	BG 0.002

-0.11 8C

120 0087			
ABSORBANCE	AA 0.001	AA-BG -0.001	BG 0.002

0.07 9C

121 0088			
ABSORBANCE	AA 0.056	AA-BG 0.054	BG 0.002

2.72 CCV 6

122 0089			

116 0083	(CONTINUED)		
ABSORBANCE	AA 0.000	AA-BG -0.002	BG 0.002

-0.12 CCB 6

110 0090			
ABSORBANCE	AA 0.002	AA-BG 0.001	BG 0.001

0.04 10C

111 0091			
ABSORBANCE	AA	AA-BG	BG

	AA	AA-BG	BG
ABSORBANCE	0.000	0.001	0.001

12C

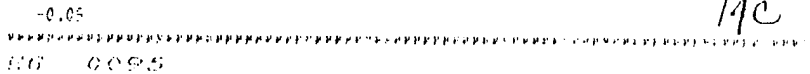
HG 0093

	AA	AA-BG	BG
ABSORBANCE	0.001	-0.002	0.002

13C

HG 0094

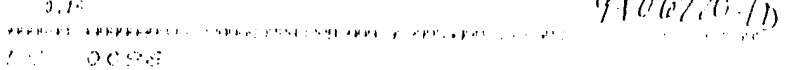
	AA	AA-BG	BG
ABSORBANCE	0.001	0.001	0.000



14C

HG 0095

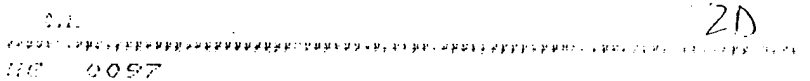
	AA	AA-BG	BG
ABSORBANCE	0.013	-0.000	0.013



9106220-1D

HG 0096

	AA	AA-BG	BG
ABSORBANCE	0.000	-0.000	0.000



2D

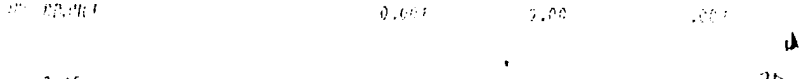
HG 0097

	AA	AA-BG	BG
ABSORBANCE	0.005	0.000	0.005

9406221-1D

HG 0098

	AA	AA-BG	BG
ABSORBANCE	0.001	0.000	0.001



2D

HG 0099

	AA	AA-BG	BG
ABSORBANCE	0.007	0.005	0.002

3D

	AA	AA-BG	BG
ABSORBANCE	0.002	0.000	0.002

0.15 CCA 7

MG 0102

	AA	AA-BG	BG
ABSORBANCE	0.006	0.000	0.006

0.02 1D

MG 0103

	AA	AA-BG	BG
ABSORBANCE	0.052	0.047	0.005

2.36 1D spk

MG 0104

	AA	AA-BG	BG
ABSORBANCE	0.045	0.041	0.004

2.21 1D spkdup

MG 0105

	AA	AA-BG	BG
ABSORBANCE	0.50	0.19	0.309

8.02 lot 219 LCSS-4

MG 0106

	AA	AA-BG	BG
ABSORBANCE	0.003	0.000	0.003

2.73 CCV8

MG 0107

MG 0107 (CONTINUED)

	AA	AA-BG	BG
ABSORBANCE	0.008	0.004	0.006

-0.18 CCB8

OperTech

PROGRAMMING MODE INSTRUMENT USEP METH # 08 - SE DATE: 01/06/15

ELEMENT: SE WAVELENGTH (NM): 196.0 SLIT (NM): 2.0
PYRO COATED TUBE WITH PLATFORM - MAX POWER HEATING - GAS STOP - BATCH MOD.
PRETREAT TEMP: 900 ATOMIZE TEMP: 2100 CHARACT. MASS (PG): 20.0

1. TECHNIQUE: ZEEMAN
2. LAMP CURRENT (MA): 6
3. SIGNAL PROCESSING: PEAK AREA
4. CALIBRATION: LINEAR
5. TIME (SECONDS): 5.0
6. READ DELAY (SECONDS): 0.0
7. SCREEN FORMAT: 1.0 GRAPHICS
8. PRINTER: MAIN SUPPT
9. RECORDER SIGNAL: 0.2 CONT ABS
10. RECORDER EXP: 1000
11. STATISTICS: 2 AVERAGE & CV
12. NOMINAL WEIGHT 1.0
13. ROLLOVER(ABS): 1.400
14. BG SCALE: 1.0

15. S1: 25.0 16. S2: 50.0 17. S3: 100.0
18. S4: 19. S5: 20. S6:
21. S7: 22. S8: 23. BLK: 0.0

Off WFC
0615B

SE TIME 12:33

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.013	0.013	0.010
PEAK AREA (ABS-SECONDS)	0.009	0.008	0.001

READ: 0.000

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.010	0.013	0.000
PEAK AREA (ABS-SECONDS)	-0.007	0.001	0.008

READ: -0.007

MEAN= -0.003 STD.DEV.= COEF.VAR.= 99.99 %

0.000 AUTOZERO

SE

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.173	0.138	0.035
PEAK AREA (ABS-SECONDS)	0.117	0.085	0.031

READ: 0.081

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.173	0.134	0.039
PEAK AREA (ABS-SECONDS)	0.124	0.088	0.036

READ: 0.054

S1

MEAN= 0.082 STD.DEV.= COEF.VAR.= 2.09 %

25.0 STANDARD 1

SE

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.325	0.256	0.070
PEAK AREA (ABS-SECONDS)	0.224	0.168	0.056

PEAK HEIGHT (ABSORBANCE)	0.315	0.250	0.065
PEAK AREA (ABS-SECONDS)	0.220	0.159	0.064

READ: 47.1

S_2

MEAN= 48.4 STD.DEV.= COEF.VAR.= 3.75 %

****

48.4

E-50: READING GREATER THAN HIGHEST STANDARD

****

49.7 STANDARD 2

****

SE

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.594	0.455	0.143
PEAK AREA (ABS-SECONDS)	0.404	0.304	0.100

READ: 93.4

(CONTINUED)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.598	0.451	0.146
PEAK AREA (ABS-SECONDS)	0.410	0.302	0.108

READ: 92.8

S_3

MEAN= 93.1 STD.DEV.= COEF.VAR.= 0.43 %

****

93.1

E-50: READING GREATER THAN HIGHEST STANDARD

****

98.2 STANDARD 3

****

SE 0005

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.312	0.239	0.073
PEAK AREA (ABS-SECONDS)	0.213	0.149	0.064

READ: 47.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.310	0.242	0.072
PEAK AREA (ABS-SECONDS)	0.216	0.163	0.053

READ: 52.1

MEAN= 49.8 STD.DEV.= COEF.VAR.= 6.39

****

SE 0006

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.010	0.008	0.002
PEAK AREA (ABS-SECONDS)	0.008	0.009	-0.001

READ: -1.3

READ: -1.8

MEAN= -1.5 STD.DEV.= COEF.VAR.= 20.12 %

****

SE 0007

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.011	0.007	0.010
PEAK AREA (ABS-SECONDS)	0.017	0.000	0.017

READ: -1.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.010	0.008	0.008
PEAK AREA (ABS-SECONDS)	0.018	-0.002	0.019

READ: -1.9

MEAN= -1.7 STD.DEV.= COEF.VAR.= 20.65 %

****

SE 0008

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.336	0.252	0.089
PEAK AREA (ABS-SECONDS)	0.222	0.155	0.067

READ: 49.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.345	0.256	0.089
PEAK AREA (ABS-SECONDS)	0.223	0.157	0.066

READ: 50.2

MEAN= 49.9 STD.DEV.= COEF.VAR.= 0.88 %

****

SE 0009

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.158	0.019	0.140
PEAK AREA (ABS-SECONDS)	0.413	0.016	0.397

READ: 4.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.154	0.019	0.136
PEAK AREA (ABS-SECONDS)	0.430	0.017	0.413

READ: 4.3

MEAN= 4.2 STD.DEV.= COEF.VAR.= 4.83 %

****

SE 0010

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.148		

Avge	-.0022	2.675	.0035	.1001	.0021	239.4	.0007
SDev	.0000	.003	.0108	.0000	.0001	.9	.0026
%RSD	1.168	.1170	309.0	.0219	2.372	.3934	367.6
#1	-.0022	2.677	-.0041	.1001	.0021	238.7	-.0011
#2	-.0022	2.672	.0111	.1001	.0022	240.1	.0026

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0031	.0266	.0203	10.38	-.0175	18.74	.5489
SDev	.0013	.0010	.0017	.02	.6698	.09	.0018
%RSD	43.68	3.689	8.558	.1803	3829.	.4822	.3237
#1	.0021	.0273	.0191	10.36	-.4911	18.68	.5477
#2	.0040	.0259	.0216	10.39	.4562	18.81	.5502

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.4884	.0321	.0595	.0031	.0944	-.0724	.0087
SDev	.0115	.0034	.0317	.0139	.0292	.0699	.0002
%RSD	2.346	10.76	53.19	454.3	30.90	96.66	2.001
#1	.4803	.0297	.0371	-.0068	.0738	-.1218	.0086
#2	.4965	.0345	.0819	.0129	.1150	-.0229	.0088

Elem	Zn2138
Units	ppm
Avge	.0906
SDev	.0011
%RSD	1.199
#1	.0899
#2	.0914

IntStd	1	2	3	4	5	6	7
Mode	*Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	33086	--	--	--	--	--	--
SDev	556.4930	--	--	--	--	--	--
%RSD	1.681934	--	--	--	--	--	--
#1	33480	--	--	--	--	--	--
#2	32693	--	--	--	--	--	--

Method: ENVIRO94 Sample Name: CCV3 Operator: DQ
Run Time: 06/14/94 15:41:50
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.845	9.651	10.34	10.04	10.06	9.828	9.830
SDev	.003	.027	.04	.01	.00	.023	.025
%RSD	.1509	.2802	.3873	.0900	.0182	.2311	.2542

APPENDIX F

CHAIN-OF-CUSTODY

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9406119

Environmental Laboratory
8880 Interchange Drive
Houston, Texas 77054
713/660-0901

Analysis Request and Chain of Custody Record

Project No.	Client/Project Name	Project Location
1308-191	OPERATIONAL TECHNOLOGIES CORP.	ZANESVILLE ANGS, OHIO

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Sludge, Etc.)	Preservative	ANALYSIS REQUESTED	LABORATORY REMARKS
A-04 BH Int 1	6/2/94 1120		/	Brass Sleeve (2)	Soil	Ice	VOC / SVOC / TPH / METALS	
A-04 BH Int 2	6/2/94 1140		/	"	"	"	"	
A-05 BH Int 1	6/2/94 1315		/	"	"	"	"	
A-05 BH Int 2	6/2/94 1318		/	"	"	"	"	
A-06 BH Int 1	6/2/94 1350		/	"	"	"	"	
A-06 BH Int 2	6/2/94 1410		/	"	"	"	"	
A-07 BH Int 1	6/2/94 1500		/	"	"	"	"	
A-07 BH Int 2	6/2/94 1507		/	"	"	"	"	
A-03 BH Int 1	6/2/94 1550		/	"	"	"	"	
A-03 BH Int 2	6/2/94 1555		/	"	"	"	"	

Samplers: (Signature)	Relinquished by: (Signature)	Date: 6/2/94 Time: 1900 hrs	Received by: (Signature)	Date: 6/3/94 Time: 900	Intact
Earl E Parker II	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
Affiliation	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact 3°C
			Received for laboratory: (Signature)	Date: 06/3/94 Time: 10:00	Laboratory No.

SAMPLER REMARKS: VOC - SW 5030/ SW 8240 SVOC - SW 8270 TPH - CA Mod 8015 Metals - SW Series

Seal #

Data Results to:

6305621103

9406119

Environmental Laboratory
8880 Interchange Drive
Houston, Texas 77054
713/660-0901

Analysis Request and Chain of Custody Record

Project No.	Client/Project Name	Project Location
1308-191	Operational Technologies Corp	Zanesville Angs, Ohio

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Sludge, Etc.)	Preservative	ANALYSIS REQUESTED	LABORATORY REMARKS
A-01 BH Int 1	6/2/94 1620	/		Brass Sleeve	Soil	Ice	VOC / SVOC / TPH / Metals	
A-01 BH Int 2	6/2/94 1628	/		"	"	"	"	
A-02 BH Int 1	6/2/94 1655	/		"	"	"	"	
A-02 BH Int 2	6/2/94 1708	/		"	"	"	"	
NOTHING FOLLOWS							BELOW	

Samplers: (Signature)	Relinquished by (Signature)	Date / Time	Received by: (Signature)	Date / Time	Intact
Earl E Parker II	Earl E Parker II	Date: 6/2/94 Time: 1900 hrs	X M. Brown	Date: 6/2/94 Time: 1900	
Earl E Parker II	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
Affiliation	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact 3°C
SAMPLER REMARKS: See Page 1			Received for laboratory: (Signature) M. Brown	Date 6/3/94 Time: 10:55	Laboratory No.
Seal # 6305621103			Data Results to:		

6305621103

2339M 6305621103

1342-6486-1 6/2/94

9406119

210 731-0000

Operational Technology Corporation

1100 NW Loop 410 St 230

San Antonio TX 78229

SAMPLE RECEIVING

(713-660-0901

Department/Floor No

SOUTHERN PETROLEUM LAB

8880 INTERCHANGE

City HOUSTON State TX ZIP Required 77054

IF HOLD FOR PICK-UP, Print FEDEX Address Here

Street Address

City State ZIP Required

Emp No Date

Federal Express Use

Base Charges

Declared Value Charge

Other 1

Other 2

Total Charges

Received By

Date Time Received FedEx Employee Number

Release Signature

REVISION DATE 6/92

136

SPL HOUSTON ENVIRONMENTAL LABORATORY

SAMPLE LOGIN CHECKLIST

DATE: 6/3 TIME: 10:00 CLIENT NO. _____
LOT NO. _____ CONTRACT NO. _____

CLIENT SAMPLE NOS. _____

SPL SAMPLE NOS.: 9406119

		YES	NO
1.	Is a Chain-of-Custody form present?	✓	
2.	Is the COC properly completed?	✓	
	If no, describe what is incomplete:		
	If no, has the client been contacted about it? (Attach subsequent documentation from client about the situation)		
3.	Is airbill/packing list/bill of lading with shipment? If yes, ID#: By Fed Ex : 830562110 3	✓	
4.	Is a USEPA Traffic Report present?		✓
5.	Is a USEPA SAS Packing List present?		✓
6.	Are custody seals present on the package?	✓	
	If yes, were they intact upon receipt?	✓	
7.	Are all samples tagged or labeled?	✓	
	Do the sample tags/labels match the COC?	✓	
	If no, has the client been contacted about it? (Attach subsequent documentation from client about the situation)		
8.	Do all shipping documents agree?	✓	
	If no, describe what is in nonconformity:		

9. Condition/temperature of shipping container: INTACT 3°C
10. Condition/temperature of sample bottles: GOOD 3°C
11. Sample Disposal?: SPL disposal ✓ Return to client _____

NOTES (reference item number if applicable): _____

ATTEST: Tim Adams DATE: 6/3/94
DELIVERED FOR RESOLUTION: REC'D _____ DATE: _____
RESOLVED: _____ DATE: _____

9406170

Page 1 of 1

Environmental Laboratory
8880 Interchange Drive
Houston, Texas 77054
713/660-0901

Analysis Request and Chain of Custody Record

Project No.	Client/Project Name	Project Location
1308-191	OPERATIONAL TECHNOLOGIES CORP	ZANESVILLE, OHIO

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Sludge, Etc.)	Preservative	ANALYSIS REQUESTED	LABORATORY REMARKS
B-003 BH INT 1	6/3/94 0815	✓		8 oz Sleeves (2)	SOIL	ICE	LEAD by Method SW 7421	
B-003 BH INT 2	6/3/94 0825	✓		"	"	"	"	
B-002 BH INT 1	6/3/94 0850	✓		"	"	"	"	
B-002 BH INT 2	6/3/94 0905	✓		"	"	"	"	
B-001 BH INT 1	6/3/94 0918	✓		"	"	"	"	
B-001 BH INT 2	6/3/94 0930	✓		"	"	"	"	
NOTHING FOLLOWS BELOW								

Samplers: (Signature)	Relinquished by: (Signature)	Date: 6/3/94 Time: 1118	Received by: (Signature) 34723 Federal Express	Date: 6/3 Time: 1120	Intact
Earl E Parker II					
Affiliation	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
SAMPLER REMARKS: 6305621066			Received for laboratory: (Signature)	Date 6/4/94 Time: 11:00	Laboratory No. 3
Seal #			Data Results to:		

EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

PACKAGE TRACKING NUMBER 630562106 6

23396 630562106 6

RECIPIENT'S COPY

Date 6/2/94

From (Your Name) Please Print: Earl Parker

Your Phone Number (Very Important): (210) 731-0000

Company: Operational Technologies Corp

Department/Floor No.

Street Address: 1100 NW Loop 410 Suite 231

State: TX

ZIP Required: 78229

2 To (Recipient's Name) Please Print: SAMPLE RECEIVING

Recipient's Phone Number (Very Important): (713) 660-0901

Company: SOUTHERN PETROLEUM LAB

Department/Floor No.

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes): 2950 INTERCHANGE

City: HOUSTON State: TX ZIP Required: 7 7 0 5 4

3 Bill 3rd Party FedEx Acct. No. 4 Bill Credit Card

5 Method of Payment (only one box)

Priority Overnight (Delivery by next business morning)
11 ☒ OTHER PACKAGING
16 ☐ FSDEX LETTER*
12 ☐ FEDEX PAK*
13 ☐ FEDEX BOX
14 ☐ FEDEX TUBE

Standard Overnight (Delivery by next business afternoon, No Saturday delivery)
51 ☐ OTHER PACKAGING
56 ☐ FEDEX LETTER*
52 ☐ FEDEX PAK*
53 ☐ FEDEX BOX
54 ☐ FEDEX TUBE

Economy Two-Day (Delivery by second business day)
30 ☐ ECONOMY

Government Overnight (Restricted for authorized users only)
46 ☐ GOVT LETTER
41 ☐ GOVT PACKAGE

Freight Service (for packages over 150 lbs.)
70 ☐ OVERNIGHT FREIGHT** (Confirmed reservation required)
80 ☐ TWO-DAY FREIGHT**
† Delivery commitment may be later in some areas
*Declared Value Limit $500.
**Call for delivery schedule.

HOLD FOR PICK-UP Box
DELIVER 2 ☐ DAY 3 ☒ (Extra charge) (Not available to all locations)
4 ☐ DANGEROUS GOODS (Extra charge)
5 ☐
6 ☐ DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN 1845 X ... kg
7 ☐ OTHER SPECIAL SERVICE
9 ☐ SATURDAY PICK-UP (Extra charge)
12 ☐ HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	45	
1	9	
Total 2	Total 54	Total

DIM SHIPMENT (Chargeable Weight) ☐ lbs.
L x W x H

Received At: 1 ☐ Regular Stop 3 ☐ Drop Box 4 ☐ B.S.C. 2 ☐ On-Call Stop 5 ☐ Station

7 Release Signature:

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City State ZIP Required

Emp. No. Date
☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold
Street Address
City State Zip
Received By: X
Date/Time Received FedEx Employee Number

FedEx Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 6/92
PART #137204 FXEM 11/
FORMAT #136
136

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SPL HOUSTON ENVIRONMENTAL LABORATORY

SAMPLE LOGIN CHECKLIST

DATE: 06/06/94 TIME: 09:50 CLIENT NO. _____
LOT NO. _____ CONTRACT NO. _____

CLIENT SAMPLE NOS. _____

SPL SAMPLE NOS.: 9406170

		YES	NO
1.	Is a Chain-of-Custody form present?	✓	
2.	Is the COC properly completed?	✓	
	If no, describe what is incomplete:		
	If no, has the client been contacted about it?		
	(Attach subsequent documentation from client about the situation)		
3.	Is airbill/packing list/bill of lading with shipment?	✓	
	If yes, ID#: FED EX 6305621006		
4.	Is a USEPA Traffic Report present?		✓
5.	Is a USEPA SAS Packing List present?		✓
6.	Are custody seals present on the package?	✓	
	If yes, were they intact upon receipt?	✓	
7.	Are all samples tagged or labeled?	✓	
	Do the sample tags/labels match the COC?	✓	
	If no, has the client been contacted about it?		
	(Attach subsequent documentation from client about the situation)		
8.	Do all shipping documents agree?	✓	
	If no, describe what is in nonconformity:		

9. Condition/temperature of shipping container: 3° INTACT
10. Condition/temperature of sample bottles: 3 INTACT
11. Sample Disposal?: SPL disposal ✓ Return to client _____

NOTES (reference item number if applicable): _____

ATTEST: Kathy Insell DATE: 06/06/94
DELIVERED FOR RESOLUTION: REC'D _____ DATE: _____
RESOLVED: _____ DATE: _____

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.105	0.008	
PEAK AREA (ABS-SECONDS)	0.257	-0.002	

READ: -2.1 -2c

MEAN= -1.6 STD.DEV.= COEF.VAR.= 48.43 %

****

SE 0011

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.184	0.022	
PEAK AREA (ABS-SECONDS)	0.476	0.024	

READ: 6.5

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.176	0.025	
PEAK AREA (ABS-SECONDS)	0.459	0.020	

READ: 5.2 -3c

MEAN= 5.8 STD.DEV.= COEF.VAR.= 16.07 %

****

SE 0012

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.128	0.010	
PEAK AREA (ABS-SECONDS)	0.330	0.003	

READ: -0.4

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.112	0.008	
PEAK AREA (ABS-SECONDS)	0.298	-0.003	

READ: -2.2 -4c

MEAN= -1.3 STD.DEV.= COEF.VAR.= 96.60 %

****

SE 0013

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.107	0.015	
PEAK AREA (ABS-SECONDS)	0.286	-0.003	

READ: -2.5

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.094	0.011	
PEAK AREA (ABS-SECONDS)	0.245	-0.002	

READ: -2.2 -5c

MEAN= -2.3 STD.DEV.= COEF.VAR.= 9.99 %

****

READ: -1.8

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.046	0.014	0.047
PEAK AREA (ABS-SECONDS)	0.082	0.001	0.09

READ: -1.6

-6c

MEAN= -1.7 STD.DEV.= COEF.VAR.= 5.89

****

SE 0015

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.121	0.016	0.111
PEAK AREA (ABS-SECONDS)	0.226	0.003	

READ: -0.3

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.114	0.013	0.111
PEAK AREA (ABS-SECONDS)	0.282	0.005	

READ: -3.1

-7c

MEAN= -1.7 STD.DEV.= COEF.VAR.= 99.99

****

SE 0016

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.103	0.009	0.102
PEAK AREA (ABS-SECONDS)	0.247	0.006	0.2

READ: -3.2

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.097	0.013	0.111
PEAK AREA (ABS-SECONDS)	0.244	0.003	0.11

READ: -0.2

-7c

MEAN= -1.7 STD.DEV.= COEF.VAR.= 99.99

****

SE 0017

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.098	0.014	0.111
PEAK AREA (ABS-SECONDS)	0.228	0.006	0.228

READ: -1.2

-9c

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.092	0.013	0.09
PEAK AREA (ABS-SECONDS)	0.223	0.002	0.20

READ: -3.2

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.123	0.015	0.11
PEAK AREA (ABS-SECONDS)	0.333	0.004	0.32

READ: -0.1

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.128	0.012	0.13
PEAK AREA (ABS-SECONDS)	0.318	-0.006	0.32

READ: -3.4

-10c

MEAN= -1.7 STD.DEV.= COEF.VAR.= 99.99 %

****

SE 0019

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.343	0.272	0.07
PEAK AREA (ABS-SECONDS)	0.237	0.154	0.08

READ: 49.2

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.338	0.192	0.14
PEAK AREA (ABS-SECONDS)	0.220	0.167	0.05

READ: 53.5

Ccl4

MEAN= 51.4 STD.DEV.= COEF.VAR.= 5.90 %

****

SE 0020

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.012	0.012	0.01
PEAK AREA (ABS-SECONDS)	0.015	0.005	0.01

READ: 0.3

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.013	0.011	0.01
PEAK AREA (ABS-SECONDS)	0.013	0.005	0.01

READ: -2.9

CCl4

MEAN= -1.3 STD.DEV.= COEF.VAR.= 99.99

****

SE 0021

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.181	0.052	0.13
PEAK AREA (ABS-SECONDS)	0.456	0.327	0.13

READ: 5.8

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.181		

MEAN= 5.8 STD.DEV.= COEF.VAR.= 1.53

****

SE 0022

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.076	0.012	0.07[illegible]
PEAK AREA (ABS-SECONDS)	0.150	-0.002	0.15[illegible]

READ: -2.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.072	0.015	0.07[illegible]
PEAK AREA (ABS-SECONDS)	0.144	-0.002	0.14[illegible]

READ: -2.1

-12c

MEAN= -2.1 STD.DEV.= COEF.VAR.= 1.35

****

SE 0023

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.074	0.013	0.07[illegible]
PEAK AREA (ABS-SECONDS)	0.134	0.001	0.13[illegible]

READ: -1.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.077	0.017	0.07[illegible]
PEAK AREA (ABS-SECONDS)	0.139	0.009	0.13[illegible]

READ: 1.5

-13c

MEAN= 0.2 STD.DEV.= COEF.VAR.= 99.99

****

SE 0024

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.115	0.010	0.11[illegible]
PEAK AREA (ABS-SECONDS)	0.291	-0.002	0.29[illegible]

READ: -2.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.119	0.017	0.11[illegible]
PEAK AREA (ABS-SECONDS)	0.308	0.006	0.30[illegible]

READ: 0.6

-14c

MEAN= -0.7 STD.DEV.= COEF.VAR.= 99.99

****

SE 0025

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.098	0.016	0.08[illegible]
PEAK AREA (ABS-SECONDS)	0.192	0.003	0.18[illegible]

READ: [illegible]

READ: -1.8

06220-18

MEAN= -0.2 STD.DEV.= COEF.VAR.= 99.99 %

****

SE 0026

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.024	0.016	0.026
PEAK AREA (ABS-SECONDS)	0.040	0.003	[illegible]

READ: -0.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.029	0.013	[illegible]
PEAK AREA (ABS-SECONDS)	0.043	0.005	[illegible]

READ: 0.4

-2D

MEAN= 0.0 STD.DEV.= COEF.VAR.= 99.99

****

SE 0027

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.199	0.162	[illegible]
PEAK AREA (ABS-SECONDS)	0.152	0.065	[illegible]

READ: 28.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.201	0.160	[illegible]
PEAK AREA (ABS-SECONDS)	0.161	0.096	[illegible]

READ: 30.0

-2D Sept

MEAN= 28.2 STD.DEV.= COEF.VAR.= 8.94

****

SE 0028

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.198	0.160	[illegible]
PEAK AREA (ABS-SECONDS)	0.153	0.091	[illegible]

READ: 28.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.196	0.163	[illegible]
PEAK AREA (ABS-SECONDS)	0.156	0.091	[illegible]

READ: 28.7

-2D Duplicate

MEAN= 28.6 STD.DEV.= COEF.VAR.= 0.50

****

SE 0029

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	[illegible]	[illegible]	[illegible]

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.049	0.020	0.019
PEAK AREA (ABS-SECONDS)	0.078	0.000	0.078

READ: -1.4

06221-19

MEAN= -0.1 STD.DEV.= COEF.VAR.= 99.99 %

****

SE 0030

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.142	0.011	0.131
PEAK AREA (ABS-SECONDS)	0.305	-0.003	0.308

READ: -2.3

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.142	0.015	0.127
PEAK AREA (ABS-SECONDS)	0.306	-0.006	0.311

READ: -3.4

-25

MEAN= -2.8 STD.DEV.= COEF.VAR.= 29.55 %

****

SE 0031

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.084	0.016	0.068
PEAK AREA (ABS-SECONDS)	0.150	0.001	0.149

READ: -0.9

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.069	0.013	0.056
PEAK AREA (ABS-SECONDS)	0.116	-0.002	0.118

READ: -2.0

-35

MEAN= -1.5 STD.DEV.= COEF.VAR.= 53.34 %

****

SE 0032

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.020	0.015	0.005
PEAK AREA (ABS-SECONDS)	0.036	-0.004	0.040

READ: -2.7

-45

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.022	0.013	0.009
PEAK AREA (ABS-SECONDS)	0.023	-0.000	0.023

READ: -3.5

MEAN= -3.1 STD.DEV.= COEF.VAR.= 19.01 %

****

READ: 56.9

SE 0033

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.018	0.012	0.011
PEAK AREA (ABS-SECONDS)	0.021	0.004	0.017

READ: 0.0

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.013	0.010	0.011
PEAK AREA (ABS-SECONDS)	0.015	-0.002	0.017

READ: -2.0

MEAN= -1.0 STD.DEV.= COEF.VAR.= 99.99

****

SE 0034

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.410	0.336	0.013
PEAK AREA (ABS-SECONDS)	0.262	0.196	0.066

READ: 62.9

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.398	0.326	0.013
PEAK AREA (ABS-SECONDS)	0.267	0.203	0.064

READ: 65.2

MEAN= 64.1 STD.DEV.= COEF.VAR.= 2.58

****

SE 0035

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.307	0.252	0.055
PEAK AREA (ABS-SECONDS)	0.220	0.167	0.053

READ: 53.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.288	0.232	0.056
PEAK AREA (ABS-SECONDS)	0.196	0.143	0.053

READ: 45.5

MEAN= 49.5 STD.DEV.= COEF.VAR.= 11.09

****

SE 0036

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.014	0.015	0.001
PEAK AREA (ABS-SECONDS)	0.013	0.007	0.006

READ: 0.9

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.016	0.014	0.002
PEAK AREA (ABS-SECONDS)	0.013	0.008	0.005

SE 0037

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.058	0.016	0.057
PEAK AREA (ABS-SECONDS)	0.092	0.005	0.057

READ: 0.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.061	0.013	0.058
PEAK AREA (ABS-SECONDS)	0.058	-0.004	0.057

READ: -2.6

06378-7c (Qc 8uG)

MEAN= -1.1 STD.DEV.= COEF.VAR.= 99.99 %

****

SE 0038

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.202	0.161	0.041
PEAK AREA (ABS-SECONDS)	0.172	0.084	0.088

READ: 26.3

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.185	0.143	0.042
PEAK AREA (ABS-SECONDS)	0.164	0.082	0.081

READ: 25.7

- 7c Split

MEAN= 26.0 STD.DEV.= COEF.VAR.= 1.70 %

****

SE 0039

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.177	0.144	0.033
PEAK AREA (ABS-SECONDS)	0.162	0.085	0.077

READ: 26.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.175	0.146	0.029
PEAK AREA (ABS-SECONDS)	0.180	0.096	0.084

READ: 30.1

- 7c Duplicate

MEAN= 28.4 STD.DEV.= COEF.VAR.= 8.70 %

****

SE 0040

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.013	0.011	0.002
PEAK AREA (ABS-SECONDS)	0.011	0.006	0.005

READ: 0.6

Blank

MEAN= -0.1 STD.DEV.= COEF.VAR.= 99.99 %

SE 0041

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.199	0.164	0.04
PEAK AREA (ABS-SECONDS)	0.151	0.111	0.0

READ: 35.2

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.210	0.173	0.0
PEAK AREA (ABS-SECONDS)	0.165	0.109	0.

READ: 34.3

1BS

MEAN= 34.8 STD.DEV.= COEF.VAR.= 1.84 %

SE 0042

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.072	0.014	0.0
PEAK AREA (ABS-SECONDS)	0.194	0.003	0.

READ: -2.5

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.079	0.016	0.0
PEAK AREA (ABS-SECONDS)	0.206	0.004	0.

READ: 0.1

0641S-1B

MEAN= -1.2 STD.DEV.= COEF.VAR.= 99.99 %

SE 0043

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.168	0.019	0.1
PEAK AREA (ABS-SECONDS)	0.405	0.009	0.

READ: 1.6

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.166	0.019	0.1
PEAK AREA (ABS-SECONDS)	0.425	0.009	0.

READ: 1.2

-2B

MEAN= 1.4 STD.DEV.= COEF.VAR.= 17.49 %

SE 0044

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.263	0.013	0.2
PEAK AREA (ABS-SECONDS)	0.639	-0.002	0.

READ: -2.1

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.259	0.018	0.2
PEAK AREA (ABS-SECONDS)	0.638	-0.002	0.

READ: -3.0

-3B

MEAN= STD.DEV.=

SE 0045

	AA	DAA	[illegible]
PEAK HEIGHT (ABSORBANCE)	1.134	0.093	1.0[illegible]
PEAK AREA (ABS-SECONDS)	1.999	-0.009	[illegible]
READ: -4.3			
PEAK HEIGHT (ABSORBANCE)	AA 1.[illegible]	DAA [illegible]	[illegible]
PEAK AREA (ABS-SECONDS)	2.146	0.[illegible]	[illegible]
READ: -4.2			

06112-7C

MEAN= -4.2 STD.DEV.= COEF.VAR.= [illegible]

SE 0046

	AA	DAA	[illegible]
PEAK HEIGHT (ABSORBANCE)	0.308	0.012	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.320	[illegible]	[illegible]
READ: -1.8			
PEAK HEIGHT (ABSORBANCE)	AA 0.101	DAA [illegible]	[illegible]
PEAK AREA (ABS-SECONDS)	0.[illegible]	[illegible]	[illegible]

06251 CB

READ: -0.9

MEAN= -1.4 STD.DEV.= COEF.VAR.= 48.9[illegible]

SE 0047

	AA	DAA	[illegible]
PEAK HEIGHT (ABSORBANCE)	0.052	0.012	[illegible]
PEAK AREA (ABS-SECONDS)	0.023	0.001	[illegible]
READ: -1.8			
PEAK HEIGHT (ABSORBANCE)	AA 0.014	DAA 0.003	[illegible]
PEAK AREA (ABS-SECONDS)	0.0[illegible]	[illegible]	[illegible]

PB 6/16

READ: -1.4

MEAN= -1.6 STD.DEV.= COEF.VAR.= 19.25

SE 0048

	AA	DAA	[illegible]
PEAK HEIGHT (ABSORBANCE)	0.226	0.183	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.154	0.108	[illegible]
READ: 34.0			
PEAK HEIGHT (ABSORBANCE)	AA 0.225	DAA 0.184	[illegible]
PEAK AREA (ABS-SECONDS)	0.153	0.113	[illegible]

PBS

SE 0049

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.040	0.015	
PEAK AREA (ABS-SECONDS)	0.078	0.005	
PEAD: 0.3			

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.038	0.013	
PEAK AREA (ABS-SECONDS)	0.075	0.001	
PEAD: 0.0			

MEAN= 0.1 STD.DEV.= COEF.VAR.= 99.99 %

SE 0050

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.194	0.138	
PEAK AREA (ABS-SECONDS)	0.162	0.081	
PEAD: 25.1			

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.196	0.138	
PEAK AREA (ABS-SECONDS)	0.170	0.087	
PEAD: 27.1			

MEAN= 26.1 STD.DEV.= COEF.VAR.= 5.36

SE 0051

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.191	0.133	
PEAK AREA (ABS-SECONDS)	0.163	0.081	
PEAD: 25.3			

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.190	0.135	
PEAK AREA (ABS-SECONDS)	0.172	0.085	
PEAD: 26.5			

MEAN= 25.9 STD.DEV.= COEF.VAR.= 3.34

SE 0052

	AA	ZAA	
PEAK HEIGHT (ABSORBANCE)	0.016	0.010	
PEAK AREA (ABS-SECONDS)	0.013	-0.004	
PEAD: -2.7			

MEAN= -2.7 STD.DEV.= COEF.VAR.= 0.06

****

SE 0053

	AA	ZAA	B
PEAK HEIGHT (ABSORBANCE)	0.394	0.323	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.251	0.137	0.[illegible]

READ: 63.4

(63.7)(20)(100) / 1000 = 127.4 / 122.0 = 104.4%

	AA	ZAA	B
PEAK HEIGHT (ABSORBANCE)	0.396	0.321	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.259	0.199	0.[illegible]

READ: 63.9

PBS

20X

MEAN= 63.7 STD.DEV.= COEF.VAR.= 0.43

****

SE 0054

	AA	ZAA	B
PEAK HEIGHT (ABSORBANCE)	0.256	0.180	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.471	0.394	0.[illegible]

READ: 29.4

Note - samples 06062 only in duplicates; 06062-1B per [illegible] instructions

	AA	ZAA	B
PEAK HEIGHT (ABSORBANCE)	0.250	0.[illegible]	0.[illegible]
PEAK AREA (ABS SECONDS)	0.518	0.[illegible]	0.[illegible]

READ: 34.6

06062-1B

MEAN= 32.0 STD.DEV.= COEF.VAR.= 11.61

****

SE 0055

	AA	ZAA	B
PEAK HEIGHT (ABSORBANCE)	0.206	0.149	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.432	0.[illegible]	0.[illegible]

READ: 30.9

	AA	ZAA	B
PEAK HEIGHT (ABSORBANCE)	0.200	0.146	0.111
PEAK AREA (ABS-SECONDS)	0.423	0.[illegible]	0.[illegible]

READ: 29.2

— 1B dup

MEAN= 30.0 STD.DEV.= COEF.VAR.= 3.91

****

SE 0055

	AA	ZAA	B
PEAK HEIGHT (ABSORBANCE)	0.221	0.143	0.[illegible]
PEAK AREA (ABS-SECONDS)	0.479	0.[illegible]	0.[illegible]

— 2B

PEAK AREA (ABS-SECONDS)		0.503	0.105

READ: 33.0

MEAN= 31.2 STD.DEV.= COEF.VAR.= 8.05 %

****

SE 0057

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.333	0.147	0.290
PEAK AREA (ABS-SECONDS)	0.729	0.090	

READ: 28.2

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.340		
PEAK AREA (ABS-SECONDS)	0.766	0.092	

READ: 28.8 — 2B Bkgd

MEAN= 28.5 STD.DEV.= COEF.VAR.= 1.66 %

****

SE 0058

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.254	0.194	
PEAK AREA (ABS-SECONDS)	0.517	0.151	

READ: 48.4

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.262	0.202	0.197
PEAK AREA (ABS-SECONDS)	0.481	0.158	

— 3B

READ: 50.4

MEAN= 49.4 STD.DEV.= COEF.VAR.= 2.84 %

****

SE 0059

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.261	0.200	
PEAK AREA (ABS-SECONDS)	0.483	0.161	

READ: 51.5

	AA	ZAA	BC
PEAK HEIGHT (ABSORBANCE)	0.263	0.207	
PEAK AREA (ABS-SECONDS)	0.479	0.161	

READ: 51.6 — 3B Bkgd

MEAN= 51.5 STD.DEV.= COEF.VAR.= 0.17 %

****

SE 0060

	AA	ZAA	FC
PEAK HEIGHT (ABSORBANCE)	0.300	0.241	0.236
PEAK AREA (ABS-SECONDS)	0.503	0.258	0.248
READ:	83.2		

MEAN= 78.0 STD.DEV.= COEF.VAR.= 9.53

SE 0061

	AA	ZAA	FC
PEAK HEIGHT (ABSORBANCE)	0.269	0.228	0.194
PEAK AREA (ABS-SECONDS)	0.423	0.218	0.194
READ:	68.2		

	AA	ZAA	FC
PEAK HEIGHT (ABSORBANCE)	0.374	0.280	0.197
PEAK AREA (ABS-SECONDS)	0.587	0.272	0.197
READ:	90.2		

MEAN= 79.2 STD.DEV.= COEF.VAR.= 19.47

SE 0062

	AA	ZAA	FC
PEAK HEIGHT (ABSORBANCE)	0.150	0.138	0.138
PEAK AREA (ABS-SECONDS)	0.137	0.100	0.100
READ:	31.5		

	AA	ZAA	FC
PEAK HEIGHT (ABSORBANCE)	0.127	0.106	0.106
PEAK AREA (ABS-SECONDS)	0.105	0.081	0.081
READ:	25.2		

MEAN= 28.4 STD.DEV.= COEF.VAR.= 15.07

SE 0063

	AA	ZAA	FC
PEAK HEIGHT (ABSORBANCE)	0.015	0.012	0.012
PEAK AREA (ABS-SECONDS)	0.020	0.005	0.005
READ:	0.2		

	AA	ZAA	FC
PEAK HEIGHT (ABSORBANCE)	0.010	0.013	0.013
PEAK AREA (ABS-SECONDS)	0.006	0.004	0.004
READ:	-1.6		

MEAN= -0.7 STD.DEV.= COEF.VAR.= 99.99

SE 0063

	AA	ZAA	FC

	AA	EAA
PEAK HEIGHT (ABSORBANCE)	0.264	0.202
PEAK AREA (ABS-SECONDS)	0.529	0.175

READ: 56.3

MEAN= 58.4 STD.DEV.= COEF.VAR.= 5.29 %

****

SE 0064

	AA	EAA	PA
PEAK HEIGHT (ABSORBANCE)	0.230	0.184	0.045
PEAK AREA (ABS-SECONDS)	0.203	0.138	0.11

READ: 50.6

	AA	EAA	PA
PEAK HEIGHT (ABSORBANCE)	0.223	0.182	0.041
PEAK AREA (ABS-SECONDS)	0.135	0.156	-0.021

READ: 49.9

MEAN= 50.3 STD.DEV.= COEF.VAR.= 1.00

****

SE 0065

	AA	EAA	PA
PEAK HEIGHT (ABSORBANCE)	0.011	0.010	0.001
PEAK AREA (ABS-SECONDS)	0.006	0.008	-0.002

READ: -0.2

	AA	EAA	PA
PEAK HEIGHT (ABSORBANCE)	0.010	0.011	-0.001
PEAK AREA (ABS-SECONDS)	0.005	0.002	0.003

READ: -0.6

MEAN= -0.4 STD.DEV.= COEF.VAR.= 66.1 %

****

```
================================================================================
Software Version: 3.2 <16C20>
Sample Name  : 750 PPM                    Time         : 06/15/94  10:57
Sample Number: TC ;S                      Study        : DIESEL
Operator     : SEG

Instrument   : VARC                       Channel : A     A/D mV Range : 10000
AutoSampler  : NONE
Rack/Vial    : 0/0

Interface Serial # : 8328570191   Data Acquisition Time: 06/15/94  09:25
Delay Time   : 1.00   min.
End Time     : 34.66  min.
Sampling Rate  : 1.0000   pts/sec

Raw Data File  : L:\DATA\TCHROM\PEST\VARC\C___111.raw
Result File    : C:\DOS\~rst1421.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File   : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File    : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File  : <none>

Inj. Volume    : 1 ul                     Area Reject      : 100.00
Sample Amount  : 1.0000                   Dilution Factor  : 1.00

================================================================================
```

105%

RF 0.03744

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	4.899	1205913.75	145375.44	BV	1.0000e6	0.0415	921.7238	0.0000
2	5.227	356389.06	41796.38	VV	9.9999e5	0.0415	921.7238	0.0000
3	5.399	210046.25	26948.03	VV	1.0000e6	0.0415	921.7238	0.0000
4	5.590	155732.03	26718.29	VV	1.0000e6	0.0415	921.7238	0.0000
5	5.748	549653.25	63896.97	VV	1.0000e6	0.0415	921.7238	0.0000
6	5.898	705699.50	90372.31	VV	1.0000e6	0.0415	921.7238	0.0000
7	5.980	414955.84	89301.56	VV	1.0000e6	0.0415	921.7238	0.0000
8	6.077	539261.56	80582.56	VV	9.9999e5	0.0415	921.7238	0.0000
9	6.302	687597.94	112836.10	VV	1.0000e6	0.0415	921.7238	0.0000
10	6.486	2902479.00	382432.00	VV	1.0000e6	0.0415	921.7238	0.0000
11	6.658	2588578.50	259541.95	VV	1.0000e6	0.0415	921.7238	0.0000
12	6.940	1184738.75	146585.02	VV	1.0000e6	0.0415	921.7238	0.0000
13	7.230	2887564.00	305618.03	VV	1.0000e6	0.0415	921.7238	0.0000
14	7.322	2631850.50	324244.22	VV	1.0000e6	0.0415	921.7238	0.0000
15	7.524	1718455.00	280743.72	VV	1.0000e6	0.0415	921.7238	0.0000
16	7.622	3393005.00	667751.63	VV	1.0000e6	0.0415	921.7238	0.0000
17	7.796	5161113.50	464507.94	VV	1.0000e6	0.0415	921.7238	0.0000
18	8.036	2213168.25	313228.97	VV	1.0000e6	0.0415	921.7238	0.0000
19	8.135	1122619.50	286029.59	VV	1.0000e6	0.0415	921.7238	0.0000
20	8.236	2182546.25	331541.25	VV	1.0000e6	0.0415	921.7238	0.0000
21	8.346	3086380.50	451288.19	VV	1.0000e6	0.0415	921.7238	0.0000
22	8.569	8067854.50	1.04e6	VV	9.9999e5	0.0415	921.7238	0.0000
23	8.753	5760176.00	603613.50	VV	9.9999e5	0.0415	921.7238	0.0000
24	8.974	4296996.00	565245.50	VV	1.0000e6	0.0415	921.7238	0.0000
25	9.098	7461517.00	699908.69	VV	1.0000e6	0.0415	921.7238	0.0000
26	9.412	11189220.00	1.31e6	VV	9.9999e5	0.0415	921.7238	0.0000
27	9.674	4295712.00	508052.81	VV	1.0000e6	0.0415	921.7238	0.0000
28	9.815	4878618.50	704461.56	VV	9.9999e5	0.0415	921.7238	0.0000
29	9.921	5149599.50	627419.69	VV	1.0000e6	0.0415	921.7238	0.0000
30	10.195	12794202.00	1.50e6	VV	1.0000e6	0.0415	921.7238	0.0000
31	10.389	3785313.00	485801.09	VV	1.0000e6	0.0415	921.7238	0.0000
32	10.554	11247696.00	869843.75	VV	1.0000e6	0.0415	921.7238	0.0000
33	10.935	17482346.00	1.67e6	VV	1.0000e6	0.0415	921.7238	0.0000
34	11.344	11415711.00	624322.94	VV	9.9999e5	0.0415	921.7238	0.0000
35	11.624	11222217.00	1.29e6	VV	1.0000e6	0.0415	921.7238	0.0000
36	11.890	6447271.00	535728.75	VV	1.0000e6	0.0415	921.7238	0.0000
37	12.034	5237693.00	521330.91	VV	1.0000e6	0.0415	921.7238	0.0000
38	12.277	10769700.00	1.04e6	VV	1.0000e6	0.0415	921.7238	0.0000
39	12.548	3286696.00	434240.28	VV	1.0000e6	0.0415	921.7238	0.0000
40	12.693	4562290.50	412720.31	VV	9.9999e5	0.0415	921.7238	0.0000
41	12.905	7240715.50	780308.88	VV	1.0000e6	0.0415	921.7238	0.0000
42	13.152	2333313.75	297759.31	VV	1.0000e6	0.0415	921.7238	0.0000
43	13.338	3383217.50	308030.78	VV	1.0000e6	0.0415	921.7238	0.0000
44	13.512	3814668.50	479878.13	VV	1.0000e6	0.0415	921.7238	0.0000
45	13.717	2286647.75	191211.97	VV	1.0000e6	0.0415	921.7238	0.0000
46	13.923	1386158.38	166850.73	VV	1.0000e6	0.0415	921.7238	0.0000
47	14.090	2269027.75	272925.66	VV	1.0000e6	0.0415	921.7238	0.0000
48	14.285	766731.69	96900.66	VV	1.0000e6	0.0415	921.7238	0.0000
49	14.483	683709.00	76215.85	VV	9.9999e5	0.0415	921.7238	0.0000
50	14.648	1139079.38	112523.82	VV	1.0000e6	0.0415	921.7238	0.0000

21065.92

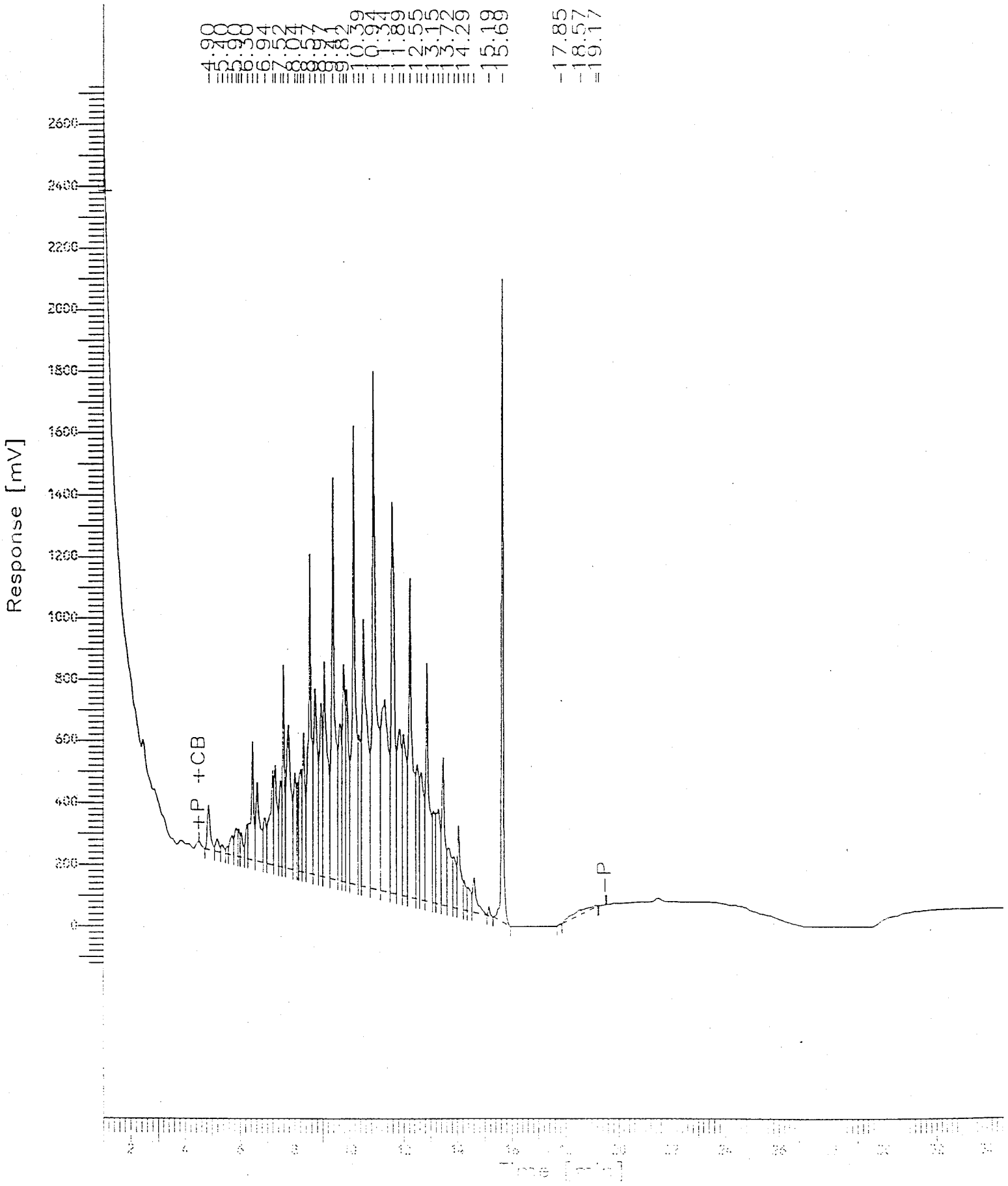
51	15.185	144885.58	30448.78	VB	9.9999e5	0.0415	921.7238	0.0000
52	15.686	10340864.00	2.09e6	BB	1.0000e6	0.0415	921.7238	0.0000
53	17.846	32244.92	2866.12	BB	1.0000e6	0.0415	921.7238	0.0000
54	18.569	527031.63	17289.76	BV	1.0000e6	0.0415	921.7238	0.0000
55	19.165	341316.56	5882.52	VV	1.0000e6	0.0415	921.7238	0.0000
56	19.262	3534.02	1146.44	VB	1.0000e6	0.0415	921.7238	0.0000
		2.21e8	2.52e7			2.3257	51616.5234	0.0000

END

Chromatogram

Sample Name : 750 PPM
FileName : L:\DATA\TCHROM\PEST\VARC\C___111.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -137 mV

Sample #: TC ;S Page 1 of 1
Date : 06/15/94 10:57
Time of Injection: 06/15/94 09:25
Low Point : -136.71 mV High Point : 2734.44 mV
Plot Scale: 2871 mV



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================================================================================
Software Version: 3.2 <16C20>
Sample Name  : 9406119-14MS              Time         : 06/15/94  13:48
Sample Number: KM ;S                    Study        : MODSD
Operator     : SEG

Instrument   : VARC                     Channel : A     A/D mV Range : 10000
AutoSampler  : NONE
Rack/Vial    : 0/0

Interface Serial # : 8328570191   Data Acquisition Time: 06/15/94  13:14
Delay Time     : 1.00   min.
End Time       : 34.66  min.
Sampling Rate  : 1.0000   pts/sec

Raw Data File  : l:\data\tchrom\pest\varc\C___115.raw
Result File    : l:\data\tchrom\pest\varc\C___115.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File   : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File    : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File  : L:\DATA\TCHROM\PEST\METHODS\DIESELC.seq

Inj. Volume    : 1 ul                   Area Reject      : 100.00
Sample Amount  : 1.0000                 Dilution Factor  : 1.00

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DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	4.859	5478092.00	698457.63	BV	9.9999e5	0.0415	2865.3762	0.0000
2	5.193	1596473.75	166704.36	VV	1.0000e6	0.0415	2865.3762	0.0000
3	5.400	767461.25	98603.01	VV	1.0000e6	0.0415	2865.3762	0.0000
4	5.535	1225442.13	188118.14	VV	9.9999e5	0.0415	2865.3762	0.0000
5	5.684	2242634.25	279313.09	VV	1.0000e6	0.0415	2865.3762	0.0000
6	5.855	3426920.25	438666.72	VV	1.0000e6	0.0415	2865.3762	0.0000
7	5.968	3218772.75	341699.28	VV	1.0000e6	0.0415	2865.3762	0.0000
8	6.257	3451021.25	473888.00	VV	1.0000e6	0.0415	2865.3762	0.0000
9	6.467	10240818.00	1.57e6	VV	1.0000e6	0.0415	2865.3762	0.0000
10	6.641	7768755.50	806131.63	VV	1.0000e6	0.0415	2865.3762	0.0000
11	6.917	5104424.50	494914.34	VV	1.0000e6	0.0415	2865.3762	0.0000
12	7.037	1727072.50	446303.16	VV	1.0000e6	0.0415	2865.3762	0.0000
13	7.197	9415960.00	1.18e6	VV	9.9999e5	0.0415	2865.3762	0.0000
14	7.316	7575671.00	1.00e6	VV	1.0000e6	0.0415	2865.3762	0.0000
15	7.524	7193273.50	1.26e6	VV	1.0000e6	0.0415	2865.3762	0.0000
16	7.608	11814770.00	2.49e6	VV	1.0000e6	0.0415	2865.3762	0.0000
17	7.776	16707932.00	1.45e6	VV	1.0000e6	0.0415	2865.3762	0.0000
18	8.017	6154261.00	1.06e6	VV	1.0000e6	0.0415	2865.3762	0.0000
19	8.156	6429088.00	984406.94	VV	1.0000e6	0.0415	2865.3762	0.0000
20	8.332	16334787.00	1.46e6	VV	1.0000e6	0.0415	2865.3762	0.0000
21	8.559	28916380.00	3.68e6	VV	1.0000e6	0.0415	2865.3762	0.0000
22	8.721	17283988.00	2.24e6	VV	9.9999e5	0.0415	2865.3762	0.0000
23	8.962	14451465.00	1.70e6	VV	1.0000e6	0.0415	2865.3762	0.0000
24	9.091	22200052.00	2.14e6	VV	1.0000e6	0.0415	2865.3762	0.0000
25	9.403	34395120.00	4.63e6	VV	1.0000e6	0.0415	2865.3762	0.0000
26	9.646	17650398.00	1.74e6	VV	1.0000e6	0.0415	2865.3762	0.0000
27	9.806	15268307.00	2.25e6	VV	1.0000e6	0.0415	2865.3762	0.0000
28	9.914	14894230.00	2.05e6	VV	1.0000e6	0.0415	2865.3762	0.0000
29	10.187	42923620.00	5.21e6	VV	1.0000e6	0.0415	2865.3762	0.0000
30	10.377	11475896.00	1.49e6	VV	1.0000e6	0.0415	2865.3762	0.0000
31	10.551	34941736.00	2.83e6	VV	1.0000e6	0.0415	2865.3762	0.0000
32	10.928	49630144.00	5.59e6	VV	1.0000e6	0.0415	2865.3762	0.0000
33	11.242	16713671.00	1.85e6	VV	1.0000e6	0.0415	2865.3762	0.0000
34	11.326	20641016.00	1.94e6	VV	1.0000e6	0.0415	2865.3762	0.0000
35	11.617	41580260.00	4.31e6	VV	1.0000e6	0.0415	2865.3762	0.0000
36	11.893	17985632.00	1.61e6	VV	1.0000e6	0.0415	2865.3762	0.0000
37	12.029	15002282.00	1.71e6	VV	1.0000e6	0.0415	2865.3762	0.0000
38	12.270	37078128.00	3.54e6	VV	1.0000e6	0.0415	2865.3762	0.0000
39	12.534	9678454.00	1.29e6	VV	9.9999e5	0.0415	2865.3762	0.0000
40	12.674	9476456.00	1.25e6	VV	1.0000e6	0.0415	2865.3762	0.0000
41	12.899	27313394.00	2.55e6	VV	1.0000e6	0.0415	2865.3762	0.0000
42	13.151	7483918.50	1.00e6	VV	1.0000e6	0.0415	2865.3762	0.0000
43	13.342	10322936.00	944305.25	VV	1.0000e6	0.0415	2865.3762	0.0000
44	13.501	12082565.00	1.64e6	VV	1.0000e6	0.0415	2865.3762	0.0000
45	13.713	5696896.00	620868.06	VV	1.0000e6	0.0415	2865.3762	0.0000
46	13.916	5659774.50	554309.50	VV	1.0000e6	0.0415	2865.3762	0.0000
47	14.081	7399296.00	960595.44	VV	1.0000e6	0.0415	2865.3762	0.0000
48	14.278	2650038.00	324791.41	VV	1.0000e6	0.0415	2865.3762	0.0000
49	14.418	2619730.00	267086.16	VV	1.0000e6	0.0415	2865.3762	0.0000
50	14.640	3173489.00	393838.00	VV	1.0000e6	0.0415	2865.3762	0.0000

51	14.842	1732446.25	122347.40	VV	1.0000e6	0.0415	2865.3762	0.0000
52	15.180	1634440.00	145133.98	VV	1.0000e6	0.0415	2865.3762	0.0000
53	15.692	1681713.75	339272.84	VB	1.0000e6	0.0415	2865.3762	0.0000
54	15.950	28535.16	5951.40	BB	1.0000e6	0.0415	2865.3762	0.0000
55	16.201	40994.38	11269.59	BB	1.0000e6	0.0415	2865.3762	0.0000
56	16.691	33685.16	5968.62	BB	1.0000e6	0.0415	2865.3762	0.0000
57	16.997	6097.81	1739.58	BV	1.0000e6	0.0415	2865.3762	0.0000
58	17.165	15712.34	3331.48	VV	1.0000e6	0.0415	2865.3762	0.0000
59	17.380	25560.16	3666.97	VB	1.0000e6	0.0415	2865.3762	0.0000
60	17.617	12060.00	2258.83	BB	1.0000e6	0.0415	2865.3762	0.0000
61	17.799	370.00	164.39	BB	1.0000e6	0.0415	2865.3762	0.0000
62	17.985	48745.00	6974.97	BE	1.0000e6	0.0415	2865.3762	0.0000
63	18.215	1330.00	319.81	EB	1.0000e6	0.0415	2865.3762	0.0000
64	18.549	94899.38	11671.38	BV	9.9999e5	0.0415	2865.3762	0.0000
65	18.728	26072.97	3467.31	VV	9.9999e5	0.0415	2865.3762	0.0000
66	18.871	27899.22	3133.89	VV	1.0000e6	0.0415	2865.3762	0.0000
67	19.004	8375.90	2201.70	VV	1.0000e6	0.0415	2865.3762	0.0000
68	19.141	68872.58	7996.33	VE	1.0000e6	0.0415	2865.3762	0.0000
69	19.378	2530.00	799.01	EB	1.0000e6	0.0415	2865.3762	0.0000
		6.89e8	8.00e7			2.8656	1.9771e5	0.0000

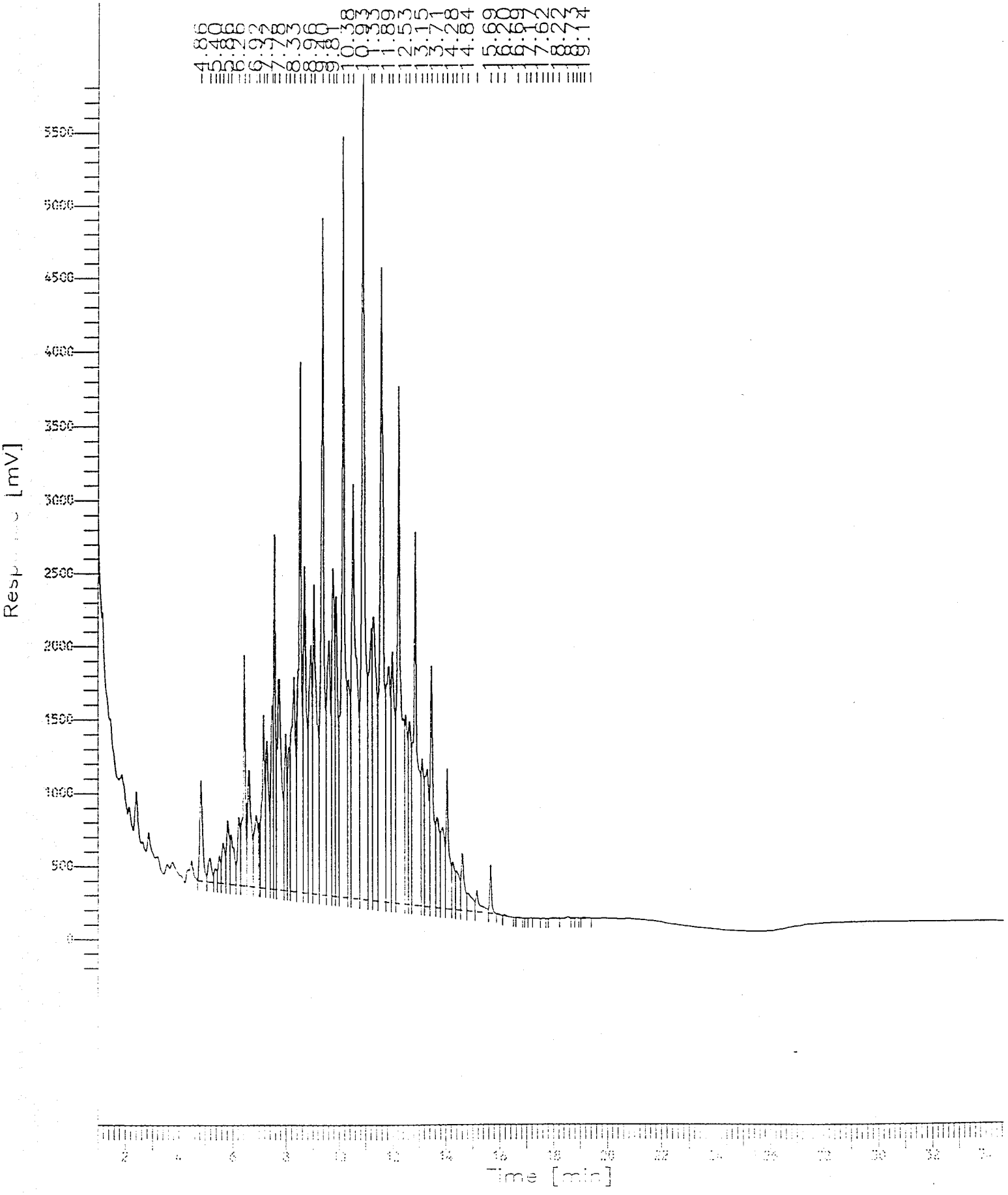
END

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C___115.TXO

Chromatogram

Sample Name : 9406119-14MS
FileName : l:\data\tchrom\pest\varc\C___115.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -243 mV

Sample #: KM ;S
Date : 06/15/94 13:49
Time of Injection: 06/15/94 13:14
Low Point : -242.56 mV High Point : 5835.01 mV
Plot Scale: 6078 mV



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================================================================================
Software Version: 3.2 <16C20>
Sample Name  : 375 PPM                  Time        : 06/16/94  12:35
Sample Number: TC ;S                    Study       : DIESEL
Operator     : SEG

Instrument   : VARC                     Channel : A     A/D mV Range : 10000
AutoSampler  : NONE
Rack/Vial    : 0/0

Interface Serial # : 8328570191   Data Acquisition Time: 06/16/94  12:00
Delay Time     : 1.00   min.
End Time       : 34.66  min.
Sampling Rate  : 1.0000   pts/sec

Raw Data File  : l:\data\tchrom\pest\varc\C___128.raw
Result File    : l:\data\tchrom\pest\varc\C___128.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File   : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File    : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File  : L:\DATA\TCHROM\PEST\METHODS\DIESELC.seq

Inj. Volume    : 1 ul                   Area Reject      : 100.00
Sample Amount  : 1.0000                 Dilution Factor  : 1.00

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DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	4.947	16265.00	16093.69	BB	1.0000e6	0.0415	302.8079	0.0000
2	5.784	212018.75	4942.54	BB	1.0000e6	0.0415	302.8079	0.0000
3	6.391	158990.63	18312.63	BV	1.0000e6	0.0415	302.8079	0.0000
4	6.525	493065.00	92257.23	VV	1.0000e6	0.0415	302.8079	0.0000
5	6.686	439924.38	64786.25	VB	9.9999e5	0.0415	302.8079	0.0000
6	6.966	60380.00	13343.31	BB	1.0000e6	0.0415	302.8079	0.0000
7	7.156	63176.56	13847.55	BV	9.9999e5	0.0415	302.8079	0.0000
8	7.343	793042.50	86278.39	VV	1.0000e6	0.0415	302.8079	0.0000
9	7.556	325765.31	58833.18	VV	1.0000e6	0.0415	302.8079	0.0000
0	7.652	908559.38	183748.50	VV	1.0000e6	0.0415	302.8079	0.0000
1	7.836	1194410.00	133511.09	VV	1.0000e6	0.0415	302.8079	0.0000
12	8.069	434354.38	62514.65	VV	1.0000e6	0.0415	302.8079	0.0000
13	8.163	224737.34	58954.90	VV	1.0000e6	0.0415	302.8079	0.0000
14	8.268	413955.00	79033.13	VV	1.0000e6	0.0415	302.8079	0.0000
5	8.371	832695.63	128558.32	VV	1.0000e6	0.0415	302.8079	0.0000
6	8.598	2228142.50	332557.03	VV	1.0000e6	0.0415	302.8079	0.0000
7	8.800	1816117.50	178050.39	VV	1.0000e6	0.0415	302.8079	0.0000
8	9.006	1325057.75	175921.28	VV	1.0000e6	0.0415	302.8079	0.0000
9	9.124	2278578.00	232572.14	VV	1.0000e6	0.0415	302.8079	0.0000
20	9.442	3135224.00	481216.75	VV	9.9999e5	0.0415	302.8079	0.0000
21	9.596	526525.44	135230.50	VV	1.0000e6	0.0415	302.8079	0.0000
22	9.711	1140351.25	150968.16	VV	9.9999e5	0.0415	302.8079	0.0000
23	9.848	1598671.88	246887.05	VV	1.0000e6	0.0415	302.8079	0.0000
24	9.948	1918008.75	206972.42	VV	1.0000e6	0.0415	302.8079	0.0000
25	10.223	4385449.50	587802.88	VV	1.0000e6	0.0415	302.8079	0.0000
26	10.425	1184549.50	154394.45	VV	1.0000e6	0.0415	302.8079	0.0000
27	10.584	3662395.00	320606.53	VV	1.0000e6	0.0415	302.8079	0.0000
28	10.966	6420236.00	686921.88	VV	1.0000e6	0.0415	302.8079	0.0000
29	11.298	1374929.25	206573.06	VV	9.9999e5	0.0415	302.8079	0.0000
30	11.368	2411569.25	206146.27	VV	9.9999e5	0.0415	302.8079	0.0000
31	11.657	4398090.00	511099.03	VV	1.0000e6	0.0415	302.8079	0.0000
32	11.930	1645519.63	174835.77	VV	1.0000e6	0.0415	302.8079	0.0000
33	12.064	1856457.50	173135.69	VV	1.0000e6	0.0415	302.8079	0.0000
34	12.314	3717475.50	409647.56	VV	1.0000e6	0.0415	302.8079	0.0000
35	12.587	1148760.13	138001.09	VV	1.0000e6	0.0415	302.8079	0.0000
36	12.727	1433711.88	132711.16	VV	1.0000e6	0.0415	302.8079	0.0000
37	12.944	2356361.25	298646.72	VV	1.0000e6	0.0415	302.8079	0.0000
38	13.193	688066.38	89089.35	VV	1.0000e6	0.0415	302.8079	0.0000
39	13.304	351978.44	89397.24	VV	9.9999e5	0.0415	302.8079	0.0000
40	13.378	741272.31	97545.50	VV	1.0000e6	0.0415	302.8079	0.0000
41	13.550	1262480.25	182408.45	VV	1.0000e6	0.0415	302.8079	0.0000
42	13.754	592413.44	56022.07	VV	1.0000e6	0.0415	302.8079	0.0000
43	13.961	381001.25	47769.66	VV	9.9999e5	0.0415	302.8079	0.0000
44	14.132	716111.06	103686.21	VV	1.0000e6	0.0415	302.8079	0.0000
5	14.324	349437.19	25414.84	VV	1.0000e6	0.0415	302.8079	0.0000
6	14.690	285264.69	40512.13	VB	9.9999e5	0.0415	302.8079	0.0000
47	15.228	57829.69	13981.43	BB	1.0000e6	0.0415	302.8079	0.0000
48	15.730	8696110.00	1.95e6	BB	1.0000e6	0.0415	302.8079	0.0000
9	16.242	12650.00	3258.35	BB	1.0000e6	0.0415	302.8079	0.0000
0	16.723	38744.69	4152.57	BB	1.0000e6	0.0415	302.8079	0.0000

At = 357.12
95%

51	17.179	1130.00	601.44	BB	1.0000e6	0.0415	302.8079	0.0000
52	17.430	665.00	1050.20	BB	1.0000e6	0.0415	302.8079	0.0000
53	18.041	22406.88	3636.67	BV	1.0000e6	0.0415	302.8079	0.0000
54	18.268	4779.14	936.58	VV	1.0000e6	0.0415	302.8079	0.0000
55	18.390	9131.02	1305.64	VV	1.0000e6	0.0415	302.8079	0.0000
56	18.612	109175.94	7175.39	VV	1.0000e6	0.0415	302.8079	0.0000
57	19.211	58901.88	5730.13	VB	1.0000e6	0.0415	302.8079	0.0000
		72913056.00	9.88e6			2.3672	17260.0469	0.0001

END

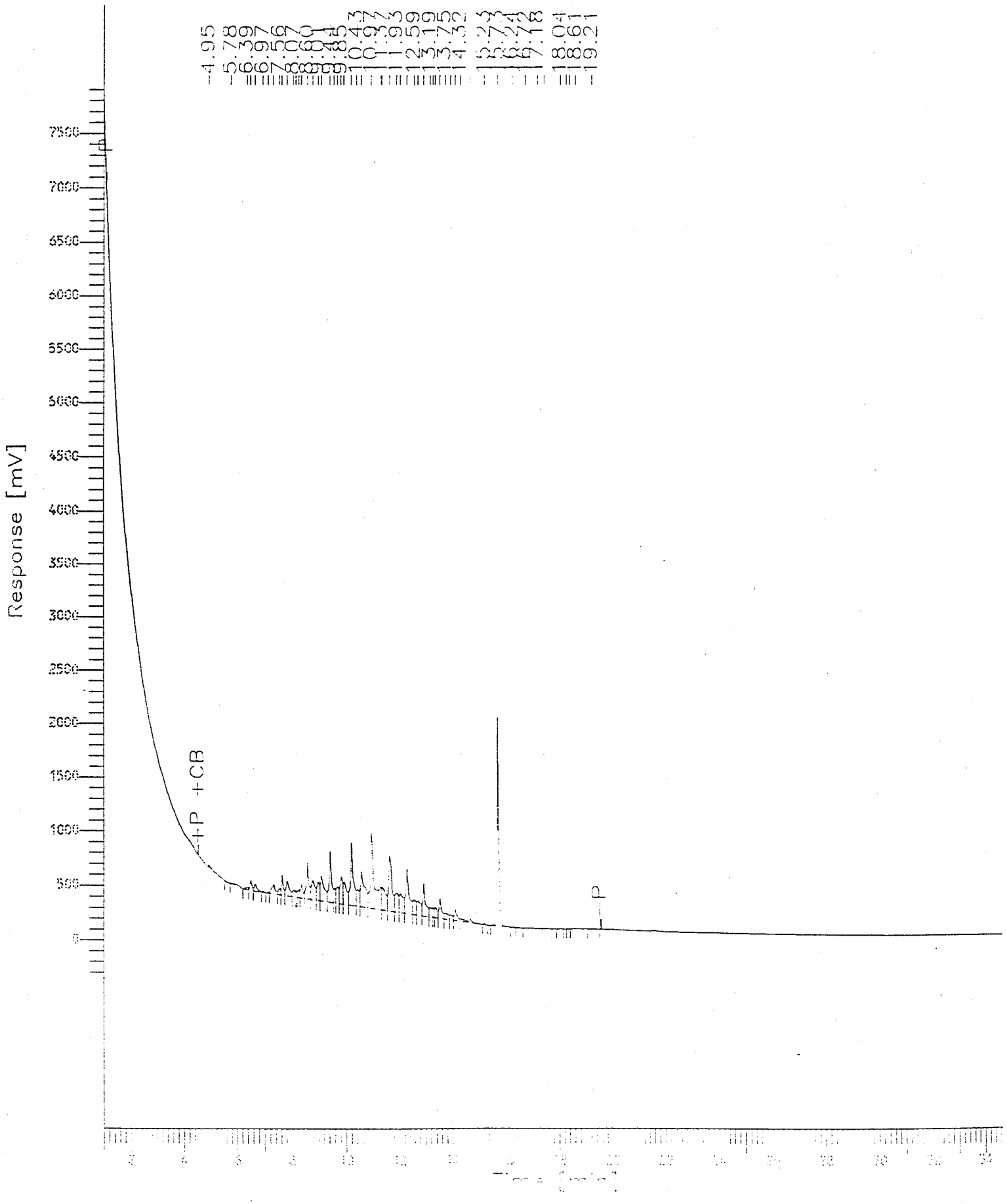
Report Stored in ASCII File: l:\data\tchrom\pest\varc\C___128.TXO

Chromatogram

Sample Name : 375 PPM
FileName : l:\data\tchrom\pest\varc\C___128.raw
Method : DIESELC.ins
Start Time : 1.00 min
Scale Factor: 1

End Time : 34.66 min
Plot Offset: -345 mV

Sample #: TC ;S
Date : 06/16/94 12:35
Time of Injection: 06/16/94 12:00
Low Point : -345.22 mV
Plot Scale: 8295 mV



```
Software Version: 3.2 <16C20>
Sample Name  : 9406119-02B                Time         : 06/13/94  17:41
Sample Number: SC ;S                      Study        : MODSD
Operator     : SEG

Instrument   : VARC                       Channel : A     A/D mV Range : 10000
AutoSampler  : NONE
Rack/Vial    : 0/0

Interface Serial # : 8328570191   Data Acquisition Time: 06/13/94  17:06
Delay Time     : 1.00   min.
End Time       : 34.66  min.
Sampling Rate  : 1.0000   pts/sec

Raw Data File  : l:\data\tchrom\pest\varc\C___091.raw
Result File    : l:\data\tchrom\pest\varc\C___091.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File   : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File    : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File  : L:\DATA\TCHROM\PEST\METHODS\DIESELC.seq

Inj. Volume    : 1 ul                     Area Reject      : 100.00
Sample Amount  : 1.0000                   Dilution Factor  : 1.00
```

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.027	20720.00	13021.03	BB	1.0000e6	0.0415	13.2786	0.0000
2	7.972	3625.00	994.65	BB	1.0000e6	0.0415	13.2786	0.0000
3	8.211	11358.59	1602.77	BV	1.0000e6	0.0415	13.2786	0.0000
4	8.443	26757.03	3487.41	VV	1.0000e6	0.0415	13.2786	0.0000
5	8.805	753434.38	21177.51	VV	1.0000e6	0.0415	13.2786	0.0000
6	9.461	214045.63	10665.29	VV	1.0000e6	0.0415	13.2786	0.0000
7	10.256	40586.25	4138.13	VV	9.9999e5	0.0415	13.2786	0.0000
8	10.614	3894.96	1161.10	VV	1.0000e6	0.0415	13.2786	0.0000
9	10.769	31174.38	4383.70	VB	1.0000e6	0.0415	13.2786	0.0000
10	11.026	1189.38	536.21	BV	1.0000e6	0.0415	13.2786	0.0000
11	11.584	11040.47	3130.17	VB	1.0000e6	0.0415	13.2786	0.0000
12	11.752	3323.05	828.24	BV	1.0000e6	0.0415	13.2786	0.0000
13	11.889	11843.13	3444.43	VV	1.0000e6	0.0415	13.2786	0.0000
14	12.262	5334.38	730.53	VB	1.0000e6	0.0415	13.2786	0.0000
15	12.863	205591.25	18483.04	BV	1.0000e6	0.0415	13.2786	0.0000
16	13.610	4320.39	784.38	VV	1.0000e6	0.0415	13.2786	0.0000
17	13.786	13213.44	2287.32	VB	1.0000e6	0.0415	13.2786	0.0000
18	14.202	13220.00	1918.90	BB	1.0000e6	0.0415	13.2786	0.0000
19	14.628	6583.67	1340.43	BV	1.0000e6	0.0415	13.2786	0.0000
20	14.742	11951.25	1832.28	VB	1.0000e6	0.0415	13.2786	0.0000
21	14.944	2430.00	536.13	BB	9.9999e5	0.0415	13.2786	0.0000
22	15.275	27080.00	3113.27	BB	1.0000e6	0.0415	13.2786	0.0000
23	15.768	1505925.13	271216.69	BE	9.9999e5	0.0415	13.2786	0.0000
24	16.270	19740.00	2740.98	EB	1.0000e6	0.0415	13.2786	0.0000
25	16.771	10060.08	1383.11	BB	9.9999e5	0.0415	13.2786	0.0000
26	17.227	9583.83	1389.10	BV	1.0000e6	0.0415	13.2786	0.0000
27	17.360	35681.09	4857.10	VB	9.9999e5	0.0415	13.2786	0.0000
28	17.684	4370.00	816.17	BB	9.9999e5	0.0415	13.2786	0.0000
29	18.068	26137.19	2858.14	BV	1.0000e6	0.0415	13.2786	0.0000
30	18.330	13584.06	1676.35	VV	1.0000e6	0.0415	13.2786	0.0000
31	18.406	4815.53	1712.19	VV	1.0000e6	0.0415	13.2786	0.0000
32	18.624	69713.59	5961.93	VV	1.0000e6	0.0415	13.2786	0.0000
33	18.781	32851.48	3017.22	VV	1.0000e6	0.0415	13.2786	0.0000
34	19.230	42178.13	3595.82	VB	1.0000e6	0.0415	13.2786	0.0000
		3197356.50	400821.69			1.4120	451.4732	0.0011

115%

94%

3.89 X 2/30
0.38 mg/kg

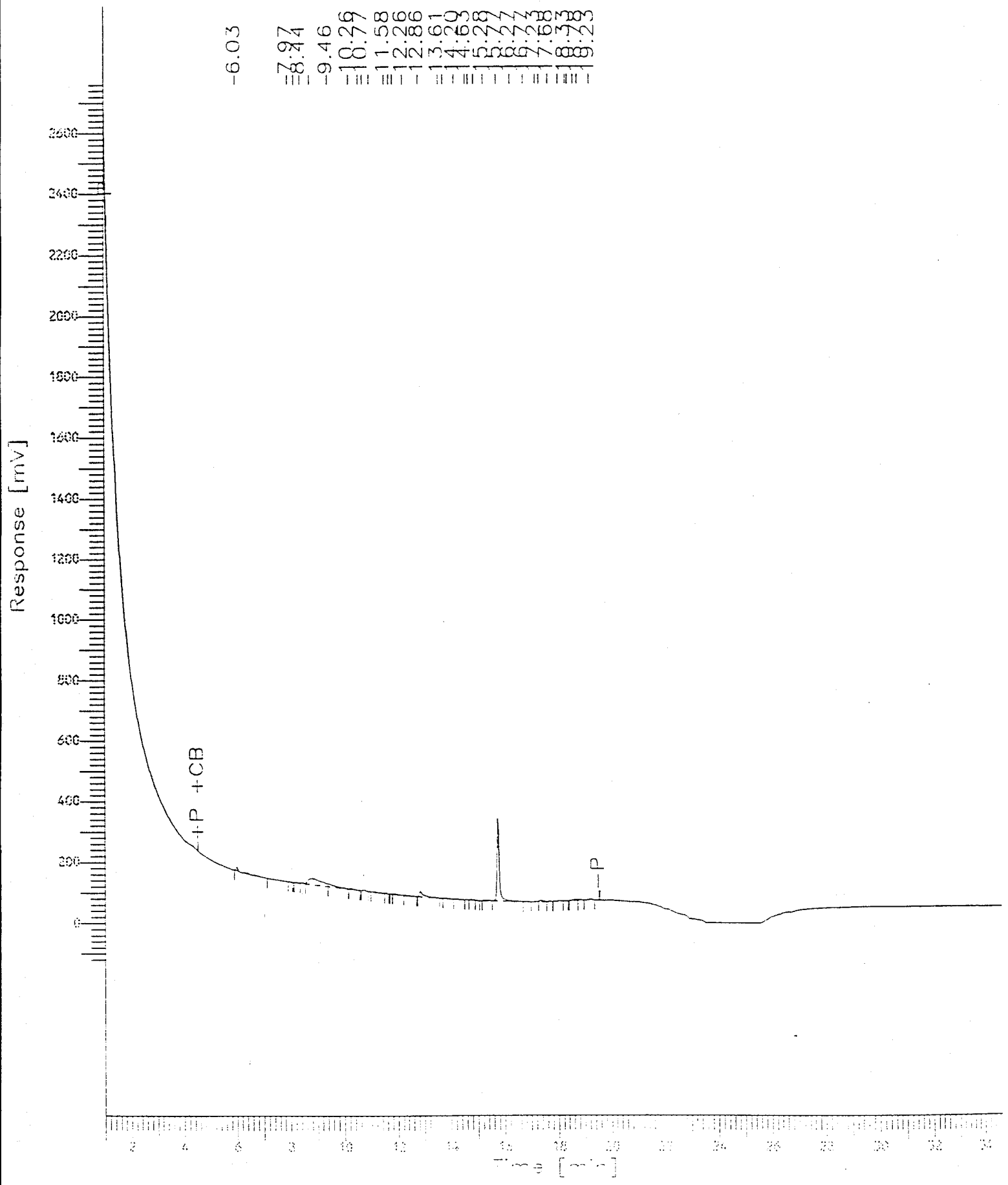
```
END

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C___091.TXT
```

Chromatogram

Sample Name : 9406119-02B
FileName : l:\data\tchrom\pest\varc\C___091.raw
Method : DIESELC.ins
Start Time : 1.00 min
Scale Factor: 1

Sample #: SC ;S
Date : 06/13/94 17:41
Time of Injection: 06/13/94 17:06
End Time : 34.66 min
Plot Offset: -138 mV
Low Point : -138.08 mV
Plot Scale: 2900 mV
High Point : 2761.78 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-038 Time : 6/16/94 09:13 AM
Sample Number: SC ;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 6/16/94 06:51 AM
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : L:\DATA\TCHROM\PEST\VARC\C___138.raw
Result File : C:\WINDOWS\TEMP\~rst3904.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : <none>

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.944	203371.25	6417.37	BB	9.9999e5	0.0415	2866.8191	0.0000
2	7.346	15820.31	3630.03	BB	9.9999e5	0.0415	2866.8191	0.0000
3	7.680	21247.50	2723.32	BV	1.0000e6	0.0415	2866.8191	0.0000
4	7.947	8782.50	2667.07	VB	9.9999e5	0.0415	2866.8191	0.0000
5	8.113	3035.00	1156.78	BB	1.0000e6	0.0415	2866.8191	0.0000
6	8.351	486575.00	65856.11	BB	1.0000e6	0.0415	2866.8191	0.0000
7	8.934	289118.75	-15163.64	BV	1.0000e6	0.0415	2866.8191	0.0000
8	9.451	45201.88	12445.64	VV	1.0000e6	0.0415	2866.8191	0.0000
9	9.861	117753.75	21555.59	VV	1.0000e6	0.0415	2866.8191	0.0000
10	9.952	96778.13	13524.04	VV	1.0000e6	0.0415	2866.8191	0.0000
11	10.234	683825.94	61430.07	VV	1.0000e6	0.0415	2866.8191	0.0000
12	10.488	258275.31	39876.00	VV	1.0000e6	0.0415	2866.8191	0.0000
13	10.585	516204.69	60813.63	VV	9.9999e5	0.0415	2866.8191	0.0000
14	10.736	453645.31	59140.16	VV	1.0000e6	0.0415	2866.8191	0.0000
15	10.980	1529837.50	135053.58	VV	1.0000e6	0.0415	2866.8191	0.0000
16	11.538	8961845.00	585966.06	VV	9.9999e5	0.0415	2866.8191	0.0000
17	11.935	2880380.25	249959.13	VV	1.0000e6	0.0415	2866.8191	0.0000
18	12.448	10796190.00	471222.53	VV	1.0000e6	0.0415	2866.8191	0.0000
19	12.747	8377763.50	571824.13	VV	1.0000e6	0.0415	2866.8191	0.0000
20	12.953	6441212.50	621689.00	VV	1.0000e6	0.0415	2866.8191	0.0000
21	13.310	25580404.00	1.73e6	VV	1.0000e6	0.0415	2866.8191	0.0000
22	13.620	18985848.00	1.75e6	VV	1.0000e6	0.0415	2866.8191	0.0000
23	13.765	4511071.00	1.13e6	VV	9.9999e5	0.0415	2866.8191	0.0000
24	14.004	17928910.00	1.25e6	VV	1.0000e6	0.0415	2866.8191	0.0000
25	14.235	17535054.00	1.41e6	VV	1.0000e6	0.0415	2866.8191	0.0000
26	14.365	13301834.00	1.51e6	VV	1.0000e6	0.0415	2866.8191	0.0000
27	14.556	16877844.00	1.56e6	VV	1.0000e6	0.0415	2866.8191	0.0000
28	14.786	20768882.00	1.63e6	VV	9.9999e5	0.0415	2866.8191	0.0000
29	14.968	16845532.00	1.71e6	VV	1.0000e6	0.0415	2866.8191	0.0000
30	15.216	28620664.00	1.88e6	VV	1.0000e6	0.0415	2866.8191	0.0000
31	15.285	9189227.00	1.86e6	VV	1.0000e6	0.0415	2866.8191	0.0000
32	15.551	41590124.00	2.18e6	VV	1.0000e6	0.0415	2866.8191	0.0000
33	15.733	24043600.00	2.22e6	VV	1.0000e6	0.0415	2866.8191	0.0000
34	16.031	27347374.00	1.98e6	VV	1.0000e6	0.0415	2866.8191	0.0000
35	16.152	5877272.00	1.96e6	VV	1.0000e6	0.0415	2866.8191	0.0000
36	16.270	19946696.00	2.01e6	VV	1.0000e6	0.0415	2866.8191	0.0000
37	16.390	8009258.50	2.01e6	VV	1.0000e6	0.0415	2866.8191	0.0000
38	16.454	18362190.00	2.06e6	VV	1.0000e6	0.0415	2866.8191	0.0000
39	16.620	16266244.00	2.04e6	VV	9.9999e5	0.0415	2866.8191	0.0000
40	16.713	6065372.50	2.03e6	VV	1.0000e6	0.0415	2866.8191	0.0000
41	16.888	28762140.00	2.10e6	VV	1.0000e6	0.0415	2866.8191	0.0000
42	17.071	26664730.00	2.39e6	VV	1.0000e6	0.0415	2866.8191	0.0000
43	17.220	15223191.00	2.21e6	VV	1.0000e6	0.0415	2866.8191	0.0000
44	17.386	54565904.00	2.35e6	VV	1.0000e6	0.0415	2866.8191	0.0000
45	17.730	40886148.00	2.03e6	VV	1.0000e6	0.0415	2866.8191	0.0000
46	18.079	9231989.00	1.87e6	VV	1.0000e6	0.0415	2866.8191	0.0000
47	18.256	44658808.00	1.86e6	VV	9.9999e5	0.0415	2866.8191	0.0000
48	18.601	38775860.00	1.56e6	VV	1.0000e6	0.0415	2866.8191	0.0000
49	19.122	31691702.00	1.25e6	VB	1.0000e6	0.0415	2866.8191	0.0000

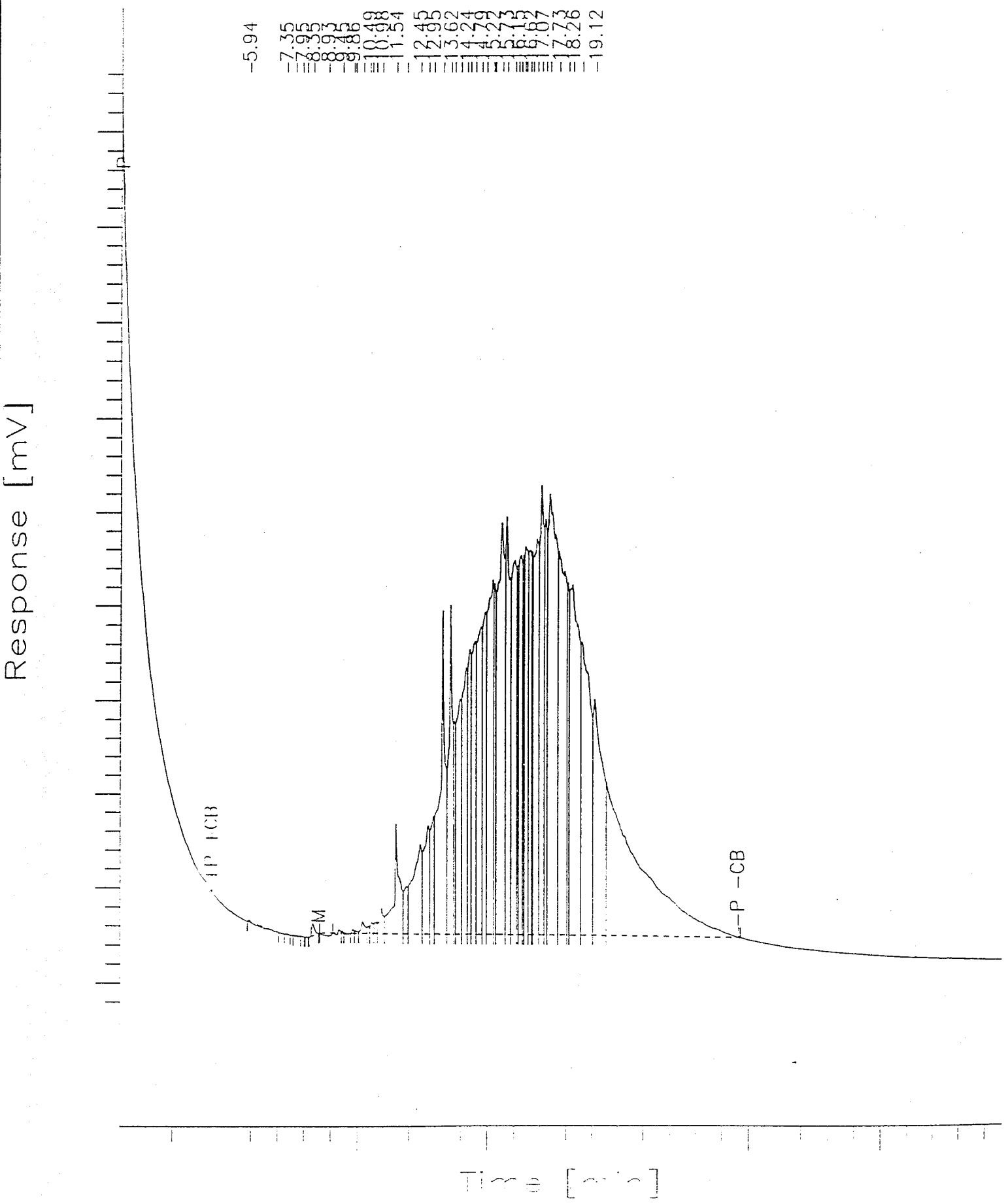
6.90e8	5.66e7	2.0350	1.4047e5	0.0000

END

Chromatogram

Sample Name : 9406119-038
FileName : L:\DATA\TCHROM\PEST\VARC\C___138.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -117 mV

Sample #: SC ;S Page 1 of 1
Date : 6/16/94 09:14 AM
Time of Injection: 6/16/94 06:51 AM
Low Point : -116.53 mV High Point : 4809.63 mV
Plot Scale: 4926 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-04B Time : 06/13/94 19:03
Sample Number: SC ;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/13/94 18:28
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C___093.raw
Result File : l:\data\tchrom\pest\varc\C___093.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.029	242235.00	9156.83	BB	1.0000e6	0.0415	25.0325	0.0000
2	7.981	21500.00	1539.17	BV	9.9999e5	0.0415	25.0325	0.0000
3	8.213	59105.63	3683.64	VV	1.0000e6	0.0415	25.0325	0.0000
4	8.445	99174.84	6784.23	VV	1.0000e6	0.0415	25.0325	0.0000
5	8.834	1255813.75	26675.37	VB	1.0000e6	0.0415	25.0325	0.0000
6	10.265	17620.08	3099.56	BB	1.0000e6	0.0415	25.0325	0.0000
7	10.714	66019.53	2163.11	BB	1.0000e6	0.0415	25.0325	0.0000
8	11.581	4900.00	1767.97	BB	1.0000e6	0.0415	25.0325	0.0000
9	11.899	10435.63	3459.31	BB	1.0000e6	0.0415	25.0325	0.0000
10	12.894	24890.00	5500.27	BB	1.0000e6	0.0415	25.0325	0.0000
11	14.349	1272589.38	21062.97	BV	1.0000e6	0.0415	25.0325	0.0000
12	14.642	347729.91	17264.12	VV	1.0000e6	0.0415	25.0325	0.0000
13	14.785	146082.66	14964.34	VV	1.0000e6	0.0415	25.0325	0.0000
14	14.985	110889.84	10493.73	VV	1.0000e6	0.0415	25.0325	0.0000
15	15.160	85969.45	7062.88	VV	1.0000e6	0.0415	25.0325	0.0000
16	15.301	57201.91	6757.95	VV	1.0000e6	0.0415	25.0325	0.0000
17	15.400	9415.12	3009.60	VV	1.0000e6	0.0415	25.0325	0.0000
18	15.476	8816.09	1501.03	VB	9.9999e5	0.0415	25.0325	0.0000
19	15.784	1481865.75	274148.41	BV	1.0000e6	0.0415	25.0325	0.0000
20	16.041	369473.44	58672.33	VE	1.0000e6	0.0415	25.0325	0.0000
21	16.300	35570.00	4046.02	EV	1.0000e6	0.0415	25.0325	0.0000
22	16.585	2335.00	765.93	VV	9.9999e5	0.0415	25.0325	0.0000
23	16.775	36885.94	4852.97	VB	1.0000e6	0.0415	25.0325	0.0000
24	17.084	1980.00	495.43	BB	1.0000e6	0.0415	25.0325	0.0000
25	17.262	10833.28	2146.45	BV	1.0000e6	0.0415	25.0325	0.0000
26	17.386	21881.70	2911.80	VE	1.0000e6	0.0415	25.0325	0.0000
27	17.579	320.00	210.27	EB	1.0000e6	0.0415	25.0325	0.0000
28	17.704	11190.31	1664.07	BV	9.9999e5	0.0415	25.0325	0.0000
29	18.097	28683.91	3037.02	VV	1.0000e6	0.0415	25.0325	0.0000
30	18.646	104811.56	6492.85	VV	1.0000e6	0.0415	25.0325	0.0000
31	18.819	27340.31	3082.94	VV	9.9999e5	0.0415	25.0325	0.0000
32	18.977	18963.83	2385.15	VV	1.0000e6	0.0415	25.0325	0.0000
33	19.258	35035.08	3894.85	VB	1.0000e6	0.0415	25.0325	0.0000
		6027560.00	514752.63			1.3705	826.0714	0.0006

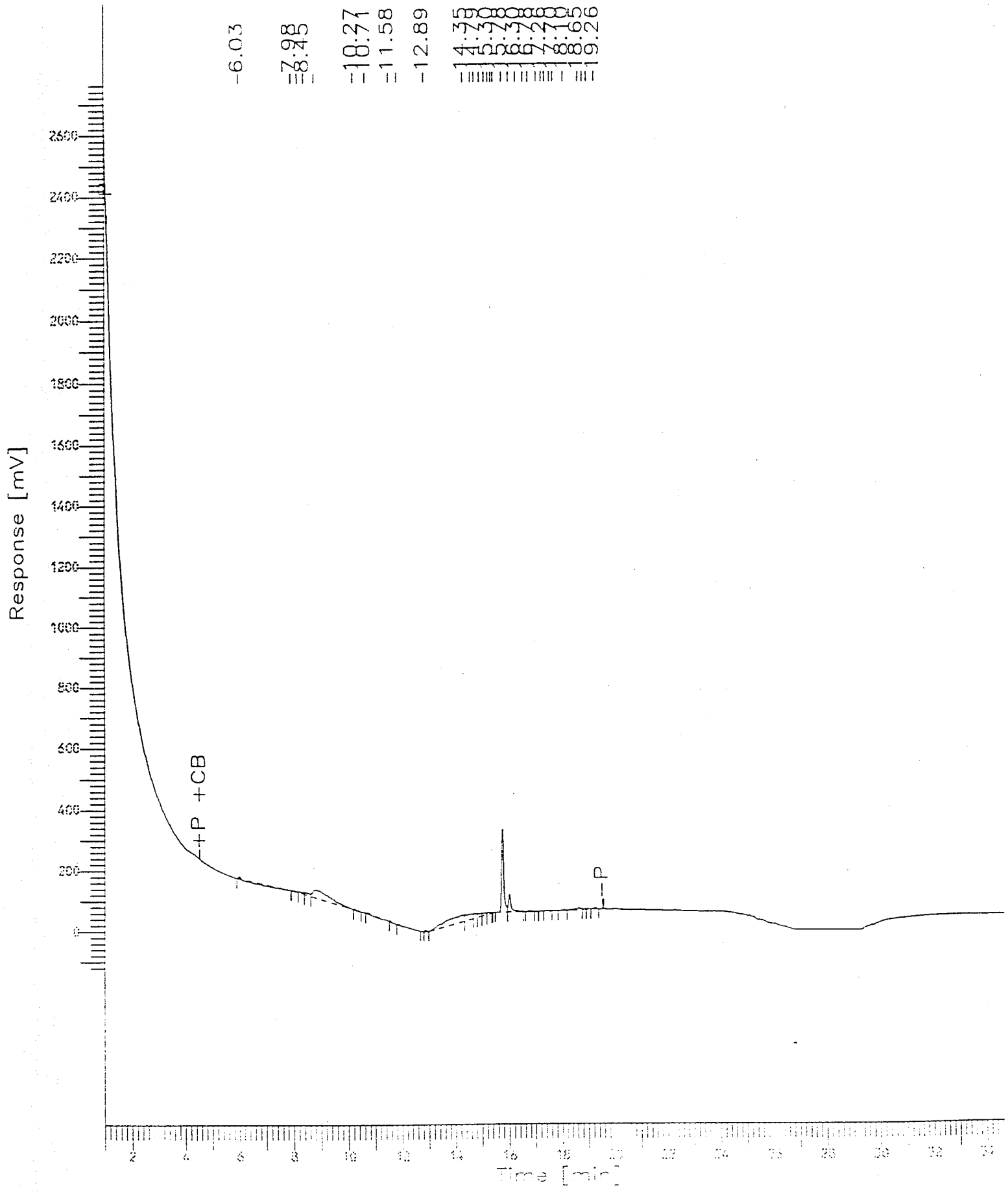
END

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C___093.TXO

Chromatogram

Sample Name : 9406119-04B
FileName : l:\data\tchrom\pest\varc\C___093.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -138 mV

Sample #: SC ;S
Date : 06/13/94 19:03
Time of Injection: 06/13/94 18:28
Low Point : -138.40 mV High Point : 2768.17 mV
Plot Scale: 2907 mV



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Software Version: 3.2 <16C20>
Sample Name  : 9406119-05B              Time         : 06/16/94  06:45
Sample Number: SC ;S                   Study        : MODSD
Operator     : SEG

Instrument   : VARC                    Channel : A     A/D mV Range : 10000
AutoSampler  : NONE
Rack/Vial    : 0/0

Interface Serial # : 8328570191   Data Acquisition Time: 06/16/94  06:10
Delay Time     : 1.00   min.
End Time       : 34.66  min.
Sampling Rate  : 1.0000   pts/sec

Raw Data File  : l:\data\tchrom\pest\varc\C___137.raw
Result File    : l:\data\tchrom\pest\varc\C___137.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File   : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File    : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File  : L:\DATA\TCHROM\PEST\METHODS\DIESELC.seq

Inj. Volume    : 1 ul                  Area Reject      : 100.00
Sample Amount  : 1.0000                Dilution Factor  : 1.00

================================================================================
```

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.938	22769.69	5918.96	BB	1.0000e6	0.0415	161.0492	0.0000
2	8.363	868379.38	63293.98	BE	1.0000e6	0.0415	161.0492	0.0000
3	9.153	98670.00	9692.14	EV	1.0000e6	0.0415	161.0492	0.0000
4	9.434	87200.00	7650.87	VB	1.0000e6	0.0415	161.0492	0.0000
5	9.843	12239.69	1446.72	BB	1.0000e6	0.0415	161.0492	0.0000
6	10.263	80777.50	8633.71	BV	9.9999e5	0.0415	161.0492	0.0000
7	10.582	26407.03	3180.29	VV	1.0000e6	0.0415	161.0492	0.0000
8	10.731	13305.31	3741.82	VB	9.9999e5	0.0415	161.0492	0.0000
9	10.983	59672.97	12115.43	BV	1.0000e6	0.0415	161.0492	0.0000
10	11.132	25893.44	3314.20	VV	1.0000e6	0.0415	161.0492	0.0000
11	11.318	13080.00	2675.48	VV	1.0000e6	0.0415	161.0492	0.0000
12	11.378	15583.75	3000.36	VB	1.0000e6	0.0415	161.0492	0.0000
13	11.654	332664.38	35098.41	BV	1.0000e6	0.0415	161.0492	0.0000
14	11.858	121417.81	13390.94	VV	1.0000e6	0.0415	161.0492	0.0000
15	12.099	53927.81	8214.47	VB	1.0000e6	0.0415	161.0492	0.0000
16	12.463	504055.00	56345.83	BV	9.9999e5	0.0415	161.0492	0.0000
17	12.745	237435.63	27694.25	VV	1.0000e6	0.0415	161.0492	0.0000
18	12.945	90659.53	15889.54	VV	1.0000e6	0.0415	161.0492	0.0000
19	13.317	3320297.50	601675.31	VV	1.0000e6	0.0415	161.0492	0.0000
20	13.623	3385373.00	540502.81	VE	9.9999e5	0.0415	161.0492	0.0000
21	14.089	842610.00	70716.28	EV	1.0000e6	0.0415	161.0492	0.0000
22	14.253	726328.13	84687.43	VV	1.0000e6	0.0415	161.0492	0.0000
23	14.369	663018.56	96434.88	VV	9.9999e5	0.0415	161.0492	0.0000
24	14.484	922894.06	75440.34	VV	1.0000e6	0.0415	161.0492	0.0000
25	14.761	223852.19	38785.28	VV	1.0000e6	0.0415	161.0492	0.0000
26	15.216	2303777.50	121696.38	VV	1.0000e6	0.0415	161.0492	0.0000
27	15.547	2529927.75	267508.75	VV	1.0000e6	0.0415	161.0492	0.0000
28	15.730	2463779.25	412581.63	VV	1.0000e6	0.0415	161.0492	0.0000
29	15.880	447894.69	92159.37	VV	1.0000e6	0.0415	161.0492	0.0000
30	15.986	994749.38	114843.91	VV	1.0000e6	0.0415	161.0492	0.0000
31	16.236	882835.00	99981.71	VV	1.0000e6	0.0415	161.0492	0.0000
32	16.316	1797394.63	103534.55	VV	1.0000e6	0.0415	161.0492	0.0000
33	16.715	711522.63	76565.35	VV	1.0000e6	0.0415	161.0492	0.0000
34	16.895	586316.25	79288.16	VV	1.0000e6	0.0415	161.0492	0.0000
35	17.077	3259156.25	278378.66	VV	1.0000e6	0.0415	161.0492	0.0000
36	17.383	2005205.63	254419.64	VV	1.0000e6	0.0415	161.0492	0.0000
37	17.480	1178063.75	203964.69	VV	1.0000e6	0.0415	161.0492	0.0000
38	17.598	1349964.63	138030.22	VV	1.0000e6	0.0415	161.0492	0.0000
39	17.831	550271.38	84572.18	VV	1.0000e6	0.0415	161.0492	0.0000
40	17.958	560457.00	72764.59	VV	1.0000e6	0.0415	161.0492	0.0000
41	18.113	592353.44	68653.92	VV	1.0000e6	0.0415	161.0492	0.0000
42	18.260	753367.19	74003.49	VV	1.0000e6	0.0415	161.0492	0.0000
43	18.489	403674.34	50580.95	VV	1.0000e6	0.0415	161.0492	0.0000
44	18.619	392094.38	47192.97	VV	1.0000e6	0.0415	161.0492	0.0000
45	18.872	1208190.00	90239.58	VV	1.0000e6	0.0415	161.0492	0.0000
46	19.145	930569.38	98787.81	VV	1.0000e6	0.0415	161.0492	0.0000
47	19.390	128419.06	20079.44	VB	1.0000e6	0.0415	161.0492	0.0000
		38778996.00	4.63e6			1.9519	7529.3130	0.0001

```
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 END
================================================================================

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C___137.TXO
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APPENDIX G

FIELD NOTES

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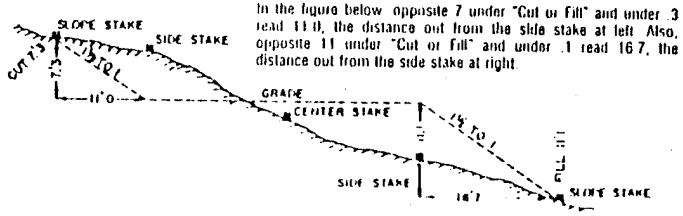
Saul Alverez 8- 3132 9 AM.

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width. Side Slopes 1½ to 1.

In the figure below opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	0	1	2	3	4	5	6	7	8	9	Cut or Fill
	Distance out from Side or Shoulder Stake										
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

OpTech Phone Calling Card No.

1-800-950-1111 - 0 - (Al) Num - [redacted]

[redacted] Craig Donnelly 452-3751 (H)

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CONTENTS

PAGE NO.	REFERENCE	DATE

WEDNESDAY DAY 1 1 JUNE 94

0830 Arrive At ZANESville ANGS for SI. Meet with MSGT Craig Donnelly, Maintenance Supervisor Secure equipment boxes. Conduct introductions, walk the two AOCs.

0915 Begin to stake out boring locations at the site and meet with Sgt Don Phillips to assist in locating subsurface utilities At the sites.

1030 Complete location of boring sites. Approval of locations confirmed by MSgt Donnelly And Sgt Phillips.

MSgt Donnelly will call DIG-SAFE to locate one electric line At AOC-A. Also, A septic / leach field is At AOC-A so we will watch for tile while drilling.

Begin to check on equipment in the boxes and prepare last minute coordination.

1040 Call Mark Escobar at OpTech to confirm delivery of Ice chests for samples.

Ice chests will be delivered tomorrow morning.

1110 Call Mr. Jones (JEDI). Give him location of Station, and confirm last minute coordinations. Drillers will be here tomorrow around 9 AM.

1145 Depart Station to pick up zero-grade Air for field GC.

1155 Arrive at Valley Welding Supply to pick up Zero Air. Check to insure it will fit on our regulator/ high pressure fill hose.

1215 Break for lunch.

1300 Return to Zanesville Station to decon brass sleeves, end caps, split spoons. Check operations of field GC and PID.

Joe Byrd decons sleeves, caps, and spoons.

Louis Chavez sets up and calibrates field GC. Louis practices on GC. Calibrates and runs Analysis.

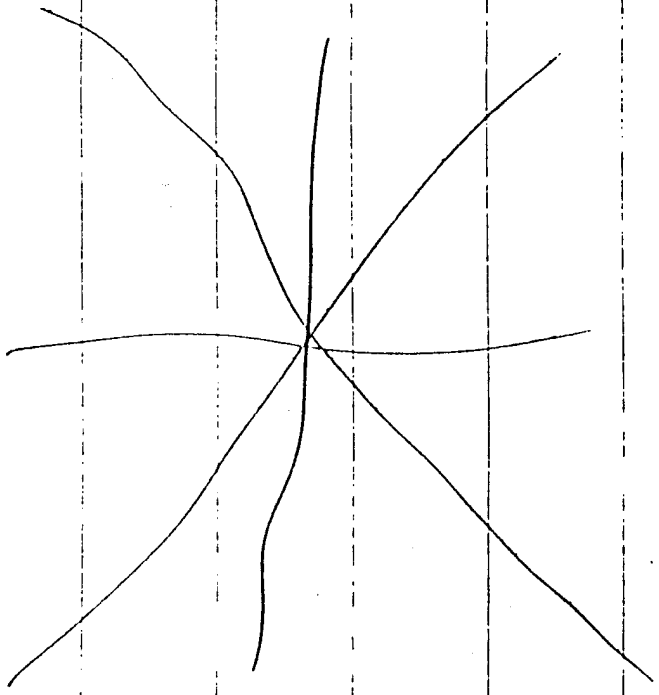
Earl Parker assists J.B. and L.J. with tasks.

1615 Complete deconning and checking out equipment. Everything looks fine. Prepare to depart site for the day.

1625 DEPART STATION for the day.

2000 Begin to prepare sample packages for soil sampling. Cut teflon and aluminum foil squares, pre fill out labels and label zip-lock bags for brass sleeves and field GC work.

2330 Complete work for the day.



Earl E Parker 6/1/94 (10.5 hrs)

THURSDAY DAY 2 2 JUNE 94

0730 E.P., J.B. and L.I. Arrive At the station w/ Ice for soil sample presavation

Begin to prepare for daily operations.

J.B. prepares decon Area A and L.I. gets field GC fired up and calibrated.

0900 Call Matt Alexander to give him a situation and status report. Fax daily progress report from yesterday.

0910 Call Saul Alverez (Bio-environmental engineer) at Rickenbach ANGS in Columbus to give him a brief description of the job to be done here. Agreed to inform him of unusual situations and will provide field screening results.

0920 All set up. Waiting for drillers to Arrive At the Site.

WEATHER:
Partly cloudy and mild.
Temp: 65° Hi: Mid 70's.
Winds Are light out of the Northwest At 5 to 10 mph.
Presently is Calm.

1005 FED-EX Arrives At the Station w/ Ice Chest And Chain of Custody forms for Soil Samples.

1030 Drillers Arrive At the Site. Introductions And brief walk through of AOCs. Drillers begin to set up in the area. Once set up will conduct Safety Briefing prior to drilling at AOC-A

1050 Safety Meeting
Earl Parker
Joe Byrd
Louis Ibarra } OpTech
Rob Copeland
Roger Groves
Johnny Moore } JEDI

Discuss site history of each AOC and what contaminants should be expected. Underground utility locations in the area. Emergency situations, eyewash location, evacuation procedures and hospital location.

1100 Drillers set up over AOC A at A-004 BH. Will be drilled to water or Bedrock.
Calibrate PID w/ 100 PPM Isobutelene

1105 Obtain 004BH Int 1
0.0 - 1.5' BLS Recovery: 100%

INT 1

SPT	14	0.0-0.5' BLS
	9	0.5'-1.0' BLS
	6	1.0'-1.5' BLS

PID: Opening 0.0 PPM
ATHA Headspace: 0.0 PPM
Sand And soil. Mostly A silty, clay loam. Lt. Brown And slightly moist. Mostly silty loam and some organic particles.

1113 Interval 5.0 - 6.5' BLS Recovery: 90%

INT 2

SPT	4	5.0 - 5.5' BLS
	9	5.5 - 6.0' BLS
	11	6.0 - 6.5' BLS

PID Opening: 0.0 PPM

ATHA: 4.8 PPM

Sand, silt loam. Mostly a brown, very fine and cohesive sandy / silty loam. Clay and silt. cohesive. Moist.

1130 Interval 10.0 - 11.5' BLS Recovery: 90%

Not Selected

SPT	2	10.0 - 10.5'
	12	10.5' - 11.0'
	35	11.0' - 11.5'

PID Opening: 0.0 PPM

ATHA: PID Not Functioning

Top is sand, silt. clay loam w/ slight moisture, cohesive. Lt Brown. At 10.8' BLS sharp contact to sand. Mostly A medium sand, mottled, lgt. Brown to tan sand. Clean sand w/ little silt.

1148 Drill to 14' BLS when drillers encounter difficulty in drilling. Will attach a spoon to drive.

Interval 14.0 - 15.5' BLS

SPT	50	14.0 - 14.5'
	–	–
	–	–

50 Blow counts indicates formal refusal. Tight, mottled sand in the spoon. Sandstone / Shale at the bottom of the hole at 14.2' BLS.

1200 Drillers break for lunch. PID is not functioning. Perform trouble shooting on PID As per manual. No results.

1215 Call HAZCO on PID. Confirm we have done what we can do in the field. They will send us another one first thing in the morning.

1220 Call John Morris in San Antonio. Talk about PID not functioning. We will use the LEL to monitor drilling health and safety issues, And will us field GC (for BTEX) for selection criteria for sample selection for the lab.

1300 Drillers return from lunch. Set up over A-005 BH.

1305 A-005 BH Interval 0.0'-1.5'
No PID.
INT 1 Recovery: 90%
SPT 12 0.0'-0.5'
14 0.5'-1.0'
10 1.0'-1.5'
Soil and silty, clay loam. Mostly a lt. brown, cohesive, slightly moist clay, silt loam.

1318 A-005 BH Int 5.0'-6.5' BGS
No PID
INT 2 Recovery: 100%
SPT 4 5.0'-5.5'
8 5.5'-6.0'
11 6.0'-6.5'
Lt. Brown clay loam w/ small angular black quartz fragments. little sand mostly clay, silt loam w/ quartz.

1330 A-005 BH Int 10.0-11.5' BGS
No PID
Not Selected Recovery: 100%
SPT 14 10.0'-10.5'
16 10.5'-11.0'
18 11.0'-11.5'
Lt. Brown silt loam becomming more sandy. At 11.0' sharp contact w/ clean, tan to white, mottled, sand.

1340 Complete drilling at A-005 BH Moving to A-006 BH

1346 Begin to drill at A-006 BH
A-006 BH Int. 0.0-1.5' BGS
INT 1 No PID
Recovery: 100%

SPT : 8 0.0' - 0.5'
10 0.5' - 1.0'
9 1.0' - 1.5'

Soil to clay, silt loam w/ small black shale fragments w/ black quartz present. Mostly A clay, silt loam.

5.0' - 6.5'

1355 A - 006 BH 10.0 - 11.5' BCS
SPT : 6 5.0 EP - 5.5' Rec : 95 %
10 5.5' - 6.0'
10 6.0' - 6.5'

Not Selected

Clay to silt loam, brown, slightly moist, very cohesive. Black shale and some quartz fragments.

1410 A - 006 BH 10.0' - 11.5' BCS
SPT : 6 10.0' - 10.5' Rec : 100 %
12 10.5' - 11.0'
23 11.0' - 11.5'

INT 2

Clay to silt loam. Lt brown. cohesive And slightly moist. Contains fewer black shale fragments, Quartz. Contact to sand to clean sand At appox 10.5' BCS. Sand is mottled, tan to white to lgt. Brown.

1415 Complete drilling at A - 006 BH. Drillers performing maintenance on SPT hammer.

Moving drilling rig over A - 007 BH while performing maintenance on hammer.

1450 Begin to drill at A - 007 - BH
A - 007 BH 0.0' - 1.5' BCS
INT 1
SPT : 5 0.0 - 0.5' Rec : 100 %
10 0.5 - 1.0'
17 1.0 - 1.5'

Soil to dry clay loam mostly lt. tan dry, very cohesive and hard clay loam. few rock fragments

1507 A - 007 BH 5.0' - 6.5' BCS
INT 2
SPT : 4 5.0' - 5.5'
8 5.5' - 6.0'
13 6.0' - 6.5'
Recovery : 100 %

Lt. Brown clay and silt loam with black shale and quartz fragments. Mostly a slightly moist loam, clay loam.

1519 A-007 BH 10.0'-11.5' BLS
SPT: 5 10.0-10.5'
10 10.5-11.0'
8 11.0-11.5'
Recovery: 100 %
Not Selected

Brown to tan silty, clay loam. Some black shale and quartz fragment w/ sand contact at 11.3' BLS. Mostly a tan to white mottled sand. Slightly moist to dry sand.

1540 Complete drilling at A-007 BH
Move to A-003 BH

1545 Begin to drill at A-003 BH
A-003 BH Int 0.0-1.5' BLS
SPT: 10 0.0-0.5'
9 0.5'-1.0'
5 1.0'-1.5'
Recovery: 100 %
INT 1

Soil and lt. tan hard and dry clay loam. Rock fragments at 1.8' BLS. Mostly a dry, hard and very cohesive clay loam.

1555 A-003 BH Int 5.0-6.5' BLS
SPT 8 5.0-5.5
10 5.5-6.0
15 6.0-6.5
Recovery: 100 %
Int 2

Clay and silt loam w/ few sand grains. Brown and moist, very cohesive. Some rock and shale fragments. Mostly a clay loam.

1605 A-003 BH Int 10.0'-11.5' BLS
SPT 4 10.0-10.5'
12 10.5-11.0'
23 11.0-11.5'
Recovery: 100 %
Not Selected

Clay and silt loam w/ few shale and Quartz fragments. Lt. Brown and moist. Very cohesive. Grading to a sand at 11.3' BLS. Then mostly tan to lgt. tan sand.

1613 Complete drilling at A-003 BH.
Moving to A-001 BH.

1620 ↗ BEGIN to drill at A-001 BH.
A-001 BH Interval 0.0 - 1.5' BGS

INT 1

SPT	9	0.0 - 0.5'
	7	0.5 - 1.0'
	5	1.0 - 1.5'

Recovery : 100 %
Soil and Brown to Lt tan silty to clay loam. Rock fragments of shale and quartz. Few gravel. Mostly clay loam, dry cohesive

1628 ↗ A-001 BH Interval 5.0 - 6.5' BGS

INT 2

SPT	5	5.0 - 5.5'
	10	5.5 - 6.0'
	11	6.0 - 6.5'

Recovery : 100 %
Silt and clay loam with few sand particles. Some small Angular rock fragments. Mostly a clay and silt loam and small, Angular rock fragments. Moist, cohesive.

1635 ↗ A-001 BH Interval 10.0 - 11.5' BGS

NOT SELECTED

SPT	5	10.0 - 10.5'
	12	10.5 - 11.0'
	16	11.0 - 11.5'

Recovery : 100 %
Brown silt and clay loam, mostly a clay/silt. w/ fine sand and black shale and quartz fragments. Contact to SAND at 10.5' BGS. Sand is mottled, tan to white and moist.

1695 Complete drilling at A-001 BH
Move to A-002 BH

1655 ↗ A-002 BH 0.0 - 1.5' BGS

INT 1

SPT	18	0.0 - 0.5'
	9	0.5 - 1.0'
	5	1.0 - 1.5'

Recovery : 100 %
Soil and silt to clay loam. Mostly dry, cohesive, and Lt Brown to tan. Contains few rock fragments.

1708 A-002 B11 5.0-6.5' BGS

SPT 5 5.0-5.5'

INT2 9 5.5-6.0'

11 6.0-6.5'

Recovery: 100%

Silt and clay loam. Mostly silty w/ few sand grains. Slightly mottled, moist and cohesive.. Some small shale and quartz fragments but mostly a silty loam.

1715 A-002 B11 10.0'-11.5'

SPT 5 10.0-10.5'

NOT 11 10.5-11.0'

SELECTED 19 11.0-11.5'

Recovery: 100%

Silt and clay loam w/ contact with brown to tan sand, mottled and slightly moist. Sand contact at 10.5' BGS. sand grades from brown and mottled at contact to tan to white, becomming increasingly hard.

1725 Complete drilling at A-002B11 and conclude drilling for the day.

Drillers have been grouting holes throughout the day and are now completing grouting at A-001 B11 and A-002 B11.

Will cement plugs at surface tomorrow.

Drillers are demobilizing and prepping equipment for the night.

1725 Drillers depart the Site. Going to pick up a few supplies for tomorrow.

1735. J.B. and E.P. begin site clean-up.

Dump decon water in decon water drum.

L.I. running final calibration and air blank on field GC.

General Site Cleanup

1745 E.P. begins to prepare Chain of Custody for Soil samples.

1800 Depart Station for FED-EX office to deliver soil samples.

1820 E.P. J.B. and L.I. Arrive at FED-EX office and ship soil samples.

1840 Arrive back at hotel.

Phoned John Morris in San Antonio. Informed him of our progress and that since groundwater was not encountered above bedrock, optional activities will not be performed. Field activities at the site will be completed tomorrow. Will contact Matt Alexander to inform ANGRC/CEUR PM of progress.

Earl E Parker 6/2/94 (11 hrs)

FRIDAY DAY 3 3 JUNE 94

0700 E.P., J.B, L.I. Arrive at FL site to prepare for operations.

Begin to set up decon station for sampling at AOC B.

0735 Drillers Arrive at the site. Begin to set up for days drilling.

0740 J.B. Arranges for shipping service to pick up equipment box on Monday.

0740 Safety Briefing
Earl Parker
Rob Copeland } JEDI
Roger Groves } JEDI
Johnny Moore } JEDI
Joe Byrd } OPTECH
Covis Ibarra } OPTECH
Talk about hazards around AOC-B. Review concerns. Talk about site contamination.

Weather: Clear to Partly Cloudy mild and breezy. Temp: 65°. Hi - low to mid 70's, sunny to partly cloudy. Winds out of the west, northwest at 10-15 mph.

Drillers prepare to drill. Set up over B-003 BH first.

0810 Set up over B-003 BH to drill to bedrock / groundwater.

0815 B-003 BH 0.0 - 1.5' BLS

* Interval 1

SPT	29	0.0 - 0.5'
	15	0.5 - 1.0'
	8	1.0' - 1.5'

No PID.

Recovery: 100%

Hard, dry, silt, clay loam w/ some gravel at top. Small shale and quartz fragments in matrix. Mostly silt / clay loam. Mostly clay, cohesive.

0825 B-003 BH 5.0' - 6.5' BLS

* Interval 2

SPT	6	5.0' - 5.5'
	7	5.5' - 6.0'
	12	6.0' - 6.5'

Recovery: 100 %

Brown silt, clay loam w/ sand stringers and slight mottling. Few small shale fragments. Moist, cohesive.

0831 B-003 BH 10.0' - 11.5' BLS

SPT	5	10.0 - 10.5'
	6	10.5' - 11.0'
	6	11.0' - 11.5'

Recovery : 100 %

Brown silt, clay loam to a brown sand to a tan to lgt brown to white sand at 11.0' BLS. Mostly a clean sand, moist, and very cohesive.

Will continue to drill this hole till bedrock and check for groundwater.

0838 Drill to Approx. 14' BLS when Auger drilling became difficult. Loading up spoon for sample.

0840 B-003 BH 14.0'-15.5' BLS

SPT	33	14.0-14.5'
	34	14.5-15.0'
	50	15.0-15.5'

Sand, brown to white, mottled. Mostly sand, very cohesive to getting hard near bottom. Drilling into weathered sandstone top. Formal refusal on last 6" interval. Sand is slightly moist. No indication of groundwater.

Complete At B-003 BH. Moving to B-002 BH.

Begin At B-002 BH

0850 B-002 BH 0.0'-15' BLS

X INTERVAL	1	0.0-0.5'
SPT	13	0.5'-1.0'
	13	1.0'-1.5'
	12	

Recovery: 100%

Gravel At top w/ hard silt, clay loam. Mostly dry w/ some small shale and quartz fragments. Cohesive.

0856 B-002 BH 5.0-6.5' BLS

SPT	11	5.0-5.5'
	12	5.5-6.0'
	13	6.0-6.5'

Recovery: 100%

Mostly a brown silt, clay loam. Shale fragments, mottled, with sand stringers. Mostly a silt loam, slightly moist and cohesive.

0905 → INT 2 B-002 BH 10.0'-11.5' BLS

SPT	4	10.0-10.5'
	11	10.5-11.0'
	11	11.0-11.5'

Recovery: 100%

Brown silt, clay loam near top with shale fragments and some sand. At 11.0' BLS contact with brown to tan, mottled sand. Moist, cohesive.

0913 Complete drilling at B-002 BH. Moving to B-001 BH.

Louis Ibarra departed site to return some Hazo Equipment not longer needed and to go into Columbus OH to obtain HRS information.

0918 B-001 BH 0.0' - 1.0'

* INTERVAL 1

SPT	13	0.0 - 0.5'
	13	0.5 - 1.0'
	8	1.0 - 1.5'

Gravel to 11. brown silt, clay loam with few shale fragments. dry to very slightly moist loam, cohesive, mottled. few sand grains.

0930 B-001 BH 5.0 - 6.5'

* INTERVAL 2

SPT	8	5.0 - 5.5'
	10	5.5 - 6.0'
	14	6.0 - 6.5'

Recovery: 100%

Brown, silt and clay loam. Some shale and quartz fragments present. Slightly moist, mottled, and cohesive. few gravel particles.

0936 B-001 BH 10.0 - 11.5

SPT -	11	10.0 - 10.5'
	11	10.5 - 11.0'
	16	11.0 - 11.5'

Recovery: 100 %

Brown, silt, clay loam, few sand particles w/ some shale fragments, to a sharp contact with brown to tan and white sand. Medium sand, moist, cohesive. No water.

0940 Complete drilling at AOC-B. Drillers pull off the site. Move to decon AREA to decon Augers.

Grout holes at AOC-B.

0945 E.P. calls Matt Alexander to inform him of progress. Are finished with drilling program. Are beginning to de-mobilize at the station and will depart for S.A. today.

0955 E.P. calls Mr. Saul Alumer at Rickenbacher ANGB to inform him of status and findings during field screening at the PA/SI. Field screening for BTEX was Non Detect at all intervals at all locations.

1010 E.P. calls John Morris at OpTech to inform him of the situation.

1036 E.P. calls DAN WyATT (ANGRC/CEVR PM) to brief him on the PA/SI. Inform him all drilling is completed. Since no water was found above the bedrock, optional drilling for Piezometers is not necessary. Therefore, drilling is completed.

1100 E.P. calls Charles Harkness (Surveyor) to schedule surveying at the site. Problems with contracts w/ main office. We will talk again on Monday (6-6-94) to resolve issues and will schedule surveying to occur by mid-next week.

1115 E.P. prepares Chain-of-Custody on samples and departs site to deliver samples to FED-EX for delivery.

J.B. is packing equipment box and supervises drillers who are preparing equipment to depart the site.

1135 Depart FED-EX. Samples are Away. Return to Zanesville ANGS.

1205 Return to Site. J.B. completing site clean-up. Drillers departed site at 1135 after clean-up.

Site looks in Excellent condition.

DRUM INVENTORY

Drums placed on wooden pallets and placed in gravel area of AOC-A east of Bldg 5.

DRUM	CONTENTS	
1)	B-001 BH	Soil Cuttings
	B-002 BH	"
2)	B-003 BH	"
	B-002 BH	"
3)	A-001 BH	"
	A-002 BH	"
4)	A-007 BH	"
5)	A-006 BH	"
6)	A-004 BH	"
7)	A-002 BH	"
	A-003 BH	"
8)	A-005 BH	"
9)	DECON WATER	

TOTAL OF 9 DRUMS

Equipment Boxes are sealed and will be shipped out on Monday. MSGT Connelly will look over it for us.

1215 E.P. and J.B. reset stakes over borehole locations to guide surveyors.

E.P. and J.B. depart Zanesville ANGS.

Go to Hotel to shower and to

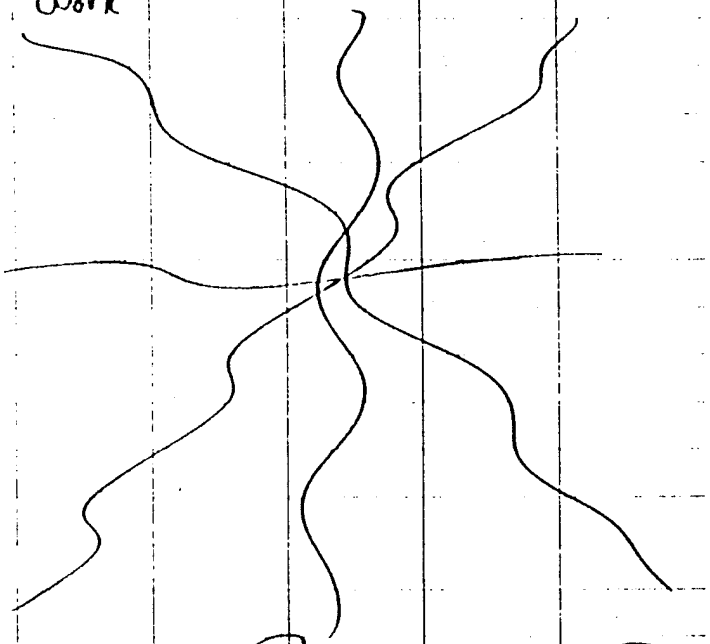
check out.

1310 Depart Hotel and drive to Columbus.

1530 Arrive to turn in Rental Vehicle.

1600 Arrive at Airport.

2130 Arrive in S.A. END OF Zanesville ANGS PA/SI Field Work

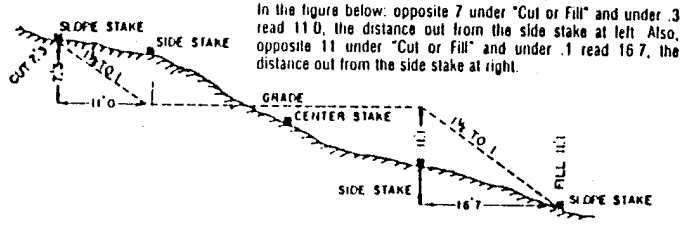


Earl E Pruitt 6/3/94 (13.0)

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

Roadway of any Width, Side Slopes 1½ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	0	.1	2	.3	4	5	.6	.7	.8	.9	Cut or Fill
	Distance out from Side or Shoulder Stake										
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

BOXES: CLASS 85
ITEM 147110
CONTRACTOR Equipment Out Fits

"Rite in the Rain"
ALL-WEATHER WRITING PAPER

Name JOE Byrd, JR.
~~#100~~ Project Scientist
Address 4100 N.W. Loop 410, # 230
SAN ANTONIO, TX 78229
Phone (210) 731-0000

Project ZANESVILLE 1308-191

FEDEX - 1342-6486-1
HAZCO -

"Rite in the Rain"---a unique all-weather writing surface created to shed water and to enhance the written image. Makes it possible to write sharp, legible field data in any kind of weather.

a product of

J. L. DARLING CORPORATION
TACOMA, WA 98421-3696 USA

CONTENTS

PAGE NO.	REFERENCE	DATE

DAY 11

Wednesday ~~30~~ 1 June 94

0812 Leave hotel
0830 On Base
Meet with Sgt. Donelly and plan out locations

1141 Leave BASE
Get water air

Lunch (0.7)

1320 On base
set-up GC

Decon sleeves & caps

1630 At hotel

Joel Byall Jr | 7.6 hr

DAY 1

THURSDAY 2 June 1994

0705 Leave hotel
0730 On BASE

Prepare for drillers ARRIVAL

1030 Drillers ARRIVE

1050 Safety Mtg.
JB, EPII, LY, Roger, Rob, Johnny

Discussed sites, Ticks, Rt to Hospital

1105 Start Drlg.
A-004 BH

Done
1210 Drillers take lunch (0.8)
1300 Begin Drilling
A-

DRILL ahl of AOC-A

1715 Done drilling For day

1830 Leave BASE
Go to FEDEX

1922 At hotel

Break down equipment

Jan Byrd JR

12.0 hrs

FRIDAY 3 June 1994

0648 Leave hotel
0700 On base

Prep for drilling

0740 Drillers arrive
0800 Start Drilling

0940 Done drilling

Drillers decon equipment

Begin packing our equipment for shipment via ABF Freight systems

1040 Done packing boxes.
Drillers are still grouting holes

EP goes to FEDEX to drop off samples

Drillers are done & Leave.

I set all drums in 1 central location for easy movement when base personel return on Monday

1150 EP Returns
We mark BH's for surveyors. Police area

Leave base
1223 At Hotel

5.6 hrs

1312 EST Leave hotel

2030 CST
~~1312 EST~~ Home

10.3

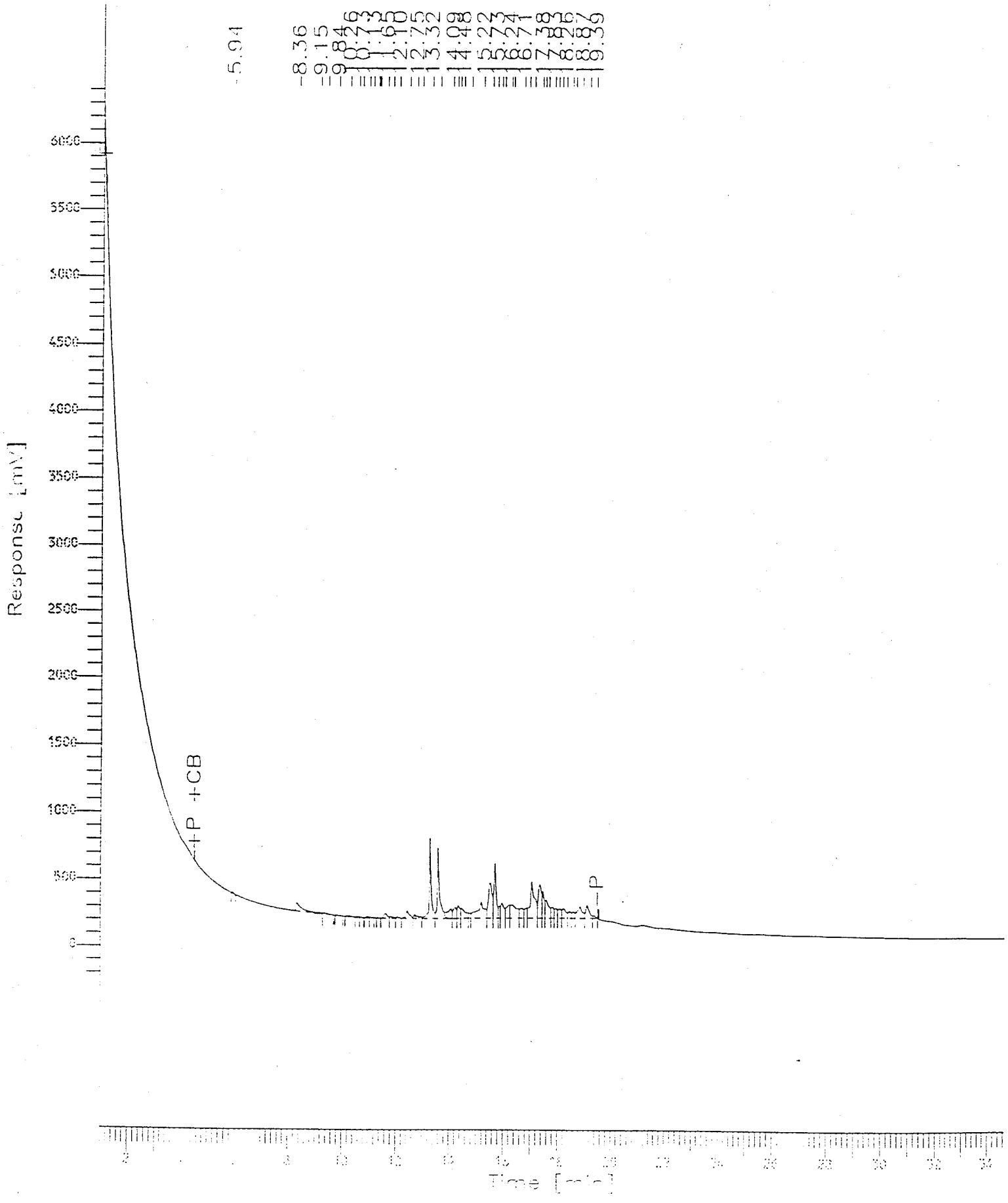
15.9 hrs

Jack Byrd, JR

Chromatogram

Sample Name : 9406119-058
FileName : l:\data\tchrom\pest\varc\C___137.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -228 mV

Sample #: SC ;S
Date : 06/16/94 06:45
Time of Injection: 06/16/94 06:10
Low Point : -227.82 mV High Point : 6432.95 mV
Plot Scale: 6661 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-06B Time : 6/14/94 08:44 AM
Sample Number: SC ;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 6/13/94 07:09 PM
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : L:\DATA\TCHROM\PEST\VARC\C___094.raw
Result File : C:\WINDOWS\TEMP\~rst3B44.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : <none>

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

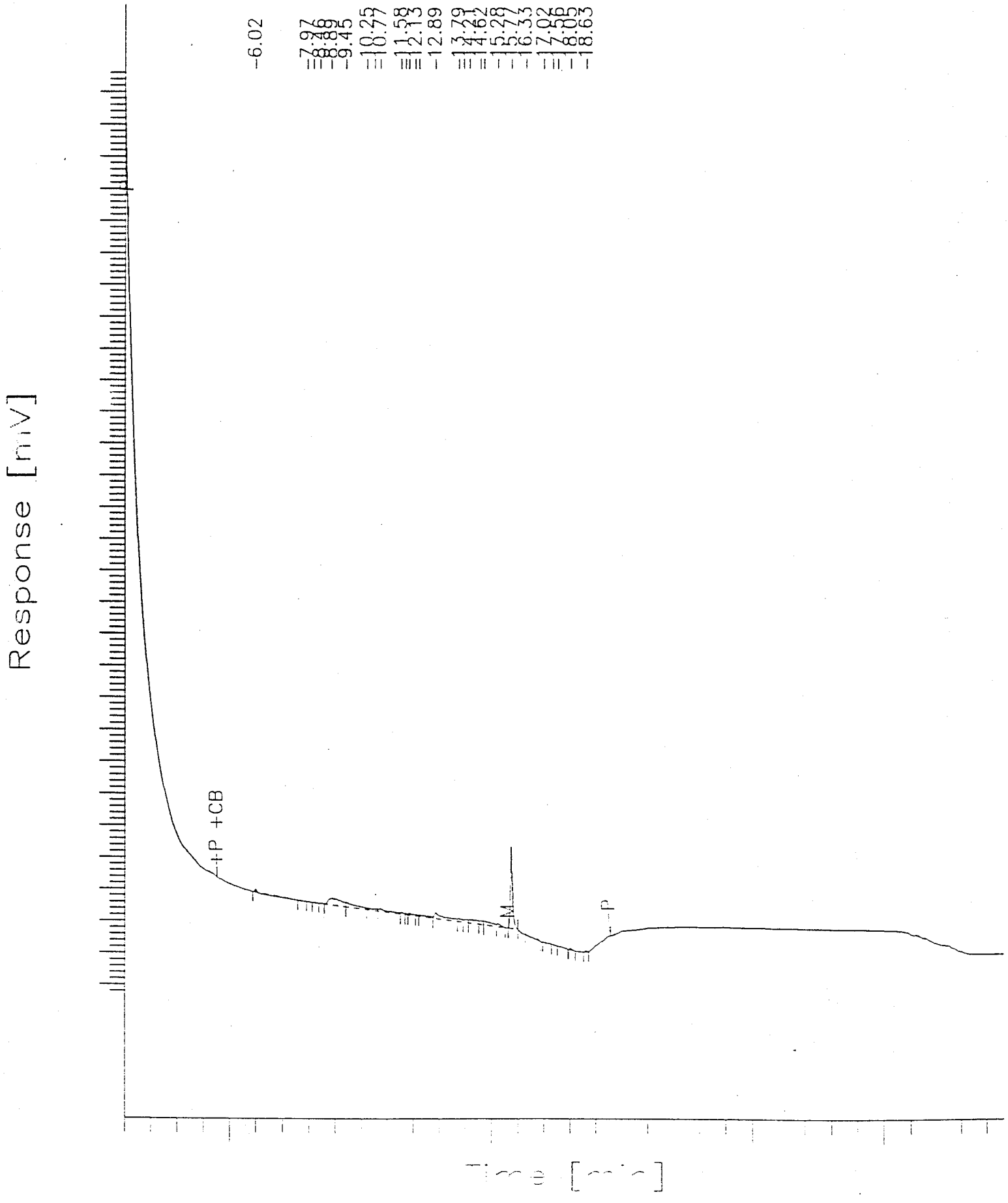
Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.020	77280.00	9853.13	BB	1.0000e6	0.0415	20.8892	0.0000
2	7.974	2325.00	780.93	BB	1.0000e6	0.0415	20.8892	0.0000
3	8.219	6265.00	949.27	BV	1.0000e6	0.0415	20.8892	0.0000
4	8.464	15780.00	1444.71	VV	1.0000e6	0.0415	20.8892	0.0000
5	8.890	759678.13	21188.90	VV	1.0000e6	0.0415	20.8892	0.0000
6	9.446	429097.50	14506.94	VV	1.0000e6	0.0415	20.8892	0.0000
7	10.250	76219.06	6362.75	VV	1.0000e6	0.0415	20.8892	0.0000
8	10.543	79763.91	6468.09	VV	1.0000e6	0.0415	20.8892	0.0000
9	10.769	265495.63	9638.21	VV	1.0000e6	0.0415	20.8892	0.0000
10	11.582	53264.84	6965.16	VV	1.0000e6	0.0415	20.8892	0.0000
11	11.751	25889.69	4464.73	VV	1.0000e6	0.0415	20.8892	0.0000
12	11.887	81980.47	7474.37	VV	1.0000e6	0.0415	20.8892	0.0000
13	12.128	34071.17	4321.59	VV	9.9999e5	0.0415	20.8892	0.0000
14	12.264	149445.63	5112.41	VV	1.0000e6	0.0415	20.8892	0.0000
15	12.885	537169.38	18872.63	VV	9.9999e5	0.0415	20.8892	0.0000
16	13.794	116116.17	10310.37	VV	1.0000e6	0.0415	20.8892	0.0000
17	13.978	112097.11	9160.47	VV	1.0000e6	0.0415	20.8892	0.0000
18	14.211	257250.47	11253.09	VV	1.0000e6	0.0415	20.8892	0.0000
19	14.616	123853.59	11899.86	VV	1.0000e6	0.0415	20.8892	0.0000
20	14.758	251707.03	11668.24	VV	1.0000e6	0.0415	20.8892	0.0000
21	15.277	98583.59	9288.56	VB	1.0000e6	0.0415	20.8892	0.0000
22	15.771	1390719.88	259191.27	BB	1.0000e6	0.0415	20.8892	0.0000
23	16.326	791.25	1308.47	BB	1.0000e6	0.0415	20.8892	0.0000
24	17.024	16106.91	1481.43	BV	9.9999e5	0.0415	20.8892	0.0000
25	17.362	14617.99	2529.59	VB	1.0000e6	0.0415	20.8892	0.0000
26	17.559	9070.00	1063.91	BB	1.0000e6	0.0415	20.8892	0.0000
27	18.045	19454.89	3517.81	BB	1.0000e6	0.0415	20.8892	0.0000
28	18.633	25800.00	4654.70	BB	9.9999e5	0.0415	20.8892	0.0000
		5029894.00	455731.56			1.1628	584.8963	0.0006

END

Chromatogram

mple Name : 9406119-06B
leName : L:\DATA\TCHROM\PEST\VARC\C___094.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -139 mV

Sample #: SC ;S Page 1 of 1
Date : 6/14/94 08:45 AM
Time of Injection: 6/13/94 07:09 PM
Low Point : -138.63 mV High Point : 2772.89 mV
Plot Scale: 2912 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-06B Time : 06/13/94 19:44
Sample Number: SC ;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/13/94 19:09
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C___094.raw
Result File : l:\data\tchrom\pest\varc\C___094.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.020	164272.50	9763.58	BV	1.0000e6	0.0415	61.4149	0.0000
2	7.974	5618.75	1023.49	VV	1.0000e6	0.0415	61.4149	0.0000
3	8.219	18491.72	1519.86	VV	1.0000e6	0.0415	61.4149	0.0000
4	8.464	39588.13	3081.67	VV	1.0000e6	0.0415	61.4149	0.0000
5	8.890	953859.38	24681.85	VV	1.0000e6	0.0415	61.4149	0.0000
6	9.446	790530.00	20424.21	VV	9.9999e5	0.0415	61.4149	0.0000
7	10.250	213141.88	15779.01	VV	1.0000e6	0.0415	61.4149	0.0000
8	10.543	219646.25	17161.26	VV	1.0000e6	0.0415	61.4149	0.0000
9	10.769	947705.00	21314.87	VV	1.0000e6	0.0415	61.4149	0.0000
10	11.582	222731.48	22183.14	VV	1.0000e6	0.0415	61.4149	0.0000
11	11.751	122028.16	20419.65	VV	1.0000e6	0.0415	61.4149	0.0000
12	11.887	368564.69	24020.49	VV	1.0000e6	0.0415	61.4149	0.0000
13	12.128	176193.44	21919.51	VV	1.0000e6	0.0415	61.4149	0.0000
14	12.264	764393.44	23301.15	VV	1.0000e6	0.0415	61.4149	0.0000
15	12.885	1841226.88	39764.79	VV	1.0000e6	0.0415	61.4149	0.0000
16	13.794	441906.00	35162.72	VV	1.0000e6	0.0415	61.4149	0.0000
17	13.978	423715.00	34814.59	VV	1.0000e6	0.0415	61.4149	0.0000
18	14.211	911845.75	37922.97	VV	1.0000e6	0.0415	61.4149	0.0000
19	14.616	437850.38	40331.60	VV	1.0000e6	0.0415	61.4149	0.0000
20	14.758	1090606.75	40721.54	VV	9.9999e5	0.0415	61.4149	0.0000
21	15.277	961856.06	40599.12	VV	1.0000e6	0.0415	61.4149	0.0000
22	15.771	2520164.75	292819.69	VE	1.0000e6	0.0415	61.4149	0.0000
23	16.326	724570.00	25709.40	EV	1.0000e6	0.0415	61.4149	0.0000
24	17.024	177568.16	10518.38	VV	1.0000e6	0.0415	61.4149	0.0000
25	17.362	92249.00	8985.18	VV	1.0000e6	0.0415	61.4149	0.0000
26	17.559	99548.13	6008.39	VV	1.0000e6	0.0415	61.4149	0.0000
27	18.045	32416.06	4833.59	VB	1.0000e6	0.0415	61.4149	0.0000
28	18.633	25800.00	4654.70	BB	9.9999e5	0.0415	61.4149	0.0000
		14788088.00	849440.31			1.1628	1719.6178	0.0002

END

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C___094.TXO

Software Version: 3.2 <16C20>
Sample Name : 9406119-08B Time : 6/14/94 08:39 AM
Sample Number: SC ;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 6/13/94 05:47 PM
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : L:\DATA\TCHROM\PEST\VARC\C___092.raw
Result File : C:\WINDOWS\TEMP\~rst3B44.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : <none>

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

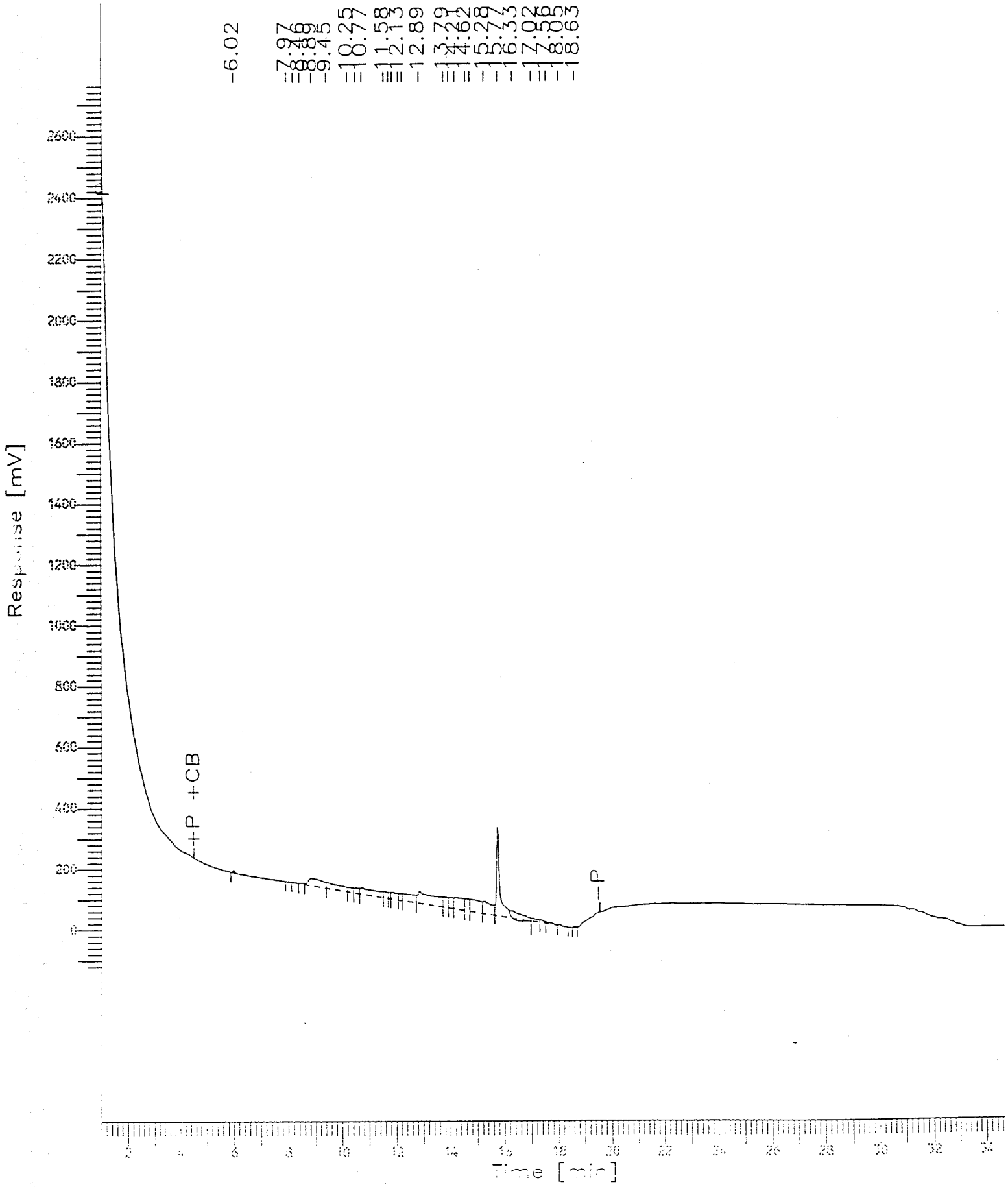
Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.042	91160.00	10990.99	BB	1.0000e6	0.0415	12.2358	0.0000
2	8.005	3550.00	1015.78	BB	1.0000e6	0.0415	12.2358	0.0000
3	8.222	5925.00	795.05	BB	1.0000e6	0.0415	12.2358	0.0000
4	8.482	18220.00	1701.29	BV	1.0000e6	0.0415	12.2358	0.0000
5	8.901	675372.50	19496.61	VV	1.0000e6	0.0415	12.2358	0.0000
6	9.480	289096.25	11661.09	VV	1.0000e6	0.0415	12.2358	0.0000
7	10.283	53181.25	3526.47	VV	1.0000e6	0.0415	12.2358	0.0000
8	10.799	54610.00	4906.71	VB	1.0000e6	0.0415	12.2358	0.0000
9	11.617	14888.44	3139.72	BV	1.0000e6	0.0415	12.2358	0.0000
10	11.917	22481.25	3516.17	VB	1.0000e6	0.0415	12.2358	0.0000
11	12.911	50270.63	3409.25	BB	1.0000e6	0.0415	12.2358	0.0000
12	13.818	10565.00	1975.44	BB	1.0000e6	0.0415	12.2358	0.0000
13	14.240	6810.00	842.07	BV	1.0000e6	0.0415	12.2358	0.0000
14	14.644	11350.00	1184.16	VB	1.0000e6	0.0415	12.2358	0.0000
15	15.313	6795.00	1641.86	BB	1.0000e6	0.0415	12.2358	0.0000
16	15.803	1383359.88	258369.67	BB	1.0000e6	0.0415	12.2358	0.0000
17	16.488	6800.00	1525.25	BB	1.0000e6	0.0415	12.2358	0.0000
18	16.675	5410.94	1877.15	BV	1.0000e6	0.0415	12.2358	0.0000
19	16.864	19634.88	3018.38	VV	1.0000e6	0.0415	12.2358	0.0000
20	17.036	44744.06	3999.19	VB	1.0000e6	0.0415	12.2358	0.0000
21	17.717	16440.66	2685.34	BV	1.0000e6	0.0415	12.2358	0.0000
22	17.880	68686.25	5961.84	VV	1.0000e6	0.0415	12.2358	0.0000
23	18.566	47581.56	4442.89	VV	1.0000e6	0.0415	12.2358	0.0000
24	18.864	15471.37	2207.99	VB	1.0000e6	0.0415	12.2358	0.0000
25	19.127	2595.75	766.52	BV	1.0000e6	0.0415	12.2358	0.0000
26	19.267	21249.12	3419.53	VB	1.0000e6	0.0415	12.2358	0.0000
		2946249.75	358076.44			1.0798	318.1302	0.0009

END

Chromatogram

Sample Name : 9406119-06B
FileName : l:\data\tchrom\pest\varc\C___094.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -139 mV

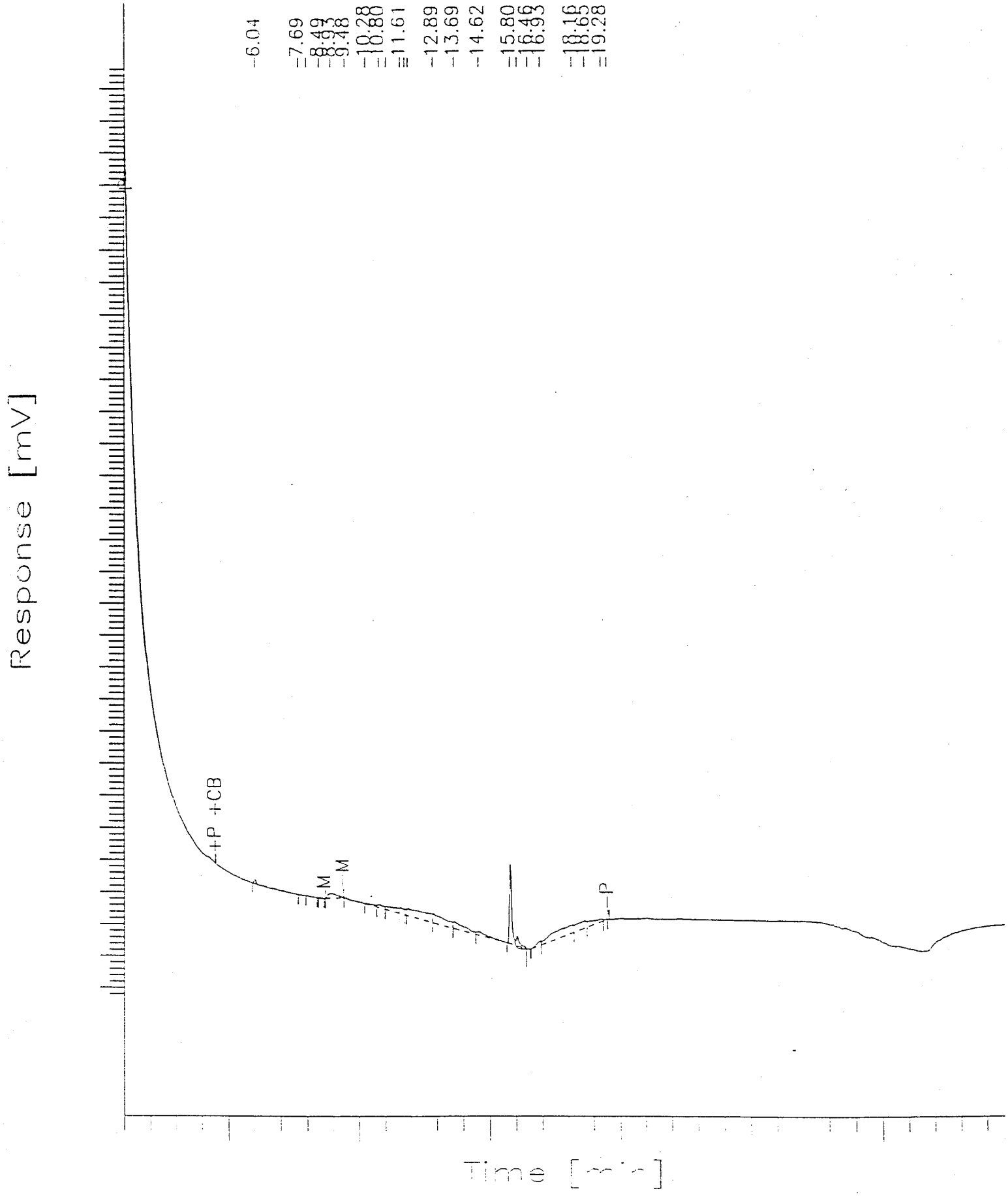
Sample #: SC ;S
Date : 06/13/94 19:44
Time of Injection: 06/13/94 19:09
Low Point : -138.63 mV High Point : 2772.89 mV
Plot Scale: 2912 mV



Chromatogram

Sample Name : 9406119-10B
FileName : L:\DATA\TCHROM\PEST\VARC\C___097.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -121 mV

Sample #: SC ;S Page 1 of 1
Date : 6/14/94 08:52 AM
Time of Injection: 6/13/94 09:17 PM
Low Point : -120.75 mV High Point : 2766.58 mV
Plot Scale: 2887 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-11B Time : 06/16/94 02:38
Sample Number: SC ;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/16/94 02:03
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C___131.raw
Result File : l:\data\tchrom\pest\varc\C___131.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.944	36770.00	11298.47	BB	1.0000e6	0.0415	140.8922	0.0000
2	6.695	22790.00	2873.33	BB	1.0000e6	0.0415	140.8922	0.0000
3	7.353	16560.00	3858.47	BB	1.0000e6	0.0415	140.8922	0.0000
4	7.719	22942.50	2693.11	BV	1.0000e6	0.0415	140.8922	0.0000
5	7.946	5292.50	3424.17	VB	1.0000e6	0.0415	140.8922	0.0000
6	8.398	517281.25	48109.91	BV	1.0000e6	0.0415	140.8922	0.0000
7	8.633	414849.38	28245.19	VV	1.0000e6	0.0415	140.8922	0.0000
8	9.129	168663.75	21391.92	VV	1.0000e6	0.0415	140.8922	0.0000
9	9.477	152355.63	16528.33	VV	1.0000e6	0.0415	140.8922	0.0000
10	9.863	68968.13	7574.95	VB	1.0000e6	0.0415	140.8922	0.0000
11	10.255	149405.31	21814.90	BV	1.0000e6	0.0415	140.8922	0.0000
12	10.590	87951.56	14664.98	VV	1.0000e6	0.0415	140.8922	0.0000
13	10.729	28183.59	7016.94	VB	1.0000e6	0.0415	140.8922	0.0000
14	10.991	312964.69	60957.36	BE	1.0000e6	0.0415	140.8922	0.0000
15	11.300	60980.00	7558.65	EB	1.0000e6	0.0415	140.8922	0.0000
16	11.696	168722.50	30191.36	BV	1.0000e6	0.0415	140.8922	0.0000
17	11.871	23979.06	3657.95	VV	1.0000e6	0.0415	140.8922	0.0000
18	12.113	22449.38	2713.42	VV	1.0000e6	0.0415	140.8922	0.0000
19	12.332	107018.75	19886.88	VB	1.0000e6	0.0415	140.8922	0.0000
20	12.613	6300.00	1615.25	BB	1.0000e6	0.0415	140.8922	0.0000
21	12.751	41431.25	6275.60	BV	1.0000e6	0.0415	140.8922	0.0000
22	12.847	17065.55	5039.87	VV	1.0000e6	0.0415	140.8922	0.0000
23	12.958	120840.31	22974.88	VV	1.0000e6	0.0415	140.8922	0.0000
24	13.236	6802.81	998.25	VB	1.0000e6	0.0415	140.8922	0.0000
25	13.403	16844.69	1219.54	BB	1.0000e6	0.0415	140.8922	0.0000
26	13.551	294037.50	47417.07	BV	1.0000e6	0.0415	140.8922	0.0000
27	13.773	219847.03	30279.96	VV	9.9999e5	0.0415	140.8922	0.0000
28	13.867	148614.69	30561.75	VV	1.0000e6	0.0415	140.8922	0.0000
29	13.983	237523.44	35294.37	VV	1.0000e6	0.0415	140.8922	0.0000
30	14.145	514085.94	57040.80	VV	1.0000e6	0.0415	140.8922	0.0000
31	14.232	203213.75	51661.60	VV	1.0000e6	0.0415	140.8922	0.0000
32	14.691	2116966.25	95173.77	VV	1.0000e6	0.0415	140.8922	0.0000
33	14.777	444734.28	90568.59	VV	1.0000e6	0.0415	140.8922	0.0000
34	14.965	936240.31	97930.44	VV	1.0000e6	0.0415	140.8922	0.0000
35	15.219	1948774.00	124246.13	VV	1.0000e6	0.0415	140.8922	0.0000
36	15.333	446453.66	112341.62	VV	1.0000e6	0.0415	140.8922	0.0000
37	15.559	1621105.63	132683.11	VV	1.0000e6	0.0415	140.8922	0.0000
38	15.734	3549113.00	435565.47	VV	1.0000e6	0.0415	140.8922	0.0000
39	16.002	2197872.50	147556.34	VV	1.0000e6	0.0415	140.8922	0.0000
40	16.232	1678403.63	149561.17	VV	1.0000e6	0.0415	140.8922	0.0000
41	16.457	2025448.38	153031.78	VV	1.0000e6	0.0415	140.8922	0.0000
42	16.595	693523.19	141496.28	VV	1.0000e6	0.0415	140.8922	0.0000
43	16.719	1245939.00	149835.53	VV	1.0000e6	0.0415	140.8922	0.0000
44	16.879	1275840.00	133024.05	VV	9.9999e5	0.0415	140.8922	0.0000
45	17.001	1051278.88	123576.45	VV	1.0000e6	0.0415	140.8922	0.0000
46	17.203	1532736.25	124505.21	VV	9.9999e5	0.0415	140.8922	0.0000
47	17.365	1465467.50	117342.97	VV	1.0000e6	0.0415	140.8922	0.0000
48	17.630	1754682.75	105821.72	VV	1.0000e6	0.0415	140.8922	0.0000
49	17.929	439918.59	74329.51	VV	1.0000e6	0.0415	140.8922	0.0000
50	18.071	717446.06	79799.25	VV	9.9999e5	0.0415	140.8922	0.0000

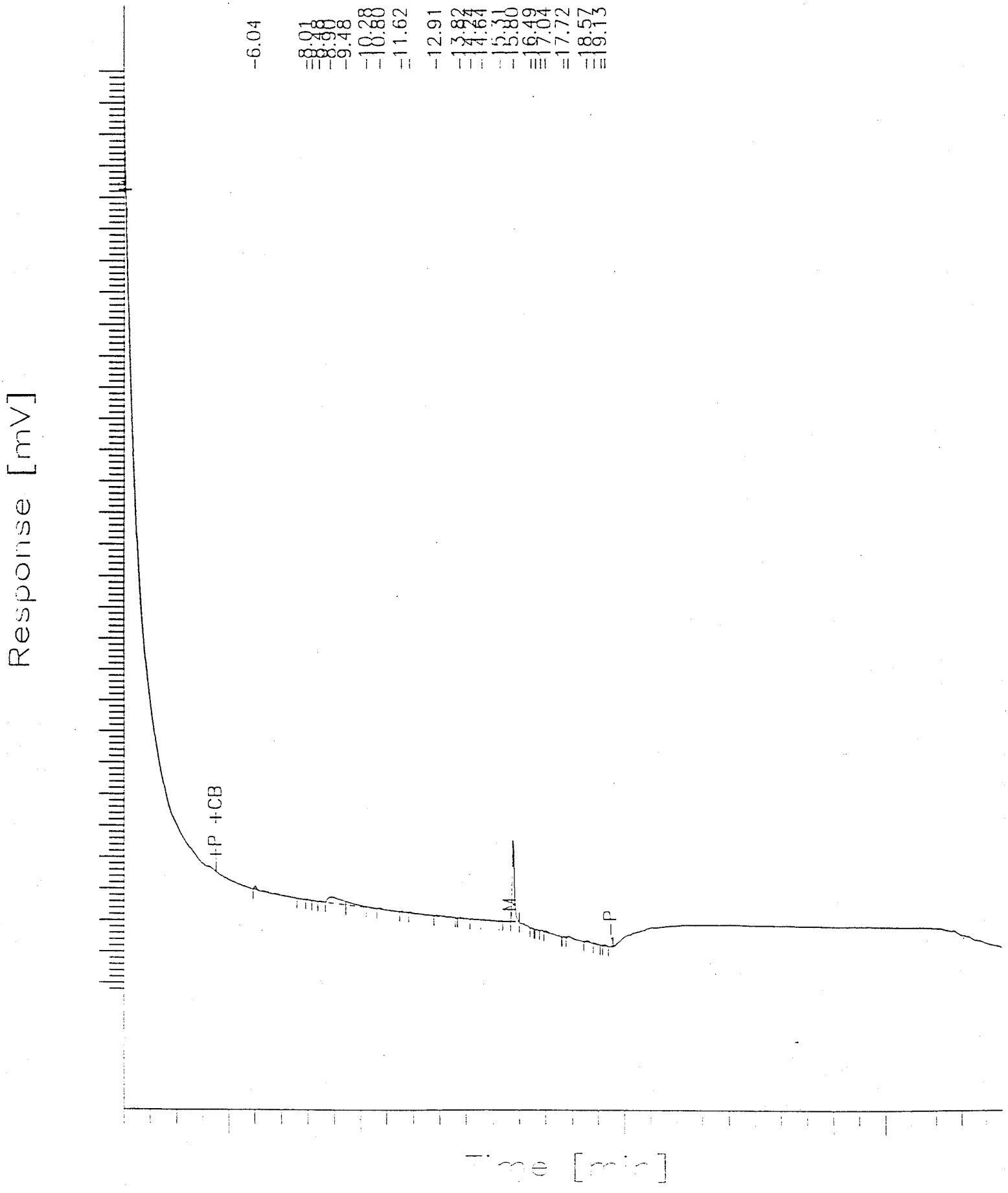
Chromatogram

Sample Name : 9406119-08B
FileName : L:\DATA\TCHROM\PEST\VARC\C___092.raw
Method : DIESELC.ins
Start Time : 1.00 min
Scale Factor: 1

End Time : 34.66 min
Plot Offset: -123 mV

Sample #: SC ;S
Date : 6/14/94 08:39 AM
Time of Injection: 6/13/94 05:47 PM
Low Point : -122.81 mV
Plot Scale: 2931 mV

High Point : 2808.38 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-07B Time : 06/16/94 06:03
Sample Number: SC ;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/16/94 05:29
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C___136.raw
Result File : l:\data\tchrom\pest\varc\C___136.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.928	50515.31	12760.12	BB	1.0000e6	0.0415	181.0080	0.0000
2	7.885	26469.38	3038.73	BB	1.0000e6	0.0415	181.0080	0.0000
3	8.336	802435.00	69421.80	BE	1.0000e6	0.0415	181.0080	0.0000
4	8.822	135590.00	11770.06	EV	1.0000e6	0.0415	181.0080	0.0000
5	9.133	36318.75	4913.79	VV	1.0000e6	0.0415	181.0080	0.0000
6	9.303	437505.00	66177.59	VV	1.0000e6	0.0415	181.0080	0.0000
7	9.818	114422.50	9349.88	VV	1.0000e6	0.0415	181.0080	0.0000
8	10.185	590361.88	41672.33	VV	1.0000e6	0.0415	181.0080	0.0000
9	10.545	46760.23	10184.80	VV	1.0000e6	0.0415	181.0080	0.0000
10	10.639	82909.06	10160.82	VB	1.0000e6	0.0415	181.0080	0.0000
11	10.958	54279.53	12738.30	BV	1.0000e6	0.0415	181.0080	0.0000
12	11.097	55680.63	9402.99	VB	1.0000e6	0.0415	181.0080	0.0000
13	11.502	4895844.50	785709.31	BE	1.0000e6	0.0415	181.0080	0.0000
14	12.068	174440.00	17561.61	EV	1.0000e6	0.0415	181.0080	0.0000
15	12.418	1460005.00	147471.80	VV	1.0000e6	0.0415	181.0080	0.0000
16	12.723	212329.06	37293.54	VV	1.0000e6	0.0415	181.0080	0.0000
17	12.897	485875.00	46063.62	VV	1.0000e6	0.0415	181.0080	0.0000
18	13.285	4827688.00	1.01e6	VV	9.9999e5	0.0415	181.0080	0.0000
19	13.593	4255839.50	730039.63	VE	1.0000e6	0.0415	181.0080	0.0000
20	13.980	348560.00	50367.79	EV	1.0000e6	0.0415	181.0080	0.0000
21	14.053	396245.94	61222.18	VV	1.0000e6	0.0415	181.0080	0.0000
22	14.222	546607.31	78460.68	VV	1.0000e6	0.0415	181.0080	0.0000
23	14.342	541295.94	82740.89	VV	1.0000e6	0.0415	181.0080	0.0000
24	14.453	474078.13	59352.07	VB	1.0000e6	0.0415	181.0080	0.0000
25	14.922	78332.50	11826.59	BV	1.0000e6	0.0415	181.0080	0.0000
26	15.180	884989.69	97099.70	VV	1.0000e6	0.0415	181.0080	0.0000
27	15.519	2951952.50	316643.72	VV	1.0000e6	0.0415	181.0080	0.0000
28	15.705	2095630.88	382893.25	VE	1.0000e6	0.0415	181.0080	0.0000
29	15.853	380690.00	55424.36	EV	1.0000e6	0.0415	181.0080	0.0000
30	15.964	228219.53	47684.38	VV	1.0000e6	0.0415	181.0080	0.0000
31	16.206	847710.00	77530.48	VV	1.0000e6	0.0415	181.0080	0.0000
32	16.287	304603.66	77519.13	VV	9.9999e5	0.0415	181.0080	0.0000
33	16.348	726081.56	75760.92	VV	1.0000e6	0.0415	181.0080	0.0000
34	16.688	561440.31	49846.33	VV	1.0000e6	0.0415	181.0080	0.0000
35	17.049	3567385.00	303988.50	VV	1.0000e6	0.0415	181.0080	0.0000
36	17.371	1395558.25	212632.33	VV	1.0000e6	0.0415	181.0080	0.0000
37	17.452	1122154.38	196861.02	VV	1.0000e6	0.0415	181.0080	0.0000
38	17.581	1257356.50	129312.20	VV	1.0000e6	0.0415	181.0080	0.0000
39	17.806	551551.06	73463.45	VV	1.0000e6	0.0415	181.0080	0.0000
40	17.929	563767.31	65879.56	VV	1.0000e6	0.0415	181.0080	0.0000
41	18.220	1318246.88	81250.91	VV	1.0000e6	0.0415	181.0080	0.0000
42	18.465	452902.66	61121.58	VV	1.0000e6	0.0415	181.0080	0.0000
43	18.597	383051.25	50340.82	VV	1.0000e6	0.0415	181.0080	0.0000
44	18.840	1438375.00	107168.02	VV	1.0000e6	0.0415	181.0080	0.0000
45	19.123	1233165.00	116683.12	VV	1.0000e6	0.0415	181.0080	0.0000
46	19.378	189640.63	27045.29	VB	1.0000e6	0.0415	181.0080	0.0000
		43584868.00	5.99e6			1.9104	8326.3643	0.0001

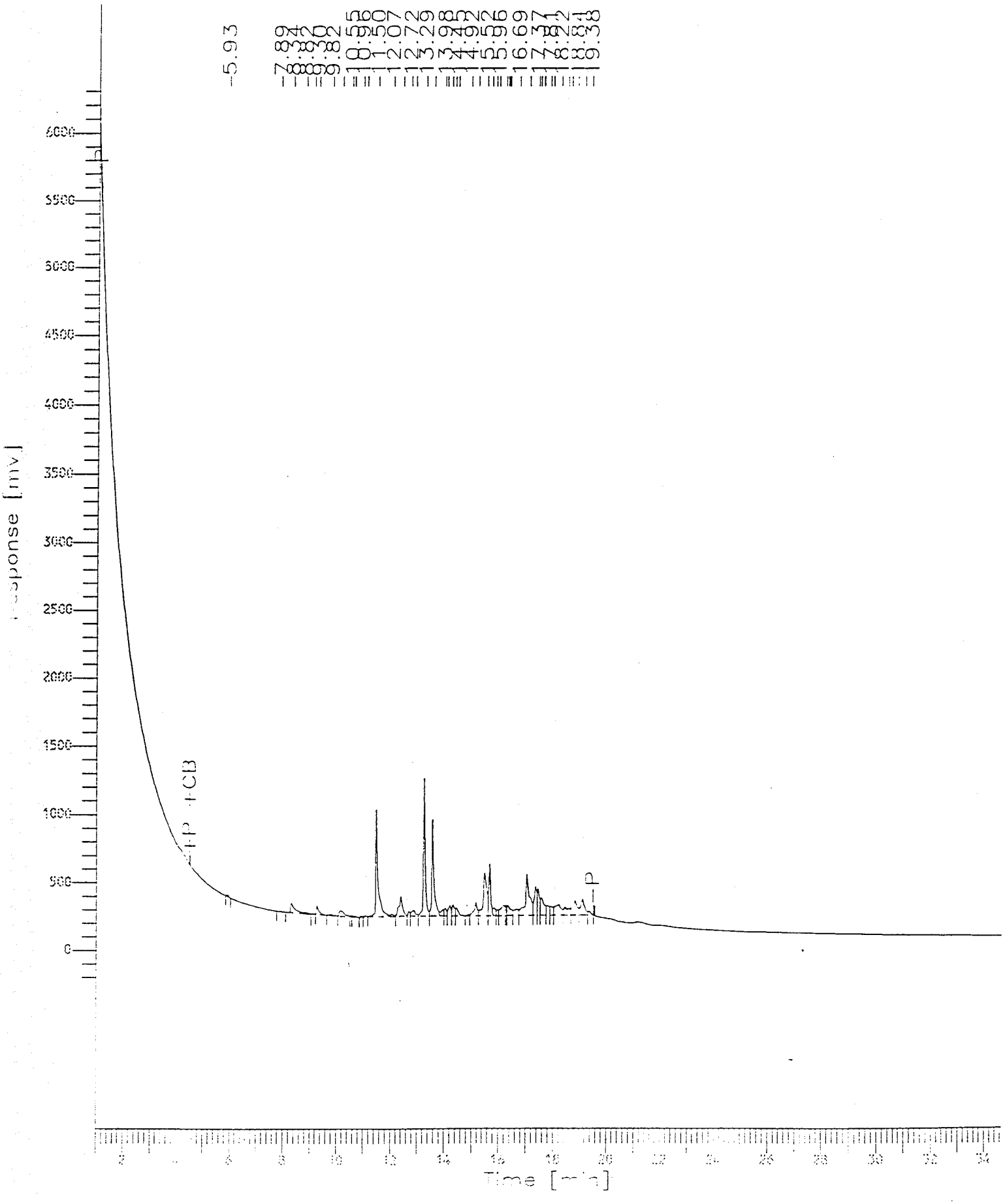
END

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C___136.TXO

Chromatogram

Sample Name : 9406119-073
FileName : l:\data\tchrom\pest\varc\C___136.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -202 mV

Sample #: SC ;S
Date : 06/16/94 06:04
Time of Injection: 06/16/94 05:29
Low Point : -201.90 mV High Point : 6338.54 mV
Plot Scale: 6540 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-08B Time : 06/13/94 18:22
Sample Number: SC ;S Study : MCOSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/13/94 17:47
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C___092.raw
Result File : l:\data\tchrom\pest\varc\C___092.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.042	91160.00	10990.99	BB	1.0000e6	0.0415	46.1247	0.0000
2	8.005	3550.00	1015.78	BB	1.0000e6	0.0415	46.1247	0.0000
3	8.222	6923.13	822.69	BV	1.0000e6	0.0415	46.1247	0.0000
4	8.482	27565.00	2084.55	VV	1.0000e6	0.0415	46.1247	0.0000
5	8.901	768193.75	21050.67	VV	1.0000e6	0.0415	46.1247	0.0000
6	9.480	491100.00	14835.29	VV	1.0000e6	0.0415	46.1247	0.0000
7	10.283	200920.94	8946.68	VV	1.0000e6	0.0415	46.1247	0.0000
8	10.799	446324.38	11769.32	VV	1.0000e6	0.0415	46.1247	0.0000
9	11.617	202152.66	12306.13	VV	1.0000e6	0.0415	46.1247	0.0000
10	11.917	664600.63	13570.78	VV	1.0000e6	0.0415	46.1247	0.0000
11	12.911	869947.50	16617.45	VV	1.0000e6	0.0415	46.1247	0.0000
12	13.818	531953.44	19894.43	VV	1.0000e6	0.0415	46.1247	0.0000
13	14.240	517604.53	21162.98	VV	1.0000e6	0.0415	46.1247	0.0000
14	14.644	1005885.00	24214.25	VV	1.0000e6	0.0415	46.1247	0.0000
15	15.313	677572.31	29639.67	VV	1.0000e6	0.0415	46.1247	0.0000
16	15.803	2739125.25	291289.06	VE	1.0000e6	0.0415	46.1247	0.0000
17	16.488	367310.00	24733.29	EV	1.0000e6	0.0415	46.1247	0.0000
18	16.675	204761.64	20542.15	VV	1.0000e6	0.0415	46.1247	0.0000
19	16.864	166613.52	19643.72	VV	1.0000e6	0.0415	46.1247	0.0000
20	17.036	530723.88	18782.66	VV	1.0000e6	0.0415	46.1247	0.0000
21	17.717	89231.64	10813.60	VV	1.0000e6	0.0415	46.1247	0.0000
22	17.880	307407.03	13247.62	VV	1.0000e6	0.0415	46.1247	0.0000
23	18.566	119867.93	8164.72	VV	1.0000e6	0.0415	46.1247	0.0000
24	18.864	41721.48	4382.21	VV	1.0000e6	0.0415	46.1247	0.0000
25	19.127	8069.24	1757.66	VV	9.9999e5	0.0415	46.1247	0.0000
26	19.267	26067.03	3931.17	VB	1.0000e6	0.0415	46.1247	0.0000
		11106353.00	626209.63			1.0798	1199.2418	0.0002

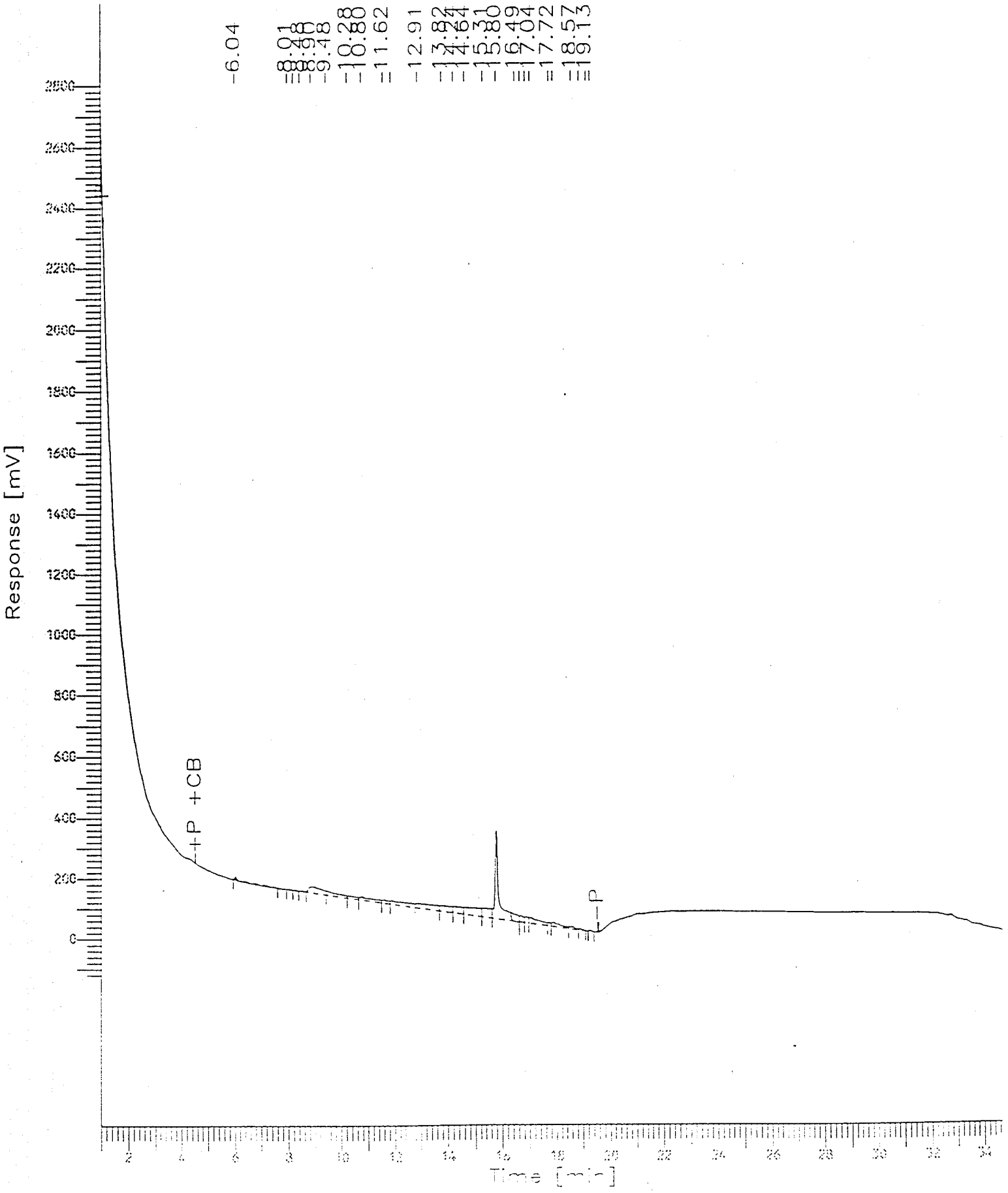
END

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C___092.TXO

Chromatogram

Sample Name : 9406119-088
FileName : l:\data\tchrom\pest\varc\C___092.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -123 mV

Sample #: SC ;S
Date : 06/13/94 18:22
Time of Injection: 06/13/94 17:47
Low Point : -122.81 mV High Point : 2808.38 mV
Plot Scale: 2931 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-09B Time : 06/13/94 21:10
Sample Number: SC ;S Study : MCOSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/13/94 20:35
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C___096.raw
Result File : l:\data\tchrom\pest\varc\C___096.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.033	186462.50	13833.05	BB	9.9999e5	0.0415	26.7348	0.0000
2	8.226	6559.84	1236.46	BB	1.0000e6	0.0415	26.7348	0.0000
3	8.444	18405.16	3829.85	BB	1.0000e6	0.0415	26.7348	0.0000
4	8.825	608210.63	14823.73	BB	1.0000e6	0.0415	26.7348	0.0000
5	9.914	62690.00	1650.23	BB	1.0000e6	0.0415	26.7348	0.0000
6	10.772	62120.16	5349.13	BB	1.0000e6	0.0415	26.7348	0.0000
7	11.581	7354.95	2365.25	BB	1.0000e6	0.0415	26.7348	0.0000
8	11.753	16369.23	2187.43	BV	9.9999e5	0.0415	26.7348	0.0000
9	11.893	43475.82	6812.60	VB	1.0000e6	0.0415	26.7348	0.0000
10	12.901	580806.31	29186.41	BV	1.0000e6	0.0415	26.7348	0.0000
11	13.099	385645.19	28414.82	VV	1.0000e6	0.0415	26.7348	0.0000
12	13.437	473345.84	29330.23	VV	1.0000e6	0.0415	26.7348	0.0000
13	13.674	496985.81	29499.78	VV	1.0000e6	0.0415	26.7348	0.0000
14	13.814	257955.23	29784.72	VV	1.0000e6	0.0415	26.7348	0.0000
15	14.072	339263.72	25245.26	VV	1.0000e6	0.0415	26.7348	0.0000
16	14.251	290892.50	24508.59	VV	9.9999e5	0.0415	26.7348	0.0000
17	14.378	173651.33	21760.74	VV	1.0000e6	0.0415	26.7348	0.0000
18	14.458	78086.56	19785.79	VV	1.0000e6	0.0415	26.7348	0.0000
19	14.636	229450.86	18153.40	VV	9.9999e5	0.0415	26.7348	0.0000
20	14.802	141012.19	14453.81	VV	1.0000e6	0.0415	26.7348	0.0000
21	15.005	141421.33	10528.29	VV	9.9999e5	0.0415	26.7348	0.0000
22	15.148	22190.70	7315.33	VV	1.0000e6	0.0415	26.7348	0.0000
23	15.305	70914.61	6922.21	VV	1.0000e6	0.0415	26.7348	0.0000
24	15.379	34679.69	5162.51	VV	1.0000e6	0.0415	26.7348	0.0000
25	15.578	3915.00	571.99	VB	1.0000e6	0.0415	26.7348	0.0000
26	15.788	1407590.00	228974.30	BE	1.0000e6	0.0415	26.7348	0.0000
27	16.301	30010.00	3440.13	EB	1.0000e6	0.0415	26.7348	0.0000
28	16.794	22740.00	2987.28	BB	9.9999e5	0.0415	26.7348	0.0000
29	17.100	3400.00	637.73	BB	1.0000e6	0.0415	26.7348	0.0000
30	17.258	11857.89	2132.86	BV	1.0000e6	0.0415	26.7348	0.0000
31	17.388	23022.97	3033.24	VE	1.0000e6	0.0415	26.7348	0.0000
32	17.585	630.00	262.62	EV	9.9999e5	0.0415	26.7348	0.0000
33	17.708	10909.14	2044.38	VB	9.9999e5	0.0415	26.7348	0.0000
34	18.095	33212.81	2961.12	BV	1.0000e6	0.0415	26.7348	0.0000
35	18.639	85354.84	5940.89	VV	1.0000e6	0.0415	26.7348	0.0000
36	18.838	16223.48	2507.38	VV	9.9999e5	0.0415	26.7348	0.0000
37	18.982	16141.33	1729.02	VV	9.9999e5	0.0415	26.7348	0.0000
38	19.137	17258.09	2580.16	VV	1.0000e6	0.0415	26.7348	0.0000
39	19.255	27259.45	3834.50	VB	1.0000e6	0.0415	26.7348	0.0000
		6437475.00	615777.19			1.6197	1042.6591	0.0000

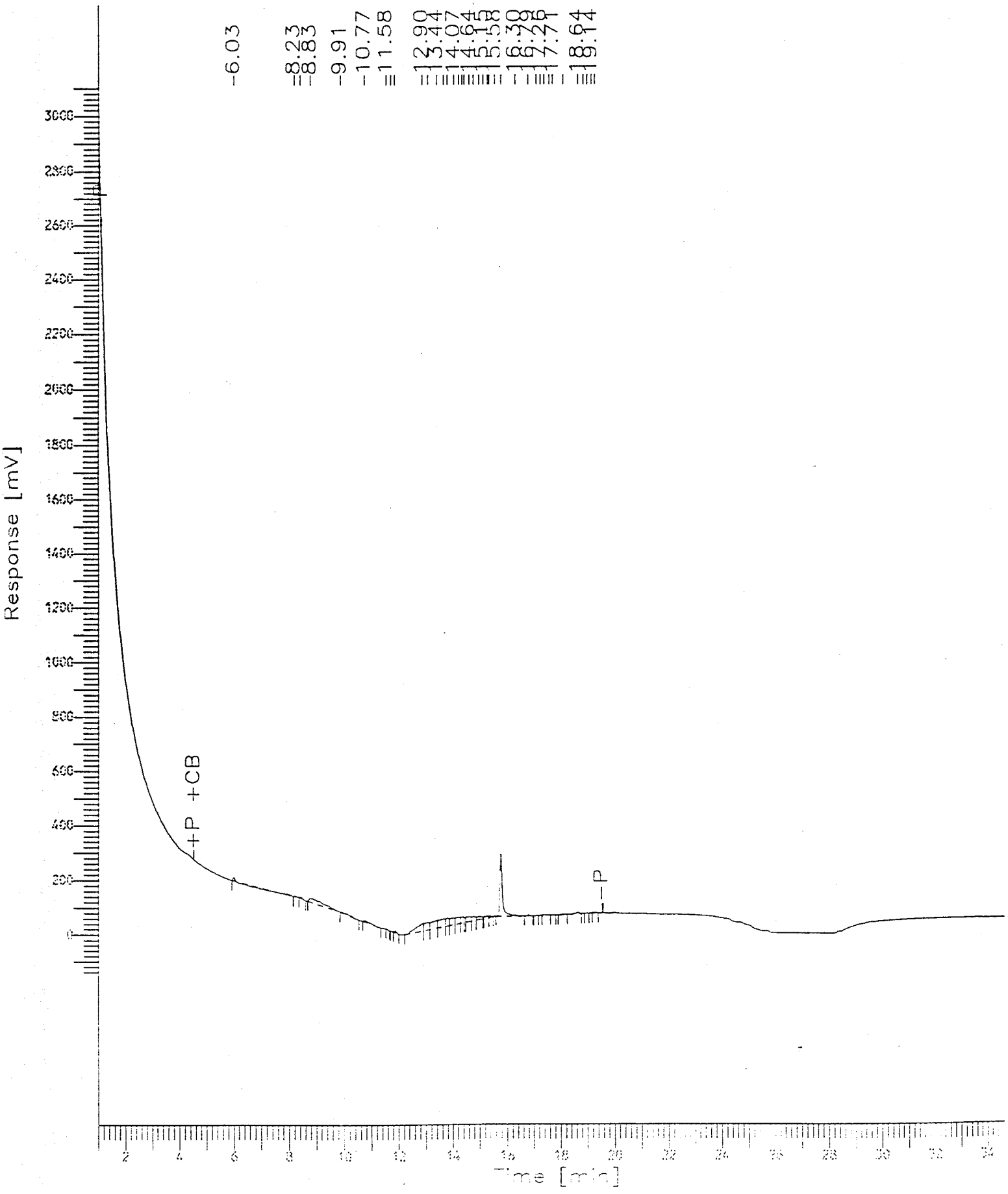
END

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C___096.TXO

Chromatogram

Sample Name : 9406119-09B
FileName : l:\data\tchrom\pest\varc\C___096.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -156 mV

Sample #: SC ;S Page 1 of 1
Date : 06/13/94 21:10
Time of Injection: 06/13/94 20:35
Low Point : -155.57 mV High Point : 3111.68 mV
Plot Scale: 3267 mV



```
Software Version: 3.2 <16C20>
Sample Name  : 9406119-10B              Time         : 6/14/94  08:52 AM
Sample Number: SC ;S                   Study        : MODSD
Operator     : SEG

Instrument   : VARC                    Channel : A     A/D mV Range : 10000
AutoSampler  : NONE
Rack/Vial    : 0/0

Interface Serial # : 8328570191   Data Acquisition Time: 6/13/94  09:17 PM
Delay Time     : 1.00   min.
End Time       : 34.66  min.
Sampling Rate  : 1.0000   pts/sec

Raw Data File  : L:\DATA\TCHROM\PEST\VARC\C___097.raw
Result File    : C:\WINDOWS\TEMP\~rst3B44.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File   : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File    : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File  : <none>

Inj. Volume    : 1 ul                  Area Reject      : 100.00
Sample Amount  : 1.0000                Dilution Factor  : 1.00
```

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	6.041	75792.50	14503.62	BB	1.0000e6	0.0415	39.5829	0.0000
2	7.693	4127.19	504.75	BV	9.9999e5	0.0415	39.5829	0.0000
3	7.994	5353.13	1124.56	VB	1.0000e6	0.0415	39.5829	0.0000
4	8.489	5710.16	1059.53	BB	1.0000e6	0.0415	39.5829	0.0000
5	8.932	368835.00	14896.36	BB	1.0000e6	0.0415	39.5829	0.0000
6	9.481	9317.50	1573.50	BV	1.0000e6	0.0415	39.5829	0.0000
7	10.279	95327.81	2653.12	VV	1.0000e6	0.0415	39.5829	0.0000
8	10.797	157196.88	10503.59	VV	1.0000e6	0.0415	39.5829	0.0000
9	11.072	384237.81	10058.30	VV	9.9999e5	0.0415	39.5829	0.0000
10	11.613	207340.78	19120.18	VV	1.0000e6	0.0415	39.5829	0.0000
11	11.783	92585.08	18639.50	VV	1.0000e6	0.0415	39.5829	0.0000
12	11.914	1410973.13	23179.53	VV	1.0000e6	0.0415	39.5829	0.0000
13	12.891	1015436.56	28021.93	VV	1.0000e6	0.0415	39.5829	0.0000
14	13.691	645974.69	21239.72	VV	1.0000e6	0.0415	39.5829	0.0000
15	14.616	282957.81	11217.52	VB	9.9999e5	0.0415	39.5829	0.0000
16	15.803	1413420.75	247801.80	BE	9.9999e5	0.0415	39.5829	0.0000
17	16.066	280580.00	36583.90	EB	9.9999e5	0.0415	39.5829	0.0000
18	16.457	3740.00	840.53	BB	1.0000e6	0.0415	39.5829	0.0000
19	16.934	173640.03	13879.39	BV	1.0000e6	0.0415	39.5829	0.0000
20	18.163	1724647.50	25352.87	VV	1.0000e6	0.0415	39.5829	0.0000
21	18.649	703316.38	23461.42	VV	1.0000e6	0.0415	39.5829	0.0000
22	19.280	448366.88	9398.26	VV	1.0000e6	0.0415	39.5829	0.0000
23	19.500	22286.80	1174.51	VB	1.0000e6	0.0415	39.5829	0.0000
		9531165.00	536788.38			0.9552	910.4075	0.0002

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END
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51	18.266	964303.44	78202.19	VV	1.0000e6	0.0415	140.8922	0.0000
52	18.485	501284.53	62888.62	VV	1.0000e6	0.0415	140.8922	0.0000
53	18.622	852250.31	58190.98	VV	1.0000e6	0.0415	140.8922	0.0000
54	19.184	250872.19	22082.77	VB	1.0000e6	0.0415	140.8922	0.0000
		33925392.00	3.41e6			2.2426	7608.1733	0.0002

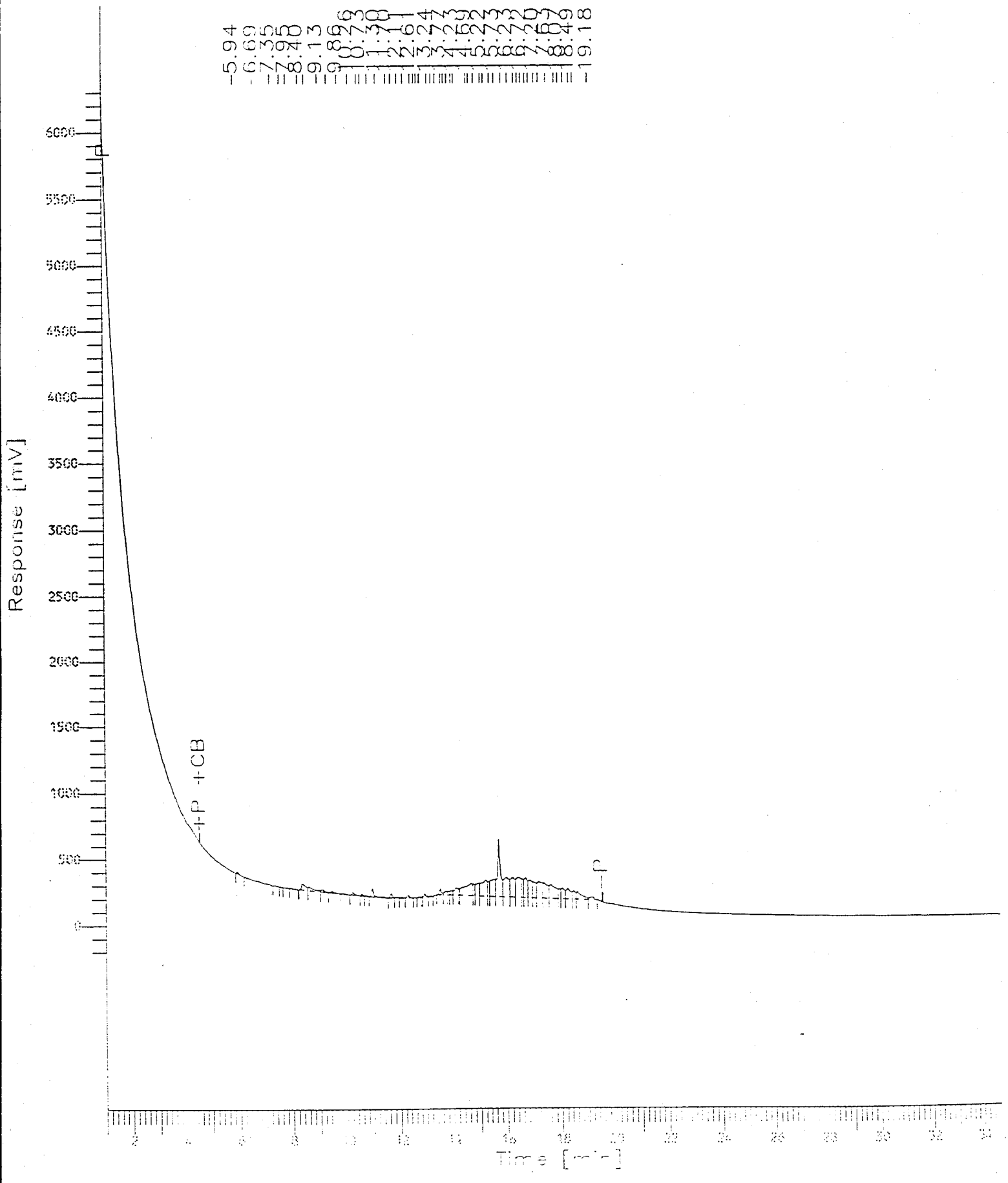
END

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C___131.TXO

Chromatogram

mple Name : 9406119-11B
leName : l:\data\tchrom\pest\varc\C___131.raw
thod : DIESELC.ins
tart Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -264 mV

Sample #: SC ;S
Date : 06/16/94 02:38
Time of Injection: 06/16/94 02:03
Low Point : -263.78 mV High Point : 6361.99 mV
Plot Scale: 6626 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-13B Time : 06/16/94 03:19
Sample Number: SC ;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/16/94 02:44
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C___132.raw
Result File : l:\data\tchrom\pest\varc\C___132.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	4.717	4719977.50	477009.75	BV	1.0000e6	0.0415	563.9883	0.0000
2	4.965	4254255.00	548959.50	VV	1.0000e6	0.0415	563.9883	0.0000
3	5.207	12165640.00	1.38e6	VV	1.0000e6	0.0415	563.9883	0.0000
4	5.385	7656277.50	984412.88	VB	1.0000e6	0.0415	563.9883	0.0000
5	5.682	45790.00	26144.42	BB	9.9999e5	0.0415	563.9883	0.0000
6	5.855	7255687.50	729032.25	BV	1.0000e6	0.0415	563.9883	0.0000
7	6.077	1599656.25	356814.53	VB	1.0000e6	0.0415	563.9883	0.0000
8	6.272	1150619.38	263958.66	BV	1.0000e6	0.0415	563.9883	0.0000
9	6.379	313526.88	71358.56	VV	1.0000e6	0.0415	563.9883	0.0000
10	6.497	464583.13	117619.04	VB	1.0000e6	0.0415	563.9883	0.0000
11	6.667	2621272.50	488326.28	BB	1.0000e6	0.0415	563.9883	0.0000
12	7.142	282880.00	56957.58	BB	1.0000e6	0.0415	563.9883	0.0000
13	7.339	203720.94	62099.88	BB	1.0000e6	0.0415	563.9883	0.0000
14	7.668	47834.38	14092.99	BB	1.0000e6	0.0415	563.9883	0.0000
15	8.164	17264.06	3393.78	BV	1.0000e6	0.0415	563.9883	0.0000
16	8.371	744945.63	89481.31	VV	1.0000e6	0.0415	563.9883	0.0000
17	8.617	423046.25	48409.80	VV	1.0000e6	0.0415	563.9883	0.0000
18	9.127	297027.50	37674.91	VV	1.0000e6	0.0415	563.9883	0.0000
19	9.338	49586.88	17400.51	VV	1.0000e6	0.0415	563.9883	0.0000
20	9.460	238696.25	44981.08	VV	1.0000e6	0.0415	563.9883	0.0000
21	9.832	351115.63	53569.36	VB	1.0000e6	0.0415	563.9883	0.0000
22	10.240	410083.13	66571.01	BV	1.0000e6	0.0415	563.9883	0.0000
23	10.580	425255.94	68263.16	VB	1.0000e6	0.0415	563.9883	0.0000
24	10.976	730766.81	112103.76	BE	1.0000e6	0.0415	563.9883	0.0000
25	11.163	40050.00	9418.64	EV	1.0000e6	0.0415	563.9883	0.0000
26	11.287	86446.41	15706.45	VV	1.0000e6	0.0415	563.9883	0.0000
27	11.397	158356.25	19262.88	VB	1.0000e6	0.0415	563.9883	0.0000
28	11.684	430486.25	62364.01	BV	1.0000e6	0.0415	563.9883	0.0000
29	11.954	112287.19	15787.93	VV	1.0000e6	0.0415	563.9883	0.0000
30	12.079	117216.41	15016.93	VV	1.0000e6	0.0415	563.9883	0.0000
31	12.322	480644.38	50914.53	VV	1.0000e6	0.0415	563.9883	0.0000
32	12.603	203851.88	28149.92	VV	1.0000e6	0.0415	563.9883	0.0000
33	12.752	622978.44	70147.09	VV	1.0000e6	0.0415	563.9883	0.0000
34	12.954	565529.69	78846.85	VV	1.0000e6	0.0415	563.9883	0.0000
35	13.059	380418.59	71763.20	VV	1.0000e6	0.0415	563.9883	0.0000
36	13.393	1408760.63	95853.13	VV	1.0000e6	0.0415	563.9883	0.0000
37	13.568	1112120.88	102664.49	VV	1.0000e6	0.0415	563.9883	0.0000
38	13.783	1181981.38	129389.92	VV	1.0000e6	0.0415	563.9883	0.0000
39	13.974	1776185.25	153896.41	VV	1.0000e6	0.0415	563.9883	0.0000
40	14.204	1907370.88	171792.36	VV	1.0000e6	0.0415	563.9883	0.0000
41	14.340	1578705.00	215000.39	VV	1.0000e6	0.0415	563.9883	0.0000
42	14.553	2853842.75	212674.31	VV	1.0000e6	0.0415	563.9883	0.0000
43	14.776	2859323.75	266758.25	VV	1.0000e6	0.0415	563.9883	0.0000
44	14.902	2708331.75	288311.31	VV	1.0000e6	0.0415	563.9883	0.0000
45	15.102	2759801.25	285380.78	VV	1.0000e6	0.0415	563.9883	0.0000
46	15.301	3407668.75	324905.69	VV	1.0000e6	0.0415	563.9883	0.0000
47	15.427	4397481.00	357159.34	VV	1.0000e6	0.0415	563.9883	0.0000
48	15.735	7706067.50	672894.19	VV	1.0000e6	0.0415	563.9883	0.0000
49	15.925	1380440.50	386728.19	VV	1.0000e6	0.0415	563.9883	0.0000
50	15.992	3455205.25	407714.50	VV	1.0000e6	0.0415	563.9883	0.0000

Software Version: 3.2 <16C20>
Sample Name : 9406119-12B Time : 06/16/94 04:00
Sample Number: SC ;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/16/94 03:25
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C___133.raw
Result File : l:\data\tchrom\pest\varc\C___133.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.914	23940.00	8363.00	BB	1.0000e6	0.0415	46.2736	0.0000
2	8.387	740117.50	39246.24	BB	1.0000e6	0.0415	46.2736	0.0000
3	9.373	106720.00	9815.62	BB	1.0000e6	0.0415	46.2736	0.0000
4	10.236	81940.00	5756.03	BV	9.9999e5	0.0415	46.2736	0.0000
5	10.555	68590.63	5166.50	VB	1.0000e6	0.0415	46.2736	0.0000
6	10.969	72785.00	10051.81	BV	1.0000e6	0.0415	46.2736	0.0000
7	11.605	953556.25	61966.32	VV	1.0000e6	0.0415	46.2736	0.0000
8	12.503	123097.19	12403.81	VV	1.0000e6	0.0415	46.2736	0.0000
9	12.735	123380.94	19866.63	VV	1.0000e6	0.0415	46.2736	0.0000
10	12.927	17590.78	4556.73	VB	1.0000e6	0.0415	46.2736	0.0000
11	13.332	1155067.50	172283.19	BV	1.0000e6	0.0415	46.2736	0.0000
12	13.626	1407542.50	184293.28	VV	1.0000e6	0.0415	46.2736	0.0000
13	14.110	58950.16	9537.90	VV	1.0000e6	0.0415	46.2736	0.0000
14	14.215	68631.25	9475.91	VV	1.0000e6	0.0415	46.2736	0.0000
15	14.419	305001.88	19688.46	VB	9.9999e5	0.0415	46.2736	0.0000
16	15.012	23541.25	3088.87	BV	1.0000e6	0.0415	46.2736	0.0000
17	15.231	217379.38	18302.66	VV	1.0000e6	0.0415	46.2736	0.0000
18	15.706	2397339.75	342214.56	VE	1.0000e6	0.0415	46.2736	0.0000
19	16.222	54540.00	8499.56	EV	1.0000e6	0.0415	46.2736	0.0000
20	16.333	172552.81	15018.38	VV	1.0000e6	0.0415	46.2736	0.0000
21	16.687	13644.69	2280.36	VV	1.0000e6	0.0415	46.2736	0.0000
22	17.089	933724.06	88014.22	VV	1.0000e6	0.0415	46.2736	0.0000
23	17.407	367462.81	64884.87	VV	1.0000e6	0.0415	46.2736	0.0000
24	17.499	646463.44	56073.79	VE	1.0000e6	0.0415	46.2736	0.0000
25	18.006	109810.00	11647.82	EV	1.0000e6	0.0415	46.2736	0.0000
26	18.144	52253.13	5699.50	VB	1.0000e6	0.0415	46.2736	0.0000
27	18.462	2898.75	797.62	BV	1.0000e6	0.0415	46.2736	0.0000
28	18.590	52879.53	7338.03	VV	1.0000e6	0.0415	46.2736	0.0000
29	18.894	382994.06	31876.90	VV	1.0000e6	0.0415	46.2736	0.0000
30	19.158	407803.13	41792.97	VB	1.0000e6	0.0415	46.2736	0.0000
		11142198.00	1.27e6			1.2459	1388.2067	0.0003

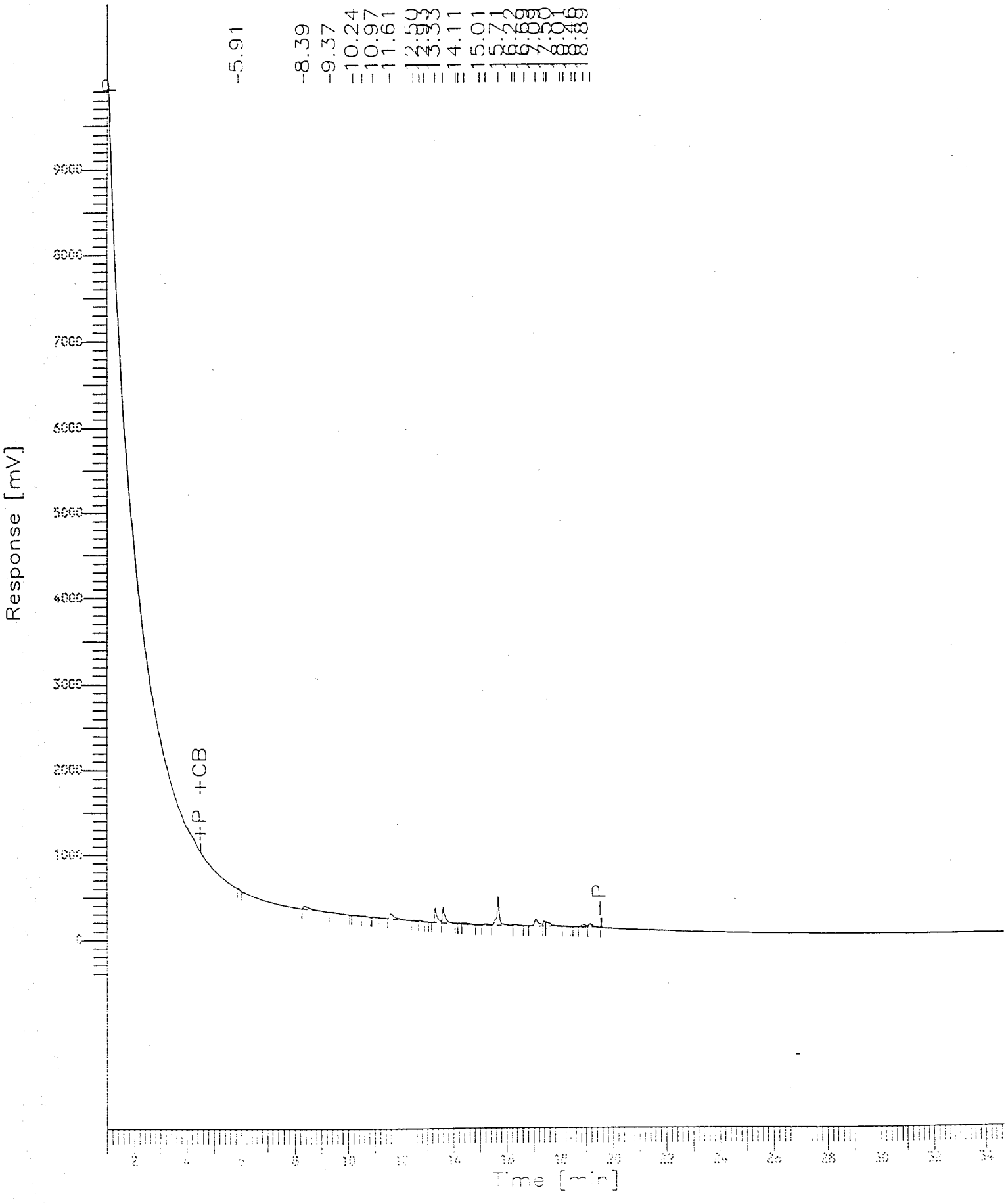
END

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C___133.TXO

Chromatogram

Sample Name : 9406119-12B
FileName : l:\data\tchrom\pest\varc\C___133.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -447 mV

Sample #: SC ;S
Date : 06/16/94 04:00
Time of Injection: 06/16/94 03:25
Low Point : -446.76 mV High Point : 9999.99 mV
Plot Scale: 10447 mV



51	16.126	1060372.50	355263.94	VV	1.0000e6	0.0415	563.9883	0.0000
52	16.259	3700951.75	385166.25	VV	1.0000e6	0.0415	563.9883	0.0000
53	16.413	3068620.50	401896.38	VV	1.0000e6	0.0415	563.9883	0.0000
54	16.509	5207397.00	403964.06	VV	1.0000e6	0.0415	563.9883	0.0000
55	16.715	2054210.25	348806.31	VV	1.0000e6	0.0415	563.9883	0.0000
56	16.882	3943028.75	395164.13	VV	1.0000e6	0.0415	563.9883	0.0000
57	16.997	3215613.50	345319.69	VV	9.9999e5	0.0415	563.9883	0.0000
58	17.172	2491743.50	314330.88	VV	1.0000e6	0.0415	563.9883	0.0000
59	17.316	5295190.00	327490.56	VV	1.0000e6	0.0415	563.9883	0.0000
60	17.605	1802490.63	259238.14	VV	1.0000e6	0.0415	563.9883	0.0000
61	17.728	2667151.75	260179.31	VV	1.0000e6	0.0415	563.9883	0.0000
62	17.920	3438481.75	221885.47	VV	1.0000e6	0.0415	563.9883	0.0000
63	18.192	3824856.25	184593.73	VV	1.0000e6	0.0415	563.9883	0.0000
64	18.617	2472351.50	133888.42	VV	1.0000e6	0.0415	563.9883	0.0000
65	19.062	436560.31	52855.53	VV	1.0000e6	0.0415	563.9883	0.0000
66	19.196	462525.31	47656.70	VB	1.0000e6	0.0415	563.9883	0.0000
		1.35e8	1.50e7			2.7410	37223.2266	0.0001

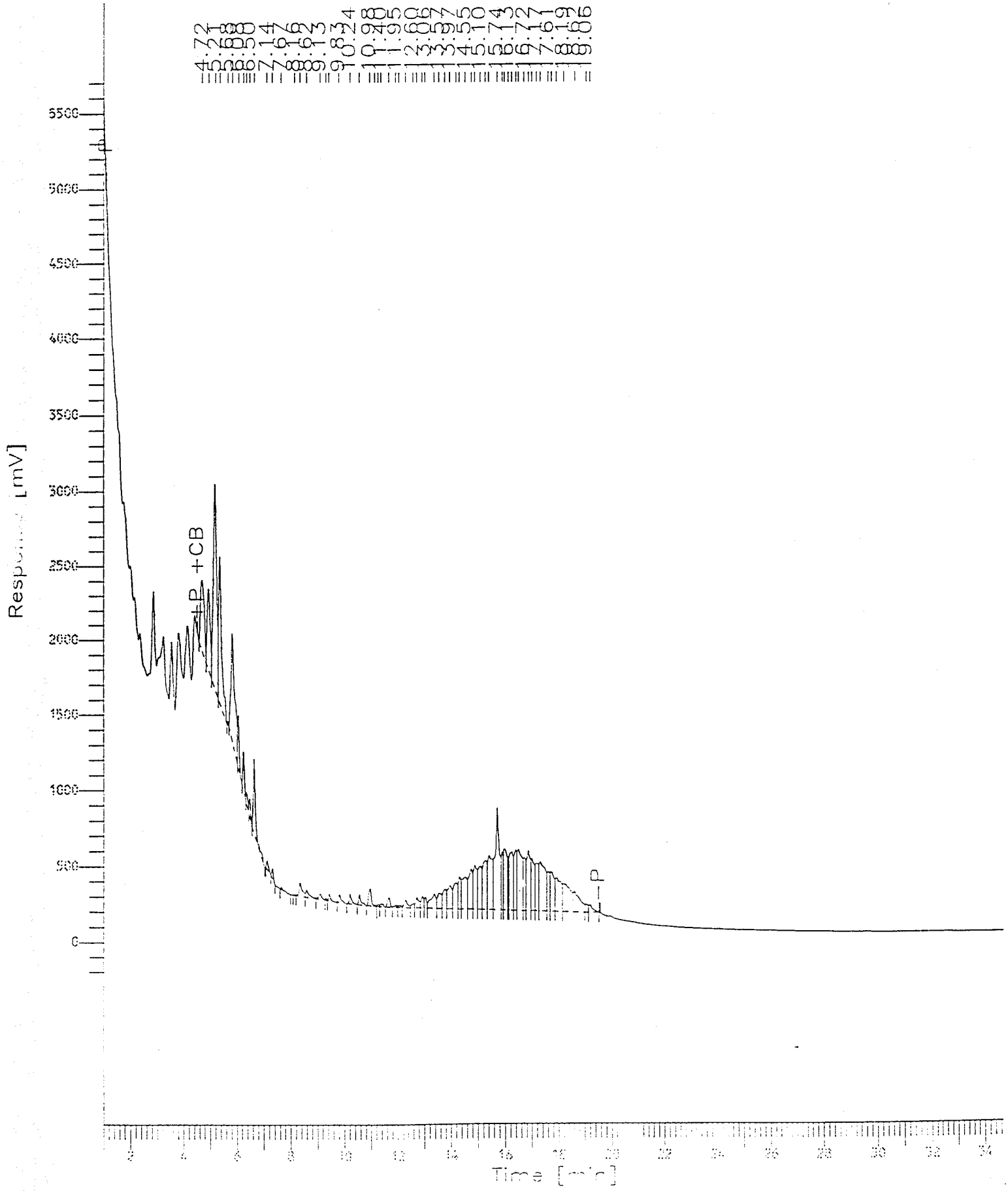
END

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C___132.TXO

Chromatogram

Sample Name : 9406119-13B
FileName : l:\data\tchrom\pest\varc\C___132.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -228 mV

Sample #: SC ;S
Date : 06/16/94 03:19
Time of Injection: 06/16/94 02:44
Low Point : -228.19 mV High Point : 5703.84 mV
Plot Scale: 5932 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-148 Time : 06/14/94 09:02
Sample Number: SC ;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/13/94 21:58
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : L:\DATA\TCHROM\PEST\VARC\C___098.raw
Result File : C:\DOS\~rst013D.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : <none>

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

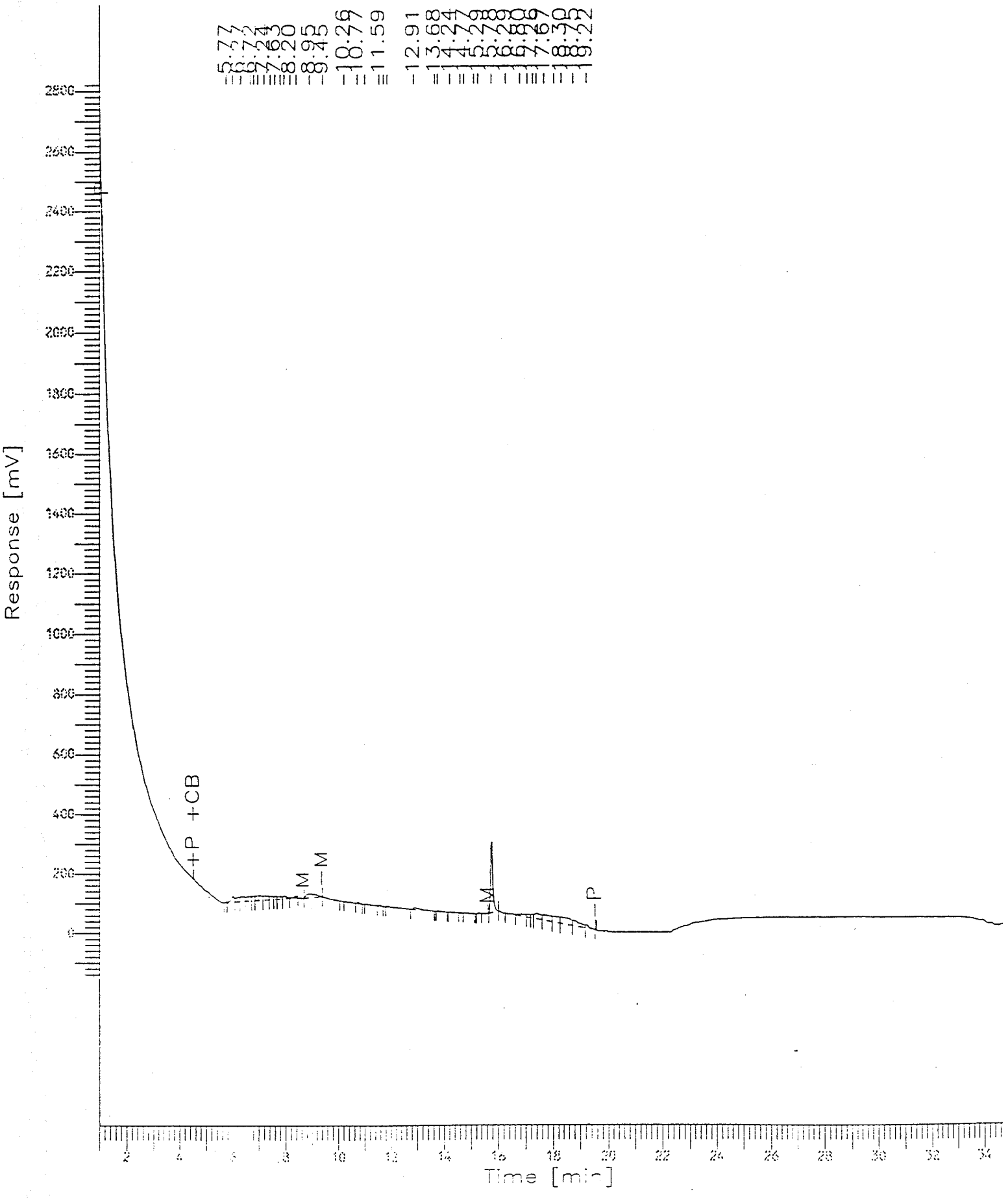
Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.770	12196.80	2518.30	BV	1.0000e6	0.0415	25.9561	0.0000
2	6.027	177554.84	20404.95	VV	1.0000e6	0.0415	25.9561	0.0000
3	6.267	177709.53	15911.14	VV	1.0000e6	0.0415	25.9561	0.0000
4	6.351	209035.31	17102.69	VV	1.0000e6	0.0415	25.9561	0.0000
5	6.719	215610.00	15715.25	VV	1.0000e6	0.0415	25.9561	0.0000
6	6.840	109145.39	15670.10	VV	1.0000e6	0.0415	25.9561	0.0000
7	6.999	282204.06	16473.29	VV	1.0000e6	0.0415	25.9561	0.0000
8	7.237	193465.78	14776.39	VV	1.0000e6	0.0415	25.9561	0.0000
9	7.461	115687.97	12527.99	VV	1.0000e6	0.0415	25.9561	0.0000
10	7.633	77975.63	10251.74	VV	1.0000e6	0.0415	25.9561	0.0000
11	7.844	102558.75	8576.97	VV	1.0000e6	0.0415	25.9561	0.0000
12	7.982	103244.22	9846.86	VV	1.0000e6	0.0415	25.9561	0.0000
13	8.198	27827.27	3812.27	VE	1.0000e6	0.0415	25.9561	0.0000
14	8.427	2560.00	626.59	EB	1.0000e6	0.0415	25.9561	0.0000
15	8.946	347305.00	13441.83	BB	1.0000e6	0.0415	25.9561	0.0000
16	9.453	16735.00	1547.49	BB	9.9999e5	0.0415	25.9561	0.0000
17	10.263	5882.19	627.07	BV	1.0000e6	0.0415	25.9561	0.0000
18	10.765	24577.19	4096.69	VB	1.0000e6	0.0415	25.9561	0.0000
19	11.036	5638.44	827.65	BV	1.0000e6	0.0415	25.9561	0.0000
20	11.585	14811.25	3256.20	VB	1.0000e6	0.0415	25.9561	0.0000
21	11.753	3895.70	877.82	BV	1.0000e6	0.0415	25.9561	0.0000
22	11.887	36749.38	3800.52	VB	1.0000e6	0.0415	25.9561	0.0000
23	12.906	119869.69	7516.58	BB	1.0000e6	0.0415	25.9561	0.0000
24	13.681	1500.00	463.64	BV	1.0000e6	0.0415	25.9561	0.0000
25	13.793	12090.00	2195.89	VB	1.0000e6	0.0415	25.9561	0.0000
26	14.237	9178.13	1244.71	BV	9.9999e5	0.0415	25.9561	0.0000
27	14.623	5894.45	1242.04	VV	1.0000e6	0.0415	25.9561	0.0000
28	14.770	11252.66	1202.30	VB	1.0000e6	0.0415	25.9561	0.0000
29	15.144	520.00	294.80	BB	1.0000e6	0.0415	25.9561	0.0000
30	15.289	8955.00	1791.36	BB	1.0000e6	0.0415	25.9561	0.0000
31	15.778	1301485.50	240492.05	BB	1.0000e6	0.0415	25.9561	0.0000
32	16.294	31587.19	1156.15	BV	1.0000e6	0.0415	25.9561	0.0000
33	16.801	155421.64	7686.68	VV	1.0000e6	0.0415	25.9561	0.0000
34	17.072	95520.39	10611.53	VV	1.0000e6	0.0415	25.9561	0.0000
35	17.261	91354.10	13977.90	VV	1.0000e6	0.0415	25.9561	0.0000
36	17.388	328867.09	18917.28	VV	9.9999e5	0.0415	25.9561	0.0000
37	17.666	408989.59	19401.83	VV	9.9999e5	0.0415	25.9561	0.0000
38	18.045	366997.16	21643.71	VV	1.0000e6	0.0415	25.9561	0.0000
39	18.302	563895.44	21946.93	VV	9.9999e5	0.0415	25.9561	0.0000
40	18.748	380638.59	18113.39	VV	1.0000e6	0.0415	25.9561	0.0000
41	19.220	93573.79	11284.31	VB	1.0000e6	0.0415	25.9561	0.0000
		6249966.00	593872.88			1.7027	1064.2006	0.0007

END

Chromatogram

Sample Name : 9406119-14B
FileName : L:\DATA\TCHROM\PEST\VARC\C___098.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -141 mV

Sample #: SC ;S Page 1 of 1
Date : 06/14/94 09:02
Time of Injection: 06/13/94 21:58
Low Point : -141.10 mV High Point : 2822.27 mV
Plot Scale: 2963 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-148 Time : 06/13/94 22:32
Sample Number: SC ;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/13/94 21:58
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C___098.raw
Result File : l:\data\tchrom\pest\varc\C___098.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

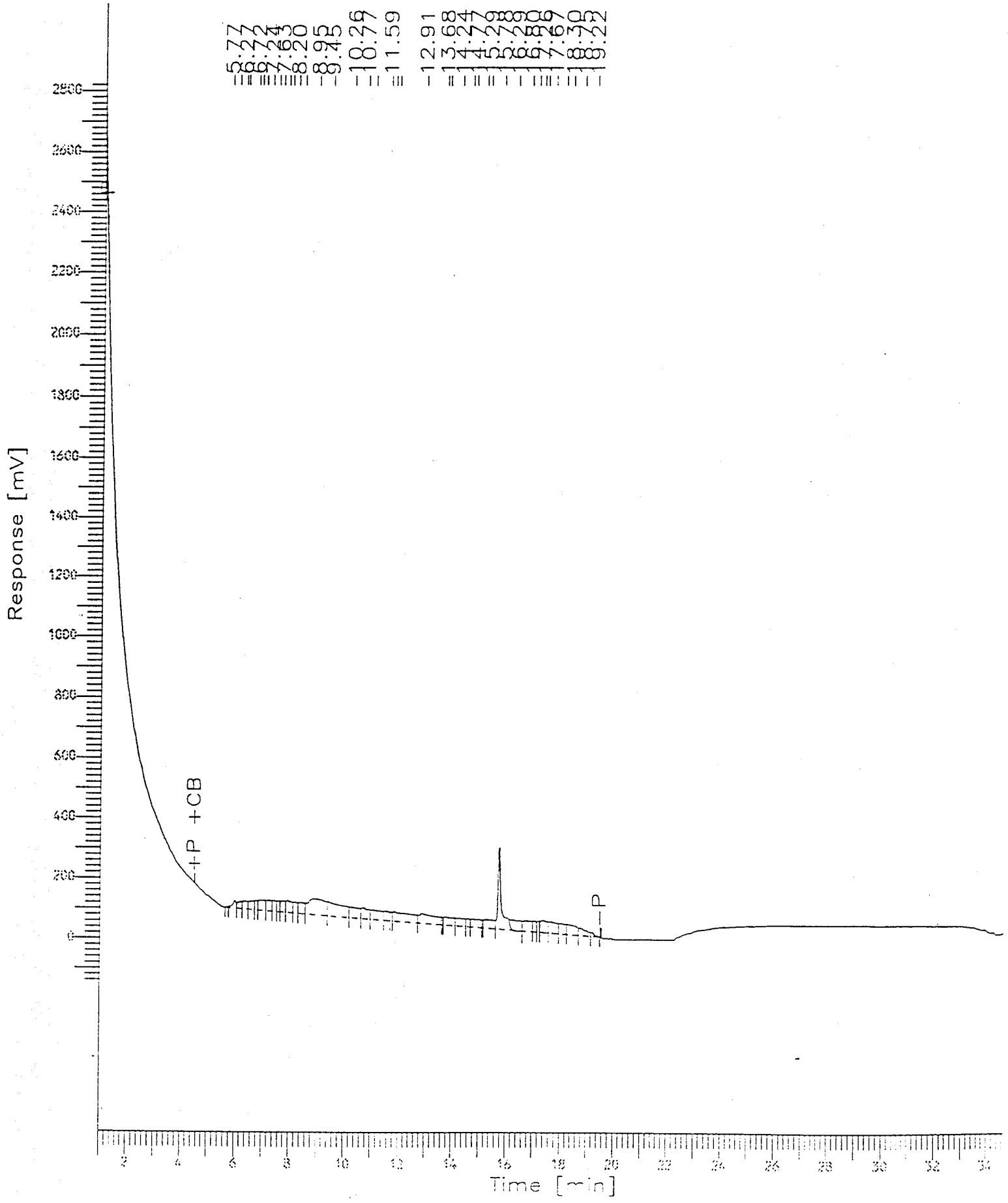
Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.770	17522.97	3653.58	BV	1.0000e6	0.0415	113.3574	0.0000
2	6.027	240164.38	24887.66	VV	1.0000e6	0.0415	113.3574	0.0000
3	6.267	258580.23	23519.94	VV	1.0000e6	0.0415	113.3574	0.0000
4	6.351	331971.78	25814.50	VV	9.9999e5	0.0415	113.3574	0.0000
5	6.719	389090.63	29229.93	VV	1.0000e6	0.0415	113.3574	0.0000
6	6.840	211864.22	30759.24	VV	1.0000e6	0.0415	113.3574	0.0000
7	6.999	595251.88	33635.36	VV	1.0000e6	0.0415	113.3574	0.0000
8	7.237	485643.75	35038.82	VV	1.0000e6	0.0415	113.3574	0.0000
9	7.461	350473.91	35710.13	VV	1.0000e6	0.0415	113.3574	0.0000
10	7.633	281456.72	35677.00	VV	1.0000e6	0.0415	113.3574	0.0000
11	7.844	433867.72	36758.53	VV	1.0000e6	0.0415	113.3574	0.0000
12	7.982	593685.94	39831.06	VV	1.0000e6	0.0415	113.3574	0.0000
13	8.198	396345.84	36615.18	VV	1.0000e6	0.0415	113.3574	0.0000
14	8.427	576647.50	36359.13	VV	9.9999e5	0.0415	113.3574	0.0000
15	8.946	2314362.25	53447.75	VV	1.0000e6	0.0415	113.3574	0.0000
16	9.453	1978840.25	47414.92	VV	1.0000e6	0.0415	113.3574	0.0000
17	10.263	902727.00	36718.16	VV	1.0000e6	0.0415	113.3574	0.0000
18	10.765	676236.56	37114.55	VV	1.0000e6	0.0415	113.3574	0.0000
19	11.036	897367.31	32324.22	VV	1.0000e6	0.0415	113.3574	0.0000
20	11.585	427061.47	32759.83	VV	1.0000e6	0.0415	113.3574	0.0000
21	11.753	177523.39	29856.88	VV	1.0000e6	0.0415	113.3574	0.0000
22	11.887	1594211.25	32367.96	VV	1.0000e6	0.0415	113.3574	0.0000
23	12.906	1478131.88	33305.81	VV	1.0000e6	0.0415	113.3574	0.0000
24	13.681	103302.42	25915.49	VV	1.0000e6	0.0415	113.3574	0.0000
25	13.793	696460.31	27592.71	VV	1.0000e6	0.0415	113.3574	0.0000
26	14.237	596904.75	26669.08	VV	1.0000e6	0.0415	113.3574	0.0000
27	14.623	264353.63	27076.97	VV	1.0000e6	0.0415	113.3574	0.0000
28	14.770	638789.75	27193.49	VV	9.9999e5	0.0415	113.3574	0.0000
29	15.144	106315.52	26728.60	VV	1.0000e6	0.0415	113.3574	0.0000
30	15.289	767788.81	29390.10	VV	1.0000e6	0.0415	113.3574	0.0000
31	15.778	2530271.00	273690.22	VE	1.0000e6	0.0415	113.3574	0.0000
32	16.294	863830.00	34185.37	EV	1.0000e6	0.0415	113.3574	0.0000
33	16.801	808990.63	36353.32	VV	1.0000e6	0.0415	113.3574	0.0000
34	17.072	325927.84	36416.45	VV	1.0000e6	0.0415	113.3574	0.0000
35	17.261	260706.67	37788.63	VV	1.0000e6	0.0415	113.3574	0.0000
	17.388	745078.56	41394.34	VV	1.0000e6	0.0415	113.3574	0.0000
	17.666	811564.81	38942.93	VV	1.0000e6	0.0415	113.3574	0.0000
	18.045	633034.63	37177.63	VV	9.9999e5	0.0415	113.3574	0.0000
	18.302	856061.63	34773.74	VV	1.0000e6	0.0415	113.3574	0.0000
40	18.748	548143.69	26232.25	VV	1.0000e6	0.0415	113.3574	0.0000
41	19.220	128768.96	14414.89	VB	9.9999e5	0.0415	113.3574	0.0000
		27295316.00	1.56e6			1.7027	4647.6548	0.0002

END

Chromatogram

Sample Name : 9406119-14B
FileName : l:\data\tchrom\pest\varc\C___098.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -141 mV

Sample #: SC ;S Page 1 of 1
Date : 06/13/94 22:33
Time of Injection: 06/13/94 21:58
Low Point : -141.10 mV High Point : 2822.27 mV
Plot Scale: 2963 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-14MSD Time : 06/16/94 01:16
Sample Number: KMD;S Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 06/16/94 12:41
Delay Time : 1.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : l:\data\tchrom\pest\varc\C___129.raw
Result File : l:\data\tchrom\pest\varc\C___129.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.seq

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 1.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	4.883	4164535.00	567473.94	BV	1.0000e6	0.0415	2538.4854	0.0000
2	5.227	724625.63	111137.35	VB	1.0000e6	0.0415	2538.4854	0.0000
3	5.414	276098.13	45143.03	BV	1.0000e6	0.0415	2538.4854	0.0000
4	5.583	333841.88	63512.77	VV	1.0000e6	0.0415	2538.4854	0.0000
5	5.714	1344128.75	165232.45	VV	1.0000e6	0.0415	2538.4854	0.0000
6	5.884	2018826.25	293088.00	VV	1.0000e6	0.0415	2538.4854	0.0000
7	5.989	2112549.25	227030.42	VV	1.0000e6	0.0415	2538.4854	0.0000
8	6.294	1887282.50	299991.38	VV	1.0000e6	0.0415	2538.4854	0.0000
9	6.491	8517722.00	1.36e6	VV	1.0000e6	0.0415	2538.4854	0.0000
10	6.668	5690140.00	685498.44	VV	1.0000e6	0.0415	2538.4854	0.0000
11	6.944	3502076.25	359511.09	VV	1.0000e6	0.0415	2538.4854	0.0000
12	7.220	8387100.00	942308.25	VV	1.0000e6	0.0415	2538.4854	0.0000
13	7.338	6285682.50	855146.25	VV	1.0000e6	0.0415	2538.4854	0.0000
14	7.631	18668050.00	2.32e6	VV	9.9999e5	0.0415	2538.4854	0.0000
15	7.800	11902022.00	1.28e6	VV	1.0000e6	0.0415	2538.4854	0.0000
16	8.040	5546617.00	879872.44	VV	1.0000e6	0.0415	2538.4854	0.0000
17	8.183	4543694.50	809893.44	VV	1.0000e6	0.0415	2538.4854	0.0000
18	8.256	4483858.50	968995.31	VV	1.0000e6	0.0415	2538.4854	0.0000
19	8.362	10126864.00	1.31e6	VV	9.9999e5	0.0415	2538.4854	0.0000
20	8.504	4561242.50	1.31e6	VV	1.0000e6	0.0415	2538.4854	0.0000
21	8.585	20307368.00	3.49e6	VV	1.0000e6	0.0415	2538.4854	0.0000
22	8.746	16485415.00	1.96e6	VV	1.0000e6	0.0415	2538.4854	0.0000
23	8.992	12770377.00	1.51e6	VV	1.0000e6	0.0415	2538.4854	0.0000
24	9.119	19654478.00	1.94e6	VV	1.0000e6	0.0415	2538.4854	0.0000
25	9.434	31177512.00	4.34e6	VV	1.0000e6	0.0415	2538.4854	0.0000
26	9.673	15749392.00	1.55e6	VV	1.0000e6	0.0415	2538.4854	0.0000
27	9.837	13840327.00	2.00e6	VV	1.0000e6	0.0415	2538.4854	0.0000
28	9.947	13594544.00	1.88e6	VV	1.0000e6	0.0415	2538.4854	0.0000
29	10.218	39398136.00	4.95e6	VV	1.0000e6	0.0415	2538.4854	0.0000
30	10.411	10473669.00	1.35e6	VV	1.0000e6	0.0415	2538.4854	0.0000
31	10.585	31929128.00	2.61e6	VV	1.0000e6	0.0415	2538.4854	0.0000
32	10.964	45488208.00	5.19e6	VV	1.0000e6	0.0415	2538.4854	0.0000
33	11.189	7175497.50	1.44e6	VV	1.0000e6	0.0415	2538.4854	0.0000
34	11.355	30672198.00	1.75e6	VV	1.0000e6	0.0415	2538.4854	0.0000
35	11.653	36663368.00	4.00e6	VV	1.0000e6	0.0415	2538.4854	0.0000
36	11.933	13564204.00	1.46e6	VV	1.0000e6	0.0415	2538.4854	0.0000
37	12.069	14778864.00	1.53e6	VV	1.0000e6	0.0415	2538.4854	0.0000
38	12.310	26841874.00	3.27e6	VV	1.0000e6	0.0415	2538.4854	0.0000
39	12.463	6699400.50	1.14e6	VV	1.0000e6	0.0415	2538.4854	0.0000
40	12.582	7682883.50	1.16e6	VV	1.0000e6	0.0415	2538.4854	0.0000
41	12.721	11533645.00	1.14e6	VV	1.0000e6	0.0415	2538.4854	0.0000
42	12.940	21823004.00	2.36e6	VV	1.0000e6	0.0415	2538.4854	0.0000
43	13.194	7592519.50	910435.94	VV	1.0000e6	0.0415	2538.4854	0.0000
44	13.384	8547309.00	852332.19	VV	1.0000e6	0.0415	2538.4854	0.0000
45	13.546	11181455.00	1.51e6	VV	1.0000e6	0.0415	2538.4854	0.0000
46	13.763	5748468.50	569044.44	VV	1.0000e6	0.0415	2538.4854	0.0000
47	13.961	5138991.00	504008.47	VV	1.0000e6	0.0415	2538.4854	0.0000
48	14.125	6903380.00	900906.50	VV	1.0000e6	0.0415	2538.4854	0.0000
49	14.331	2470997.75	306222.41	VV	1.0000e6	0.0415	2538.4854	0.0000
50	14.461	2396155.50	245272.11	VV	9.9999e5	0.0415	2538.4854	0.0000

51	14.686	4531522.00	379199.72	VV	1.0000e6	0.0415	2538.4854	0.0000
52	15.224	1380964.38	136834.09	VV	1.0000e6	0.0415	2538.4854	0.0000
53	15.737	1657642.13	365950.22	VB	1.0000e6	0.0415	2538.4854	0.0000
54	15.992	4145.00	2618.04	BB	9.9999e5	0.0415	2538.4854	0.0000
55	16.245	48399.69	14787.02	BB	1.0000e6	0.0415	2538.4854	0.0000
56	16.724	39510.00	9082.14	BB	1.0000e6	0.0415	2538.4854	0.0000
57	17.193	24842.19	5777.71	BV	1.0000e6	0.0415	2538.4854	0.0000
58	17.326	16727.66	2436.13	VB	1.0000e6	0.0415	2538.4854	0.0000
59	17.639	19780.00	4526.45	BB	9.9999e5	0.0415	2538.4854	0.0000
60	18.063	27545.47	5064.40	BV	1.0000e6	0.0415	2538.4854	0.0000
61	18.295	4367.89	422.08	VV	9.9999e5	0.0415	2538.4854	0.0000
62	18.507	17215.00	3668.78	VV	1.0000e6	0.0415	2538.4854	0.0000
63	18.612	62915.00	6712.95	VV	1.0000e6	0.0415	2538.4854	0.0000
64	18.926	12637.19	2016.04	VV	1.0000e6	0.0415	2538.4854	0.0000
65	19.210	33689.53	4665.03	VB	9.9999e5	0.0415	2538.4854	0.0000
		6.11e8	7.37e7			2.6995	1.6500e5	0.0000

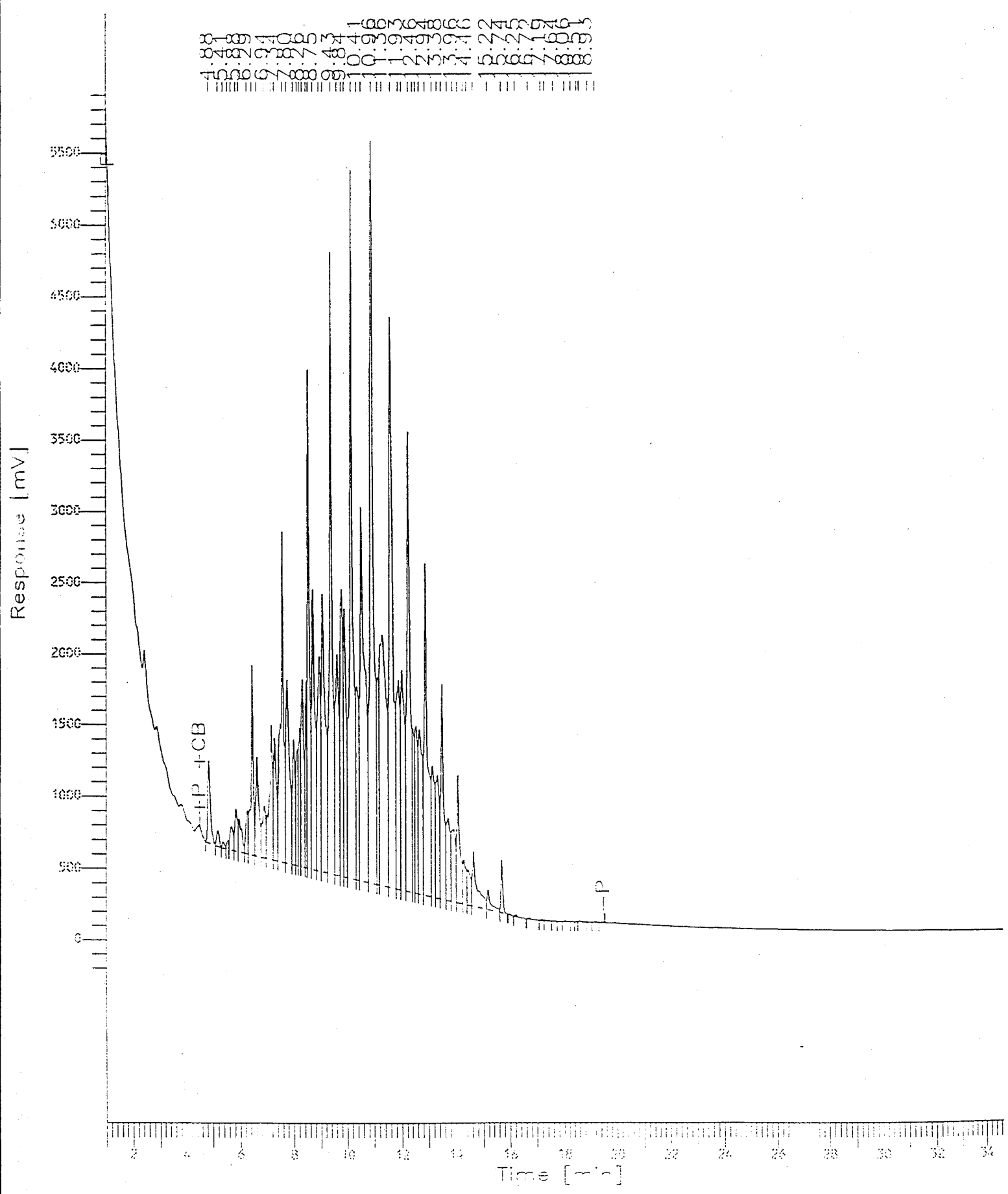
END

Report Stored in ASCII File: l:\data\tchrom\pest\varc\C___129.TXO

Chromatogram

Sample Name : 9406119-14MSD
FileName : l:\data\tchrom\pest\varc\C___129.raw
Method : DIESELC.ins
Start Time : 1.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: -234 mV

Sample #: KMD;S
Date : 06/16/94 01:16
Time of Injection: 06/16/94 12:41
Low Point : -234.18 mV High Point : 5930.03 mV



Software Version: 3.2 <16C20>
Sample Name : 9406119-01B Time : 6/17/94 11:36 AM
Sample Number: SC ;S;25 Study : MODSD
Operator : SEG

Instrument : VARC Channel : A A/D mV Range : 10000
AutoSampler : NONE
Rack/Vial : 0/0

Interface Serial # : 8328570191 Data Acquisition Time: 6/17/94 10:24 AM
Delay Time : 3.00 min.
End Time : 34.66 min.
Sampling Rate : 1.0000 pts/sec

Raw Data File : L:\DATA\TCHROM\PEST\VARC\C___176.raw
Result File : C:\WINDOWS\TEMP\~rst080A.rst
Instrument File: L:\DATA\TCHROM\PEST\METHODS\DIESELC.ins
Process File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.prc
Sample File : L:\DATA\TCHROM\PEST\METHODS\DIESELC.smp
Sequence File : <none>

Inj. Volume : 1 ul Area Reject : 100.00
Sample Amount : 1.0000 Dilution Factor : 25.00

DIESEL Area Percent Report

Peak #	Ret Time [min]	Area [uV-sec]	Height [uV]	BL	Area/ Amount	RF VALUE	DIESEL AMT. PPM	STD RF VALUE
1	5.109	275940.00	3025.98	BB	1.0000e6	0.0415	19006.8359	0.0000
2	7.243	11015.16	2146.12	BB	1.0000e6	0.0415	19006.8359	0.0000
3	7.568	29950.00	3955.12	BB	1.0000e6	0.0415	19006.8359	0.0000
4	7.866	24374.84	3516.12	BV	1.0000e6	0.0415	19006.8359	0.0000
5	8.009	10665.31	2167.43	VB	1.0000e6	0.0415	19006.8359	0.0000
6	8.197	21055.00	3917.33	BB	1.0000e6	0.0415	19006.8359	0.0000
7	8.340	6340.00	1728.72	BB	1.0000e6	0.0415	19006.8359	0.0000
8	8.497	1137.46	564.78	BV	1.0000e6	0.0415	19006.8359	0.0000
9	8.659	46849.30	8797.29	VV	1.0000e6	0.0415	19006.8359	0.0000
10	8.775	49759.14	9116.08	VV	1.0000e6	0.0415	19006.8359	0.0000
11	9.027	286038.59	22789.95	VV	9.9999e5	0.0415	19006.8359	0.0000
12	9.173	99465.86	21037.84	VV	1.0000e6	0.0415	19006.8359	0.0000
13	9.266	271646.25	29921.60	VV	9.9999e5	0.0415	19006.8359	0.0000
14	9.378	140940.31	28923.66	VV	1.0000e6	0.0415	19006.8359	0.0000
15	9.559	294712.97	36538.93	VV	1.0000e6	0.0415	19006.8359	0.0000
16	9.754	607124.81	53624.73	VV	1.0000e6	0.0415	19006.8359	0.0000
17	9.858	449714.69	59627.21	VV	1.0000e6	0.0415	19006.8359	0.0000
18	10.023	537880.94	62752.76	VV	9.9999e5	0.0415	19006.8359	0.0000
19	10.394	1644484.38	90569.21	VV	1.0000e6	0.0415	19006.8359	0.0000
20	10.674	1651923.88	114352.77	VV	1.0000e6	0.0415	19006.8359	0.0000
21	10.953	2198718.25	141168.67	VV	1.0000e6	0.0415	19006.8359	0.0000
22	11.116	1326381.38	153364.59	VV	1.0000e6	0.0415	19006.8359	0.0000
23	11.468	5834111.00	362099.06	VV	9.9999e5	0.0415	19006.8359	0.0000
24	11.635	1324730.88	227368.50	VV	1.0000e6	0.0415	19006.8359	0.0000
25	11.820	1793807.38	232451.98	VV	1.0000e6	0.0415	19006.8359	0.0000
26	12.182	6917105.00	308428.25	VV	1.0000e6	0.0415	19006.8359	0.0000
27	12.322	1761309.00	297855.88	VV	1.0000e6	0.0415	19006.8359	0.0000
28	12.521	4081892.50	329748.63	VV	1.0000e6	0.0415	19006.8359	0.0000
29	12.650	3654740.25	344967.66	VV	1.0000e6	0.0415	19006.8359	0.0000
30	12.975	5197095.50	359678.59	VV	1.0000e6	0.0415	19006.8359	0.0000
31	13.044	1753751.50	355478.75	VV	1.0000e6	0.0415	19006.8359	0.0000
32	13.138	1765746.25	356139.03	VV	1.0000e6	0.0415	19006.8359	0.0000
33	13.283	3585206.75	364328.19	VV	1.0000e6	0.0415	19006.8359	0.0000
34	13.470	3373581.25	386302.22	VV	1.0000e6	0.0415	19006.8359	0.0000
35	13.535	1544610.25	391423.28	VV	1.0000e6	0.0415	19006.8359	0.0000
36	13.674	3523115.00	399012.66	VV	1.0000e6	0.0415	19006.8359	0.0000
37	13.754	2817444.75	407955.22	VV	1.0000e6	0.0415	19006.8359	0.0000
38	13.943	3665484.00	410736.63	VV	1.0000e6	0.0415	19006.8359	0.0000
39	14.099	4646993.00	431330.19	VV	9.9999e5	0.0415	19006.8359	0.0000
40	14.297	3842692.50	430383.72	VV	1.0000e6	0.0415	19006.8359	0.0000
41	14.538	7481983.50	449496.06	VV	1.0000e6	0.0415	19006.8359	0.0000
42	14.685	4908934.50	449977.25	VV	1.0000e6	0.0415	19006.8359	0.0000
43	14.862	3196401.25	460135.38	VV	9.9999e5	0.0415	19006.8359	0.0000
44	14.949	2288132.00	458423.56	VV	1.0000e6	0.0415	19006.8359	0.0000
45	15.033	2770511.25	467998.19	VV	1.0000e6	0.0415	19006.8359	0.0000
46	15.113	1379883.00	461967.56	VV	9.9999e5	0.0415	19006.8359	0.0000
47	15.180	3203675.00	460463.75	VV	1.0000e6	0.0415	19006.8359	0.0000
48	15.289	2277966.25	457713.31	VV	1.0000e6	0.0415	19006.8359	0.0000
49	15.362	1836476.88	460255.84	VV	1.0000e6	0.0415	19006.8359	0.0000
50	15.436	3656243.00	463738.03	VV	1.0000e6	0.0415	19006.8359	0.0000

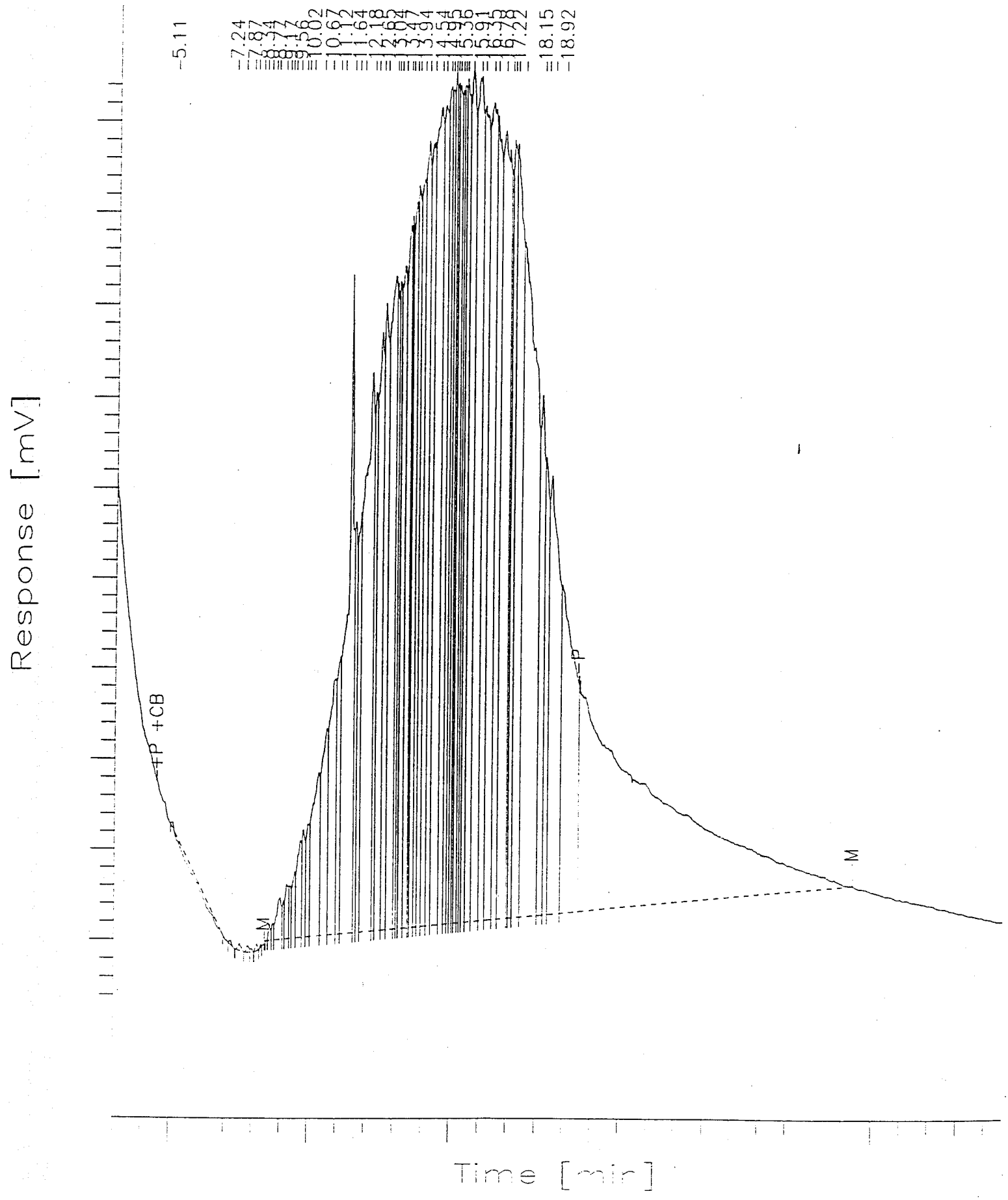
51	15.825	5932732.50	468081.94	VV	1.0000e6	0.0415	19006.8359	0.0000
52	15.914	7261153.00	464262.63	VV	1.0000e6	0.0415	19006.8359	0.0000
53	16.061	5301376.00	448212.53	VV	1.0000e6	0.0415	19006.8359	0.0000
54	16.351	6648516.00	449311.38	VV	1.0000e6	0.0415	19006.8359	0.0000
55	16.498	5142093.50	441863.81	VV	1.0000e6	0.0415	19006.8359	0.0000
56	16.784	8020411.00	433044.84	VV	1.0000e6	0.0415	19006.8359	0.0000
57	17.014	1639743.63	411637.06	VV	1.0000e6	0.0415	19006.8359	0.0000
58	17.103	3370226.75	427714.38	VV	9.9999e5	0.0415	19006.8359	0.0000
59	17.215	6354752.50	425381.09	VV	1.0000e6	0.0415	19006.8359	0.0000
60	17.480	11773010.00	370765.75	VV	1.0000e6	0.0415	19006.8359	0.0000
61	18.152	3502072.25	287590.00	VV	1.0000e6	0.0415	19006.8359	0.0000
62	18.293	2407562.50	253473.14	VV	1.0000e6	0.0415	19006.8359	0.0000
63	18.515	5721806.00	242587.92	VV	1.0000e6	0.0415	19006.8359	0.0000
64	18.918	5920882.00	181380.81	VB	9.9999e5	0.0415	19006.8359	0.0000
		1.83e8	1.71e7			2.6579	1.2164e6	0.0000

END

Chromatogram

Sample Name : 9406119-01B
FileName : L:\DATA\TCHRCM\PEST\VARC\C___176.raw
Method : DIESELC.ins
Start Time : 3.00 min End Time : 34.66 min
Scale Factor: 1 Plot Offset: 119 mV

Sample #: SC ;S;25 Page 1 of 1
Date : 6/17/94 11:36 AM
Time of Injection: 6/17/94 10:24 AM
Low Point : 119.28 mV High Point : 628.03 mV
Plot Scale: 509 mV



SPL, INC.

REPORT APPROVAL SHEET

WORK ORDER NUMBER: 94-06-170

Approved for release by:

W. Scott Sample

S. Sample, Laboratory Director

Date: 6/27/94

Karen Satterfield

Karen Satterfield, Project Manager

Date: 6/21/94

CASE NARRATIVE

WORK ORDER No.: 9406170

Southern Petroleum Laboratories (SPL) is pleased to present the results for laboratory analyses to Operational Technologies. The six (6) soil samples were received at our laboratory on June 04, 1994 at a temperature of 3 degrees Celsius. The following is a brief narrative of the laboratory analysis.

The samples were analyzed for lead by SW-846 method 7421. All results are on an as received basis. There were no deviations from the method. All of the quality control data was within limits for this project.

If I can be of further assistance or answer any questions, please do not hesitate to contact me at (713) 660-0901 ext. 114.

Karen Satterfield
Project Manager

Certificate of Analysis No. 9406170-01

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Luis Ibarra

DATE: 06/13/94

PROJECT: Soil Analysis
SITE: Zanesville, Ohio
SAMPLED BY: Operational Technologies
SAMPLE ID: B-003 BH INT 1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/03/94 08:15:00
DATE RECEIVED: 06/04/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ET Date: 06/08/94	9	1	wt. %
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/08/94	06/08/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/10/94	7.9	0.4	mg/Kg

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406170-02

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Luis Ibarra

DATE: 06/13/94

PROJECT: Soil Analysis
SITE: Zanesville, Ohio
SAMPLED BY: Operational Technologies
SAMPLE ID: B-003 BH INT 2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/03/94 08:25:00
DATE RECEIVED: 06/04/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ET Date: 06/08/94	14	1	wt. %
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/08/94	06/08/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/10/94	4.9	0.4	mg/Kg

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406170-03

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Luis Ibarra

DATE: 06/13/94

PROJECT: Soil Analysis
SITE: Zanesville, Ohio
SAMPLED BY: Operational Technologies
SAMPLE ID: B-002 BH INT 1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/03/94 08:50:00
DATE RECEIVED: 06/04/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ET Date: 06/08/94	4	1	wt. %
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/08/94	06/08/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/10/94	5.3	0.4	mg/Kg

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406170-04

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Luis Ibarra

DATE: 06/13/94

PROJECT: Soil Analysis
SITE: Zanesville, Ohio
SAMPLED BY: Operational Technologies
SAMPLE ID: B-002 BH INT 2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/03/94 09:05:00
DATE RECEIVED: 06/04/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ET Date: 06/08/94	11	1	wt. %
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/08/94	06/08/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/10/94	6.2	0.4	mg/Kg

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406170-05

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Luis Ibarra

DATE: 06/13/94

PROJECT: Soil Analysis
SITE: Zanesville, Ohio
SAMPLED BY: Operational Technologies
SAMPLE ID: B-001 BH INT 1

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/03/94 09:18:00
DATE RECEIVED: 06/04/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ET Date: 06/08/94	14	1	wt. %
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/08/94	06/08/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/10/94	43	8	mg/Kg

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. 9406170-06

Operational Tech
4100 N.W. Loop 410 Ste. 230
San Antonio, TX 78229
ATTN: Luis Ibarra

DATE: 06/13/94

PROJECT: Soil Analysis
SITE: Zanesville, Ohio
SAMPLED BY: Operational Technologies
SAMPLE ID: B-001 BH INT 2

PROJECT NO: 1308-191
MATRIX: SOIL
DATE SAMPLED: 06/03/94 09:30:00
DATE RECEIVED: 06/04/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Moisture, E.P.A. METHOD CLP SOW Analyzed by: ET Date: 06/08/94	11	1	wt. %
Acid Digestion-Solid, GF METHOD 3050 *** Analyzed by: AM Date: 06/08/94	06/08/94		
Lead, Total METHOD 7421 *** Analyzed by: WFL Date: 06/10/94	42	8	mg/Kg

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

** SPL QUALITY CONTROL REPORT **
TOTAL LEAD

SPL sample Id: 9405D46-32A **Reported on:** 06/14/94
Matrix: SOIL **Analyzed on:** 06/10/94

This sample was randomly selected for use in the SPL quality control program. One in ten samples is fortified with a known concentration of the substance being analyzed and one in ten samples is analyzed in duplicate. The result are as follows:

-- SPIKE ANALYSIS --

Sample Id	Blank Value	Spike Added mg/L	Original Sample Concentration mg/Kg	MS Concentration mg/Kg	MS % Rec
9405D46-32A	ND	.040	.0519	.0869	87

-- SPIKE DUPLICATE ANALYSIS --

Sample Id	Spike Added mg/L	MSD Concentration mg/Kg	MSD % Rec	% RPD
9405D46-32A	.040	.0863	86	2

SPL, Incorporated

Idelis Williams, QC Officer

WETDUPQA.RC Rev. 4/94

Wet Chemistry QA/QC Validation Report

Test Name: Moisture

SAM Test Code: moisep | Date: 6/8/94 | Analyst: ST

Method Gravimetric | Time: 12:00pm | Matrix ☐ Liquid ☑ Soil ☐ Other

# of Samples in Batch: 24 | Reporting Units: % weight

SPL Sample #'s in Batch:

9406086 - 1B → 3B	9406246 - 4A	
9406224 - 2C, 10C → 12C, 18C	9406160 - 1B	
9406170 - 1A → 6A	9406220 - 1D → 2D	
9406199 - 1C	9406221 - 1D → 4D	

Standards	Actual Concentration	Theoretical Concentration	Percent Recovery	QC Limits (**) (Mandatory) Upper Limit	Lower Limit
Blank					
Check Standard 1					
Check Standard 2					
Check Standard 3					
LCS (Outside Source)					

DUPLICATES

QA/QC Duplicate SPL Sample ID	Sample Result <1>	Sample Result <2>	Relative Percent Difference	QC LIMITS (**) (Advisory) Relative Percent Difference Max.
9406224 - 18C	18	19	5.4	30.4
9406170 - 6A	11	11	0	
9406220 - 2D	11	11	0	
9406221 - 4D	23	22	4.4	↓

Relative Percent Difference (RPD) Calculation:

$$RPD = \frac{<1> - <2>}{(<1> + <2>) \times 0.5} \times 100$$

(**) = Source: SPL Houston Historical Data

* = Indicates Value Outside QA/QC Range

Approved By: [signature] Date: 6/9/94

Reviewed By: [signature] Date: 6/9/94

[signature] Date: 6/10/94

Idelis Williams, QC Officer

Oper Tech
9406170

U0101

PROGRAMMING MODE INSTRUMENT USER METH # 34 - PB DATE: 94/06/10

ELEMENT: PB WAVELENGTH (NM): 283.3 SLIT (NM): 0.7
PYRO COATED TUBE WITH PLATFORM - MAX POWER HEATING - GAS STOP - MATRIX MOD.
PRETREAT TEMP: 850 ATOMIZE TEMP: 1800 CHARACT. MASS (PG) 12.0

1. TECHNIQUE: ZEEMAN
2. LAMP CURRENT (MA): 10
3. SIGNAL PROCESSING: PEAK AREA
4. CALIBRATION: AUTO SELECT
5. TIME (SECONDS): 5.0
6. READ DELAY (SECONDS): 0.0
7. SCREEN FORMAT: 1.0 GRAPHICS
8. PRINTER: MAIN SUPPL
9. RECORDER SIGNAL: 0.2 CONT ABS
10. RECORDER EXP: 1000
11. STATISTICS: 2 AVERAGE & CV
12. NOMINAL WEIGHT 1.0
13. ROLLOVER(ABS): 1.500
14. BG SCALE: 1.0

15. S1: 25.0 16. S2: 50.0 17. S3: 100.0
18. S4: 19. S5: 20. S6:
21. S7: 22. S8: 23. RSLP: 50.0

PB 0610A TIME: 11:29

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.010	0.010	0.005
PEAK AREA (ABS-SECONDS)	0.010	0.009	0.002

READ: 0.000

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.010	0.009	0.004
PEAK AREA (ABS-SECONDS)	0.012	0.008	0.003

READ: -0.001

MEAN= -0.001 STD.DEV.= COEF.VAR.= 64.20 %

****

0.000 AUTOZERO

****

PB

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.296	0.238	0.061
PEAK AREA (ABS-SECONDS)	0.100	0.126	0.034

READ: 0.117

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.296	0.238	0.061
PEAK AREA (ABS-SECONDS)	0.158	0.127	0.031

READ: 0.119

S1

MEAN= 0.118 STD.DEV.= COEF.VAR.= 0.96 %

****

25.0 STANDARD 1

****

PB

READ: 47.3

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.524	0.414	0.115
PEAK AREA (ABS-SECONDS)	0.300	0.233	0.067

READ: 47.5

MEAN= 47.4 STD.DEV.= COEF.VAR.= 0.37 %

S2

****

47.4

E-50: READING GREATER THAN HIGHEST STANDARD

****

50.0 STANDARD 2

****

PB

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.906	0.692	0.221
PEAK AREA (ABS-SECONDS)	0.536	0.416	0.120

READ: 100.7

(CONTINUED)

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.890	0.678	0.216
PEAK AREA (ABS-SECONDS)	0.533	0.414	0.119

READ: 100.2

S3

MEAN= 100.4 STD.DEV.= COEF.VAR.= 0.38 %

****

100.4

E-50: READING GREATER THAN HIGHEST STANDARD

****

100.0 STANDARD 3

****

PB 0005

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.507	0.398	0.109
PEAK AREA (ABS-SECONDS)	0.294	0.233	0.061

READ: 50.2

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.500	0.392	0.109
PEAK AREA (ABS-SECONDS)	0.293	0.232	0.061

READ: 50.0

ICV

MEAN= 50.1 STD.DEV.= COEF.VAR.= 0.29 %

****

PB 0006

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.007	0.007	0.002
PEAK AREA (ABS-SECONDS)	0.008	0.009	

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.006	0.006	0.003
PEAK AREA (ABS-SECONDS)	0.008	0.008	0.001
READ: -0.2			

MEAN= -0.1 STD.DEV.= COEF.VAR.= 99.99 %

****

PB 0007

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.006	0.007	0.003
PEAK AREA (ABS-SECONDS)	0.009	0.008	0.001
READ: -0.1			

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.006	0.006	0.002
PEAK AREA (ABS-SECONDS)	0.008	0.007	0.000
READ: -0.3			

MEAN= -0.2 STD.DEV.= COEF.VAR.= 42.02 %

****

PB 0008

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.433	0.344	0.091
PEAK AREA (ABS-SECONDS)	0.238	0.191	0.048
READ: 39.9			

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.436	0.345	0.092
PEAK AREA (ABS-SECONDS)	0.244	0.194	0.050
READ: 40.6			

MEAN= 40.3 STD.DEV.= COEF.VAR.= 1.46 %

****

PB 0009

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.012	0.010	0.010
PEAK AREA (ABS-SECONDS)	0.022	0.013	0.009
READ: 0.9			

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.014	0.009	0.012
PEAK AREA (ABS-SECONDS)	0.030	0.011	0.014
READ: 0.5			

MEAN= 0.7 STD.DEV.= COEF.VAR.= 35.40 %

****

PB 0010

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)			

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.434	0.344	0.090
PEAK AREA (ABS-SECONDS)	0.244	0.198	0.046

READ: 41.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.426	0.337	0.089
PEAK AREA (ABS-SECONDS)	0.246	0.197	0.049

READ: 41.4

-6A 500X

MEAN= 41.5 STD.DEV.= COEF.VAR.= 0.22 %

****

PB 0022

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.065	0.054	0.013
PEAK AREA (ABS-SECONDS)	0.042	0.035	0.013

READ: 6.1

PB 0022

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.562	0.441	0.121
PEAK AREA (ABS-SECONDS)	0.316	0.251	0.065

READ: 54.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.567	0.445	0.123
PEAK AREA (ABS-SECONDS)	0.300	0.242	0.064

READ: 52.5

-6A 50X

MEAN= 53.6 STD.DEV.= COEF.VAR.= 2.97 %

****

PB 0023

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.546	0.428	0.119
PEAK AREA (ABS-SECONDS)	0.289	0.230	0.061

READ: 51.6

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.503	0.396	0.109
PEAK AREA (ABS-SECONDS)	0.281	0.225	0.056

READ: 50.6

CCV 1

MEAN= 51.1 STD.DEV.= COEF.VAR.= 1.49 %

****

PB 0024

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.005	0.007	0.001
PEAK AREA (ABS-SECONDS)	0.000	0.007	-0.008

READ: -0.2

CCB 1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.003	0.005	0.003

MEAN= -0.7 STD.DEV.= COEF.VAR.= 39.05 %

****

(96.2)(20)(100) = 192.4

PB 0035

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.070	0.796	0.274
PEAK AREA (ABS-SECONDS)	0.520	0.401	0.118

READ: 95.9

= 92.5

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	1.066	0.794	0.272
PEAK AREA (ABS-SECONDS)	0.516	0.403	0.115

READ: 96.5

MEAN= 96.2 STD.DEV.= COEF.VAR.= 0.51 %

****

PB 0036

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.459	0.352	0.106
PEAK AREA (ABS-SECONDS)	0.431	0.231	0.201

READ: 49.6

0.60.55 - 4c

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.496	0.385	0.111
PEAK AREA (ABS-SECONDS)	0.473	0.237	0.236

READ: 51.3

MEAN= 50.5 STD.DEV.= COEF.VAR.= 2.58 %

****

PB 0037

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.757	0.580	0.177
PEAK AREA (ABS-SECONDS)	0.645	0.370	0.275

READ: 86.8

- 4c spk

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.742	0.562	0.180
PEAK AREA (ABS-SECONDS)	0.645	0.355	0.290

READ: 82.6

MEAN= 84.7 STD.DEV.= COEF.VAR.= 4.11 %

****

PB 0038

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.800	0.506	0.205
PEAK AREA (ABS-SECONDS)	0.735	0.390	0.345

READ: 92.5

- 4c spk

READ: 83.1

MEAN= 87.8 STD.DEV.= COEF.VAR.= 8.72 %

****

PB 0039

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.656	0.509	0.147
PEAK AREA (ABS-SECONDS)	0.698	0.373	0.325

READ: 87.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.526	0.414	0.115
PEAK AREA (ABS-SECONDS)	0.506	0.309	0.255

READ: 69.7

06170-1A

MEAN= 78.5 STD.DEV.= COEF.VAR.= 18.41 %

****

PB 0040

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.335	0.266	0.070
PEAK AREA (ABS-SECONDS)	0.355	0.220	0.135

READ: 46.9

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.457	0.361	0.096
PEAK AREA (ABS-SECONDS)	0.356	0.239	0.117

READ: 51.6

— 2A

MEAN= 49.3 STD.DEV.= COEF.VAR.= 7.42 %

****

PB 0041

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.406	0.322	0.248
PEAK AREA (ABS-SECONDS)	0.682	0.247	0.435

READ: 53.7

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.392	0.313	0.242
PEAK AREA (ABS-SECONDS)	0.668	0.242	0.425

READ: 52.5

— 3A

MEAN= 53.1 STD.DEV.= COEF.VAR.= 1.72 %

****

PB 0042

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.494	0.392	0.105
PEAK AREA (ABS-SECONDS)			

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.546	0.428	0.118
PEAK AREA (ABS-SECONDS)	0.294	0.229	0.066

READ: 48.9

CCV

MEAN= 48.1 STD.DEV.= COEF.VAR.= 2.64 %

****

PB 0043

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.008	0.008	0.006
PEAK AREA (ABS-SECONDS)	0.010	0.007	0.003

READ: -0.3

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.006	0.007	0.005
PEAK AREA (ABS-SECONDS)	0.008	0.006	0.002

READ: -0.5

CCB

MEAN= -0.4 STD.DEV.= COEF.VAR.= 38.28 %

****

PB 0044

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.498	0.391	0.107
PEAK AREA (ABS-SECONDS)	0.340	0.246	0.094

READ: 53.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.587	0.458	0.130
PEAK AREA (ABS-SECONDS)	0.449	0.314	0.135

READ: 71.3

4A

MEAN= 62.2 STD.DEV.= COEF.VAR.= 22.65 %

****

PB 0045

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	2.309	1.540	0.770
PEAK AREA (ABS-SECONDS)	1.315	1.173	0.643

READ: 492.1

5A

E-87: VALUE GREATER THAN ROLLOVER ABSORBANCE

PB 0045

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.280	0.229	0.053
PEAK AREA (ABS-SECONDS)	0.150	0.111	0.039

READ: 21.6

5A 20X

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.285	0.232	0.054
PEAK AREA (ABS-SECONDS)	0.152	0.111	0.042

READ: 21.5

MEAN= 37.2 STD.DEV.= COEF.VAR.= 0.52 %

****

PB 0050

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.061	0.007	0.060
PEAK AREA (ABS-SECONDS)	0.137	0.008	0.128

READ: -0.1

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.064	0.008	0.064
PEAK AREA (ABS-SECONDS)	0.146	0.008	0.138

READ: -0.1

26001-1c

MEAN= -0.1 STD.DEV.= COEF.VAR.= 61.02 %

****

PB 0051

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.204	0.145	0.066
PEAK AREA (ABS-SECONDS)	0.330	0.153	0.177

READ: 30.9

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.204	0.146	0.064
PEAK AREA (ABS-SECONDS)	0.329	0.154	0.176

READ: 31.2

-1c spk

MEAN= 31.1 STD.DEV.= COEF.VAR.= 0.56 %

****

PB 0052

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.201	0.141	0.064
PEAK AREA (ABS-SECONDS)	0.323	0.150	0.173

READ: 30.4

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.202	0.145	0.064
PEAK AREA (ABS-SECONDS)	0.328	0.152	0.176

READ: 30.8

-1c Suppt

MEAN= 30.6 STD.DEV.= COEF.VAR.= 1.03 %

****

PB 0053

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.515	0.403	0.113
PEAK AREA (ABS-SECONDS)	0.372	0.212	0.060

READ: 45.1

C 1/3

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.573	0.448	0.126
PEAK AREA (ABS-SECONDS)			

MEAN= 48.9 STD.DEV.= COEF.VAR.= 12.29 %

****

PB 0054

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.010	0.010	0.002
PEAK AREA (ABS-SECONDS)	0.000	0.004	-0.004

READ: -0.8

	AA	ZAA	BG
PEAK HEIGHT (ABSORBANCE)	0.010	0.010	0.003
PEAK AREA (ABS-SECONDS)	0.002	0.009	-0.001

READ: -1.0

CCB3

MEAN= -0.9 STD.DEV.= COEF.VAR.= 15.34 %

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