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# LIMITED LEVEL II ENVIRONMENTAL SITE ASSESSMENT PROPOSED TACO BELL #06-1052 HESPERIAN BOULEVARD AND WEST WINTON AVENUE HAYWARD, CALIFORNIA

Project No. 34-94-319
November 22, 1994

Prepared for:
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Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
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Project No. 36-94-319

Mr. Anthony Miller
Taco Bell Corporation
4460 Black Avenue, Suite K
Pleasanton, CA 94566
(510) 462-6580

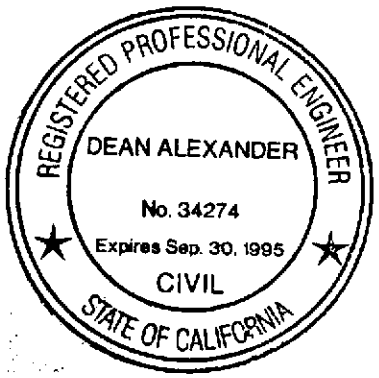
Dear Mr. Miller:

Enclosed are two (2) copies of the Final Limited Level II Environmental Site Assessment completed for Proposed Taco Bell Restaurant No. 06-1052 located at Hesperian Boulevard and West Winton Avenue in Hayward, California, dated November 22, 1994. The Limited Level II Environmental Site Assessment included the advancement of four soil borings, installation of three temporary groundwater monitoring wells, and the collection of soil and groundwater samples.

Based upon the results of our Limited Level II Environmental Site Assessment, it appears that petroleum hydrocarbons are present within groundwater beneath the site in significant concentrations in the vicinity of boring B3. The full extent of petroleum hydrocarbon contamination beneath the project site is unknown, however, it is anticipated to be present due to the underground gasoline storage tank release that occurred at the adjacent Exxon Service Station. Halogenated volatile organics, primarily tetrachloroethene (TCE), are also present within the groundwater beneath the subject site. It appears that the halogenated volatile organics are due to historic and present-day dry cleaning operations conducted at the site. The full extent of halogenated volatile organic contamination beneath the project site is unknown at this time. If the client elects to pursue purchase or development of the property, then it is recommended that additional investigation be conducted to determine the extent of halogenated volatile organics within the soil vapor beneath the site. Additionally, a risk assessment may be required by the Alameda County Environmental Health Department prior to development of the project site.

Sincerely,
KRAZAN & ASSOCIATES, INC.

Dane Mathis
Project Geologist




Dean Alexander
Registered Engineer
RGE No. 002051/RCE No. 34274

DM/DA/al
Enclosure

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**Project No. 34-94-319**


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Krazan & ASSOCIATES, INC.
GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING AND INSPECTION

November 22, 1994

Project No. 34-94-319

# LIMITED LEVEL II ENVIRONMENTAL SITE ASSESSMENT
# PROPOSED TACO BELL #06-1052
# HESPERIAN BOULEVARD AND WEST WINTON AVENUE
# HAYWARD, CALIFORNIA

## 1.0 Executive Summary

Krazan & Associates, Inc., completed a Phase I Environmental Site Assessment for the project site in September and October of 1994. This site is currently occupied by a dry cleaners and the adjacent gasoline service station has soil and groundwater contamination. Additionally, petroleum constituents and volatile organic compounds were previously detected in groundwater samples obtained from a monitoring well located on the subject site. Therefore, a Limited Level II Environmental Site Assessment was conducted at the project site. The assessment included the advancement of three soil borings which were converted to temporary groundwater monitoring wells. Two of the borings were advanced north of the existing building, approximately in the central portion of the subject site. The remaining soil boring was advanced in the southwestern portion of the subject site, near the existing sewer lateral and adjacent service station. In addition, one hand auger boring was advanced in the southeast portion of the site to a depth of approximately 10 feet. Benzene, ethylbenzene, xylenes, vinyl chloride, and 1,2-Dichloroethane exceeding State of California Maximum Contaminant Levels (MCL) and elevated concentrations of TPH-G were present within the groundwater sample obtained from the boring in the southwest portion of the site . No detectable concentrations of BTEX were detected within groundwater samples collected from the borings north of the existing building. However, concentrations of TPH-G and TPH-D attributable to extraneous peaks were detected within these borings. Concentrations of tetrachloroethylene (TCE) exceeding State of California MCL's were detected in groundwater samples collected north of the on-site building.

Based on these results, it appears that petroleum hydrocarbons are present within groundwater beneath the site in significant concentrations in the vicinity of boring B3. The full extent of petroleum hydrocarbon contamination beneath the project site is unknown, however, it is anticipated to be present due to the underground gasoline storage tank release that occurred at the adjacent Exxon Service Station. Halogenated volatile organics, primarily tetrachloroethene (TCE), are also present within the groundwater beneath the subject site. It appears

that the halogenated volatile organics are due to historic and present-day dry cleaning operations conducted at the site. The full extent of halogenated volatile organic contamination beneath the project site is unknown at this time. If the client elects to pursue purchase or development of the property, then it is recommended that additional investigation be conducted to determine the extent of halogenated volatile organics within the soil vapor beneath the site. Additionally, a risk assessment may be required by the Alameda County Environmental Health Department prior to development of the project site.

## 2.0 Introduction

This report presents the results of our Limited Level II Environmental Site Assessment, completed for the property identified as the proposed Taco Bell #06-1052 located at Hesperian Boulevard and West Winton Avenue in Hayward, California. Mr. Anthony Miller of Taco Bell Corporation gave written authorization for Krazan & Associates, Inc., to proceed with the field investigation. The investigation was conducted in accordance with Taco Bell Corporation Specifications for Environmental Site Assessments and Geotechnical Engineering Studies, dated November of 1993.

### 2.1 Site Description

The site is "L" shaped and encompasses 12,643 square feet. It is located approximately 110 feet north of the northeast corner of Hesperian Boulevard and West Winton Avenue in Hayward, California. The site is identified by Alameda County Assessor Parcel Number (APN) 432-60-107-3.

According to a projection of survey lines on the U.S. Geological Survey 7.5 minute Hayward, California topographic quadrangle map, photorevised 1980, the property occupies a portion of the northern half of Section 20, Township 3 South, Range 2 West, Mount Diablo Baseline and Meridian. Please see the Vicinity Map following the text.

The subject site is currently occupied by a single-story wood frame commercial building, associated asphaltic concrete parking lot, and a narrow landscaped area. The commercial building is occupied by Canton House Chinese Restaurant (991 West Winton Avenue), Jack's Norge Cleaners (23958 Hesperian Boulevard), and Howard's Drive-In Restaurant (23956 Hesperian Boulevard). An Exxon Service Station is located adjacent south of the project site. An approximately 5 foot wide area is present between the building located on the subject site and the fence line of the adjacent service station. This area could not be accessed with a drill rig.

## 2.2 Regional Hydrogeology

A review of topographic, geologic, and hydrologic data was conducted in order to determine the regional setting of the project site.

### 2.2.1 Geologic Setting

The subject site is located in the San Francisco Bay Region of the Coast Range Geologic Province. The Coast Range Geologic Province borders the coast of California and generally consists of northwesterly/southeasterly trending ridges of granitic, metavolcanic and metasedimentary rocks. Numerous northwest to southeast trending faults parallel the trend of the Coast Ranges.

San Francisco Bay is a broad shallow depression within the Coast Ranges that has been subsequently filled with sedimentary deposits. In the vicinity of the subject site, these deposits consist of unconsolidated sediments comprised of gravel, sand, silt, clay and peat that underlie broad valleys and flatlands. They vary in thickness from a few feet to about 600 feet east and west of San Francisco Bay. Three major faults are located near the site; the Hayward Fault Zone, the San Andreas Fault Zone, and the Calaveras Fault Zone. The San Andreas Fault is located approximately 16 miles west of the site and was the source of the 1906 San Francisco Earthquake. The Calaveras Fault is located approximately 11 miles east of the site and is also considered capable of producing large earthquakes. The Hayward Fault Zone is located approximately 4 miles east of the site. The last recorded movement of the Hayward fault was in 1868.

### 2.2.2 Groundwater Conditions

A review of site characterization and quarterly groundwater monitoring reports for nearby sites, including reports for the adjacent Exxon Station, was conducted as part of a Phase I Environmental Site Assessment completed for the site (Krazan & Associates, Inc., dated November 11, 1994) in order to determine groundwater conditions in the area of the project site. One of the monitoring wells (MW-3H) associated with investigations of the adjacent Exxon Station is located in the southwest portion of the project site. Groundwater in the immediate vicinity of the subject property is reported to occur at depths of approximately 18 to 30 feet below surface grade. Depth to groundwater within MW-3H is reported to have ranged from 18.77 feet to 22.62 feet below surface grade during sounding events conducted between November of 1990 and June of 1994. The lateral component of groundwater flow is reported to be toward the west at the adjacent Exxon Station, with a gradient of 0.003 feet per foot.

According to Mr. Andreas Godfrey of the County of Alameda Public Works Agency, the regional direction of groundwater flow in the Hayward area is to the west, toward San Francisco Bay.

### 2.3 Site History

Krazan & Associates, Inc., completed a Phase I Environmental Site Assessment for the project site in September and October of 1994. A summary of our findings is presented below:

The subject site is currently occupied by a single-story commercial building, two restaurants and a dry cleaning firm (Gene's Norge Cleaners). According to historical Polk Directories, Haines Criss-Cross Directories, Telephone Directories, and City of Hayward Building Department (CHBD) records, Gene's Norge Cleaners has conducted clothes laundering services, including dry cleaning, since the commercial building was constructed in 1961. An additional dry cleaning firm identified as Payless Cleaners is reported to have occupied a portion of the commercial building from 1961 until at least 1990. The former Payless Cleaners suite is currently occupied by Canton House Chinese Restaurant. The CHBD records did not indicate the presence of any underground or above ground storage tanks at the subject property.

Review of an A.L.T.A./A.C.S.M. Survey Map of the subject property reveals that underground sanitary sewer; gas, and electrical lines servicing the commercial building are located to the rear (south) of the building, adjacent to a fence line which separates the subject property from an adjacent Exxon service station. The sanitary sewer lateral connects to the main line located beneath Hesperian Boulevard. Electrical and gas lines are also located beneath the sidewalk adjacent west of the building located on the subject site. The presence of utilities prevented drilling in this location.

According to City of Hayward Fire Department records, groundwater beneath the adjacent Exxon site has been impacted by gasoline constituents. The impacted groundwater was reported to have been caused by leakage from underground gasoline storage tanks formerly located at the Exxon site (former Texaco). The extent of gasoline impacted groundwater has not been fully defined, although it appears to have migrated primarily to the west, side-gradient from the subject site. However, gasoline constituents have been detected within monitoring well (MW-3H) located in the southwest portion of the subject site. MW-3H was one of the eight monitoring wells installed on and in the area of the Exxon station during site characterization investigations conducted for the Exxon Station. Groundwater has been encountered at depths ranging from 23 to 30 feet below surface grade within monitoring wells associated with the Exxon station.

In addition, analysis of groundwater samples from Exxon monitoring wells, including MW-3H has revealed elevated concentrations of volatile organic compounds such as perchloroethylene (PCE), trichloroethylene (TCE), and vinylchloride. The concentrations of these volatile organic compounds were well above State of California Maximum Contaminant Levels. The most recent groundwater sample from MW-3H for the analysis of volatile organic compounds was collected in June of 1993. At that time, the groundwater sample from MW-3H contained 220 parts per billion (ppb) of Tetrachloroethene, 72 ppb of Trichloroethene, and 56 ppb of Cis-1,2-Dichloroethene. Volatile organic compounds are typically utilized as solvents in dry cleaning

operations. According to Mr. Hugh Murphy of the City of Hayward Fire Department, the origin and extent of groundwater contaminated by volatile organic compounds is not known. A soil and groundwater treatment system is in operation at the Exxon site. Texaco and Exxon are currently negotiating financial responsibility for continued investigation and remediation of gasoline impacted soils and groundwater at the Exxon site. However, neither party has been assigned responsibility for the volatile organic compounds noted within the groundwater samples.

The complete results of our Phase I Environmental Site Assessment, dated November 11, 1994, has been issued as a separate report. Based upon the results of our Phase I Environmental Site Assessment completed for this site, and due to the presence of gasoline and volatile organic compounds within groundwater beneath the site, a Limited Level II Environmental Site Assessment was proposed to be conducted at the project site.

### 2.4 Scope of Work

The Limited Level II Environmental Site Assessment included the advancement of three soil borings to a maximum depth of 28 feet. A temporary groundwater monitoring well was installed in each of the borings, and a groundwater grab sample was collected from each of the wells. Attempts were made to contact representatives of Texaco to gain access/permission to sample the existing monitoring well (MW-3H) on the project site. However, no contact with Texaco was established. In addition, one hand auger boring was advanced in the southeast portion of the site to a depth of approximately 10 feet. Selected soil and groundwater samples were submitted to a State of California certified analytical laboratory for the analysis of total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethylbenzene, and xylenes (BTEX), total petroleum hydrocarbons as diesel (TPH-D), and halogenated volatile organics. A workplan was not required by the Alameda County Environmental Health Department or the City of Hayward Fire Department. However, a drilling permit was obtained through the Zone 7 Water Agency.

## 3.0 Description of Current Assessment/Methodology

The following presents a detailed description of drilling, well installation, sampling, and analytical procedures conducted for the assessment.

### 3.1 Drilling/Soil Sampling Procedures

Two soil borings, B1 and B2, were advanced to a maximum depth of 28 feet north of the existing building, approximately in the central portion of the subject site. Soil boring B3 was advanced to a maximum

depth of 25 feet in the southwestern portion of the subject site, near the existing sewer lateral and adjacent service station. One hand auger boring, HA1, was advanced to a maximum depth of 10 feet in the southeastern portion of the subject site adjacent to the existing sewer lateral. Please see the Boring Location Map following the text for locations of soil borings on the project site.

Soil borings were advanced using continuous flight hollow stem augers. Drilling equipment was thoroughly cleaned prior to going on-site and between each borehole to reduce the likelihood of cross contamination. Hollow stem augers and drilling tools were cleaned using high pressure steam cleaning equipment.

Soil samples were obtained for soil description, petroleum hydrocarbon organic vapor screening and laboratory analysis. Soil samples were collected at 5 foot intervals beginning at a depth of 5 feet below grade. Samples were retrieved using an 18 inch long, 2 inch ID sampler lined with brass sample tube inserts. The sampler and sample tubes were washed with a non-phosphate solution and rinsed before each sampling event. The sampler was driven by a 30 inch free fall of a 140 pound hammer. Upon retrieval from the 18 inch sampler the bottom sample tube was removed and securely sealed with Teflon® sheeting and polyethylene caps and wrapped with Teflon® tape. The sample was labeled with sample number, sample depth, samplers initials and date of collection. Each sample was immediately transferred to an iced cooler for storage and transportation to the analytical laboratory. Proper chain-of-custody procedures were observed. Samples were shipped to Krazan & Associates, Inc., State Certified Environmental Laboratory in Clovis, California. Drilling returns and rinsate from steam cleaning were placed within 55-gallon drums properly labeled and left on-site. All boreholes were backfilled with a six sack sand cement slurry to near grade. Two of the four borings (B1 and B2) were capped with approximately six-inches of asphalt patch.

### 3.2 Well Installation/Water Sampling Procedures

Each soil boring was advanced approximately five feet beyond the encountered groundwater level. The augers were then retracted from the borehole and a water level measurement was taken. Temporary groundwater monitoring wells were then installed. The temporary monitoring wells consist of 2-inch diameter Schedule 40 PVC threaded joint pipe with 0.020 inch slotted openings. The wells were installed approximately five feet below the piezometric surface. Following installation, each temporary well was sounded, then developed by bailing approximately three well volumes. Waters generated from the development of each well were barrelled and stored on-site. Groundwater samples were collected for chemical analyses by means of a disposable Teflon bailer. Water from the bailer was transferred to volatile organic analysis (VOA) vials and other appropriate containers. All containers were laboratory clean. The lids of the VOA vials have Teflon lined septa to ensure a tight fit. Each container was then placed in the cooler chest with synthetic ice for storage and transportation to the

analytical laboratory. After sampling groundwater from each temporary well was completed, the well casing from each well was removed and discarded.

### 3.3 Laboratory Analyses

One soil and one water sample from each of the three soil borings and one soil sample from the hand auger boring were submitted for the chemical analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), and total petroleum hydrocarbons as gasoline (TPH-G) by EPA Method 8020/8015, total petroleum hydrocarbons as diesel (TPH-D) by California LUFT Method, and halogenated volatile organics by EPA Method 8010/601. Soil samples submitted for analysis included the deepest samples from boring B1, B2, and B3 at a depth of 20 feet, and from hand auger boring HA1 at a depth of five feet to evaluate soil vapor concentrations. Groundwater samples collected from B1, B2, and B3 were collected at a depth of approximately 21 feet.

## 4.0 Findings

The findings of our field investigation and laboratory analytical results are presented below.

### 4.1 Laboratory Results

Four soil samples and three groundwater samples were analyzed for the presence of petroleum constituents and halogenated volatile organics. Results of the analyses are presented within Table I and Table II following the text.

No detectable concentrations of petroleum constituents or volatile organic compounds were detected in soil samples collected from borings B1, B2, or B3. Sample HA1 at five feet contained a concentration of 1.9 parts per million (ppm) of TPH-D.

Concentrations of benzene, ethylbenzene, xylenes, vinyl chloride, and 1,2-Dichloroethane exceeding State of California Maximum Contaminant Levels (MCL) and elevated concentrations of TPH-G were detected within the groundwater sample obtained from boring B3 in the southwest corner of the property. Concentrations of TPH-D were detected in all the groundwater samples, however, the chromatogram did not suggest a diesel pattern within any of the groundwater samples analyzed. Although 67 micrograms per liter (ug/L) of TPH-G was detected in boring B2, this concentration was also attributable to extraneous peaks. Tetrachloroethene (TCE) was detected in borings B1 and B2 located north of the on-site building. These concentrations are above State of California MCL's.

### 4.2 Site Hydrogeology

Soils encountered beneath the site consisted primarily of clays and silty clays with minor amounts of sandy silts and silty sands. Soils consisting of predominantly silty sand with minor rock and debris were encountered in borings B3 and HA1 to a depth of approximately 3.5 feet. No photoionization detector readings (PID) were observed within any of the soil samples collected from the borings, however, a slight petroleum odor was noted within the 20 foot sample collected from boring number B3. Discolored soil was not observed within any of the borings.

Groundwater was encountered in the three soil borings at a depth of approximately 20.5 to 21.5 feet. Because groundwater monitoring wells were not installed at the site, specific groundwater gradient is unknown at this time. However, based on data from subsurface investigations conducted at the adjacent Exxon service station, the groundwater gradient is expected to be toward the west.

## 5.0 SUMMARY

Krazan & Associates, Inc., completed a Phase I Environmental Site Assessment for the project site in September and October of 1994. This site is currently occupied by a dry cleaners and the adjacent gasoline service station has soil and groundwater contamination. Additionally, petroleum constituents and volatile organic compounds were previously detected in groundwater samples obtained from a monitoring well located on the subject site. Therefore, a Limited Level II Environmental Site Assessment was conducted at the project site. The assessment included the advancement of three soil borings which were converted to temporary groundwater monitoring wells. Two of the borings were advanced north of the existing building, approximately in the central portion of the subject site. The remaining soil boring was advanced in the southwestern portion of the subject site, near the existing sewer lateral and adjacent service station. In addition, one hand auger boring was advanced in the southeast portion of the site to a depth of approximately 10 feet. Benzene, ethylbenzene, xylenes, vinyl chloride, and 1,2-Dichloroethane exceeding State of California Maximum Contaminant Levels (MCL) and elevated concentrations of TPH-G were present within the groundwater sample obtained from the boring in the southwest portion of the site . No detectable concentrations of BTEX were detected within groundwater samples collected from the borings north of the existing building. However, concentrations of TPH-G and TPH-D attributable to extraneous peaks were detected within these borings. Concentrations of tetrachloroethylene (TCE) exceeding State of California MCL's were detected in groundwater samples collected north of the on-site building.

Based on these results, it appears that petroleum hydrocarbons are present within groundwater beneath the site in significant concentrations in the vicinity of boring B3. The full extent of petroleum hydrocarbon

contamination beneath the project site is unknown, however, it is anticipated to be present due to the underground gasoline storage tank release that occurred at the adjacent Exxon Service Station. Halogenated volatile organics, primarily tetrachloroethene (TCE), are also present within the groundwater beneath the subject site. It appears that the halogenated volatile organics are due to historic and present-day dry cleaning operations conducted at the site. The full extent of halogenated volatile organic contamination beneath the project site is unknown at this time. If the client elects to pursue purchase or development of the property, then it is recommended that additional investigation be conducted to determine the extent of halogenated volatile organics within the soil vapor beneath the site. Additionally, a risk assessment may be required by the Alameda County Environmental Health Department prior to development of the project site.

## 6.0 LIMITATIONS

The findings presented in this report were based upon field observations, review of available data, and discussions with local regulatory and advisory agencies, and the analyses of soil and groundwater from selected locations at the subject site. Observations describe only the conditions present at the time of this investigation. The data reviewed and observations made are limited to accessible areas and currently available records searched. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used. In addition, it is understood that in an investigation such as this, there exists the calculated risk that evidence of contamination may not be revealed at the locations and depths of our samples. Therefore, the conditions and findings associated with our samples may not be representative of the soils throughout the entire site.

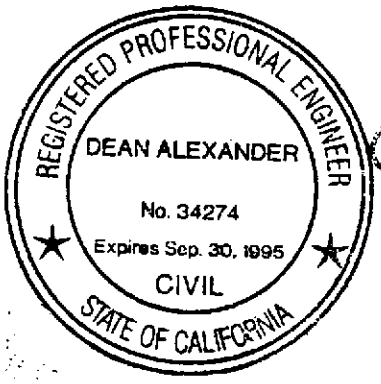
Chemical testing was done by laboratories approved by the State of California Department of Health Services. The results of the chemical testing are accurate only to the degree of the care of ensuring the testing accuracy and the representative nature of the samples obtained.

Conclusions and recommendations contained in this report are based on the evaluation of technical information made available during the course of this assessment. The information presented herewith was based on professional interpretation using presently accepted methods with a degree of conservatism deemed proper as of the report date. It is not warranted that such data cannot be superseded by future environmental, legal, geotechnical or technical developments.

If you have any questions or if we can be of any further assistance, please do not hesitate to contact our office at (916) 564-2200 or (800) 266-1379.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Dane Mathis
Project Geologist

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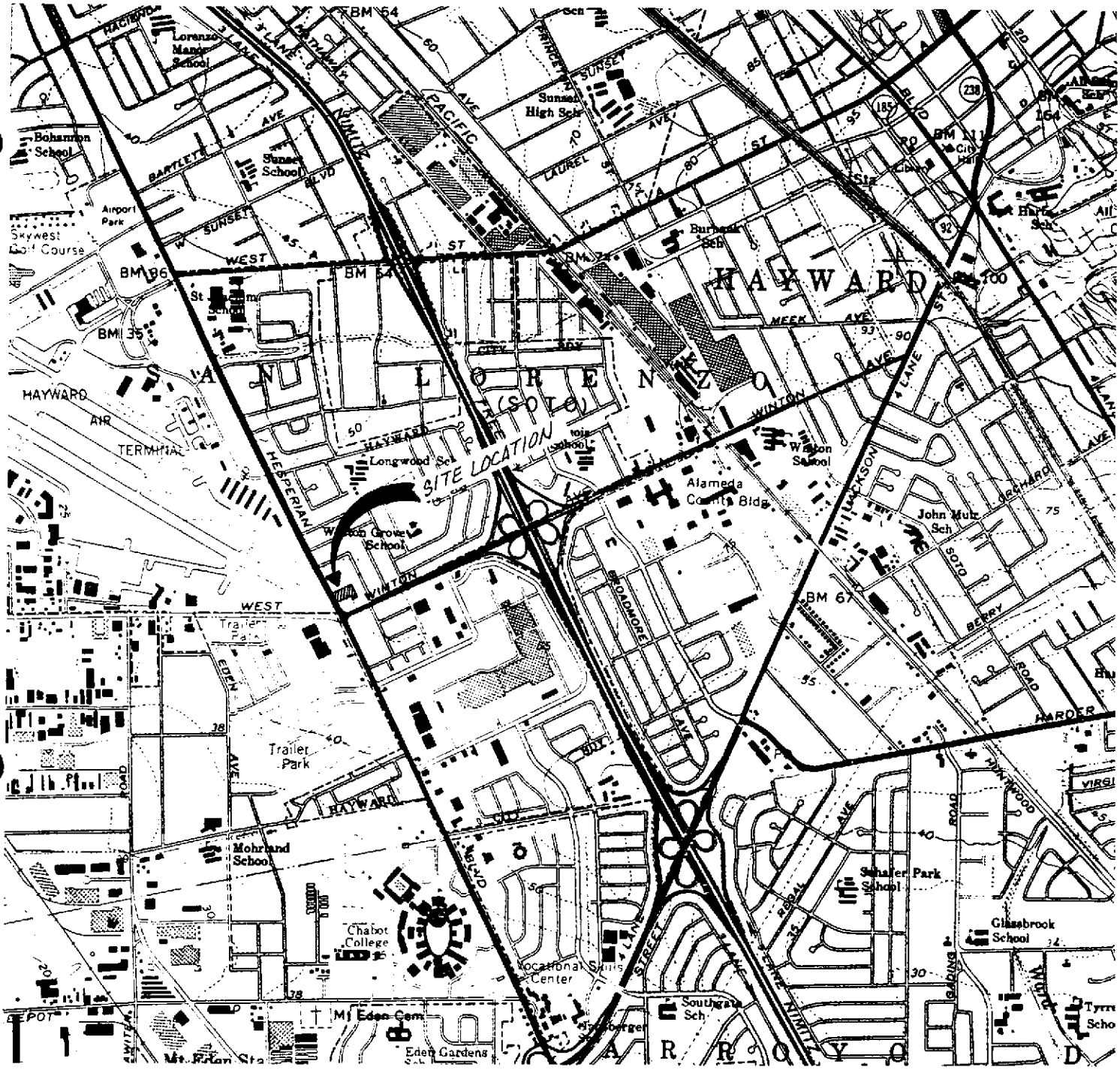


## VICINITY MAP

MAP SOURCE:
U.S.G.S. "HAYWARD, CA."
QUADRANGLE 7.5 MINUTE
SERIES (TOPO) DATED
1959 PHOTOREVISED 1980

PROPOSED TACO BELL

HESPERIAN BLVD & WEST WINTON WAY
HAYWARD, CA.

| | |
|---|---|
| Scale: AS NOTED | Date: 10-94 |
| Drawn by: D.M.W. | Approved by: D.M. |
| Project No. 34-94-297 | Figure No. 1 |

Krazan
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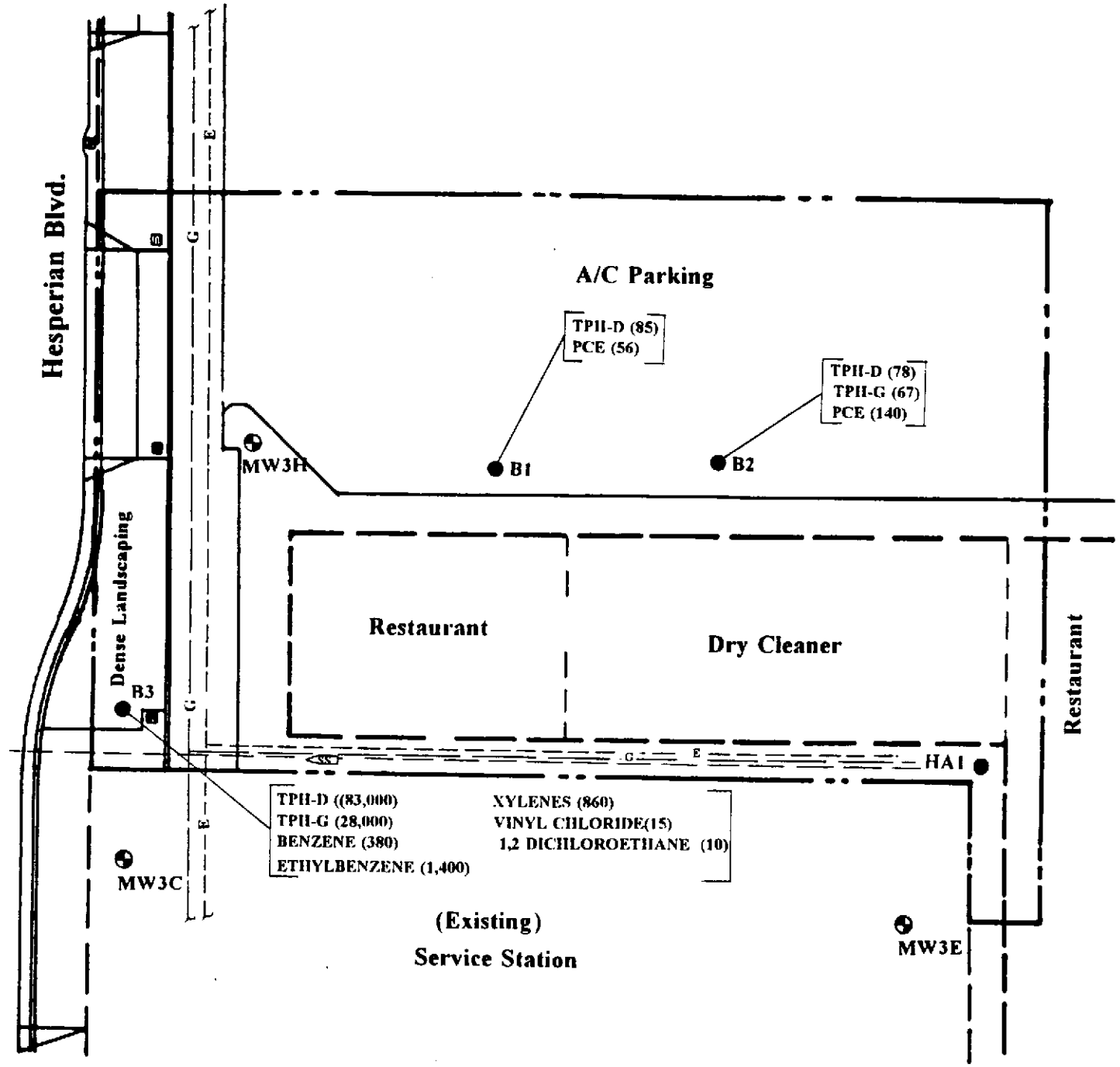


**Legend**

- (Existing) Monitoring Wells
- Soil Borings
- D.I.
- G Gas Line
- E Electric Line
- B1 PCE (56) Concentration (in ppb) of noted constituent detected in groundwater sample

North

0 10 20 40

Scale in Feet (±)

# SOIL BORING LOCATION MAP

**)posed Taco Bell**
**# 06-1052**
**esperian Blvd. &**
**West Winton Way**
**layward, Ca.**

| Scale: AS NOTED | Date: 11-94 |
|---|---|
| Drawn by: D.M.W. | Approved by: D.M. |
| Project No. 34-94-297 | Figure No. 2 |

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**Table 1**
**Concentrations of Petroleum Constituents in Soil and Groundwater**
Proposed Taco Bell #06-1052
Hesperian Boulevard & West Winton Avenue
Hayward, California
Krazan & Associates, Inc.
October 28, 1994 Sampling

| Sample ID No. | Benzene | Toluene | Ethylbenzene | Xylenes | TPH-G | TPH-D |
|---|---|---|---|---|---|---|
| **Matrix: Soil,** *Concentrations expressed in milligrams per kilogram (mg/kg)* | | | | | | |
| B1-20 | ND | ND | ND | ND | ND | ND |
| B2-20 | ND | ND | ND | ND | ND | ND |
| B3-20 | ND | ND | ND | ND | ND | ND |
| HA1-5 | ND | ND | ND | ND | ND | 1.9 |
| DL | 0.0050 | 0.0050 | 0.0050 | 0.010 | 1.0 | 1.0 |
| **Matrix: Water,** *Concentrations expressed in micrograms per liter (ug/L)* | | | | | | |
| B1-W | ND | ND | ND | ND | ND | 85* |
| B2-W | ND | ND | ND | ND | 67** | 78* |
| B3-W | 380 | ND | 1,400 | 860 | 28,000 | 83,000* |
| DL | 0.50 | 0.50 | 0.50 | 1.0 | 50 | 50 |
| MCL | 1.0 | UR | 680 | 1,750 | NA | NA |
| AL | NA | 100 | NA | NA | NA | NA |

TPH-G = Total Petroleum Hydrocarbons as Gasoline
TPH-D = Total Petroleum Hydrocarbons as Diesel
DL = Detection Limit
ND = None detected at the detection limit noted
* = Non-diesel pattern
** = Extraneous peaks
MCL = State of California Maximum Contaminant Level
AL = State of California Action Level
NA = Not available
UR = Unregulated

**Table II**
**Concentrations of Selected Halogenated Volatile Organics in Soil and Groundwater**
Proposed Taco Bell #06-1052
Hesperian Boulevard & West Winton Avenue
Hayward, California
Krazan & Associates, Inc.
October 28, 1994 Sampling

| Sample ID No. | Trans-1,2-Dichloroethene | Tetra - chloroethene | Tri - chloroethene | Vinyl Chloride | 1,2 - Dichloroethane |
|---|---|---|---|---|---|
| **Matrix: Soil**, *Concentrations expressed in micrograms per kilogram (ug/kg)* | | | | | |
| B1-20 | ND | ND | ND | ND | ND |
| B2-20 | ND | ND | ND | ND | ND |
| B3-20 | ND | ND | ND | ND | ND |
| HA1-5 | ND | ND | ND | ND | ND |
| DL | 5 | 5 | 5 | 5 | 5 |
| **Matrix: Water,** *Concentrations expressed in micrograms per liter (ug/L)** | | | | | |
| B1-W | ND | 56 | ND | ND | ND |
| B2-W | ND | 140 | ND | ND | ND |
| B3-W | ND | ND | ND | 15 | 10 |
| MCL | 10 | 5 | 5 | 0.5 | 0.5 |
| AL | NA | NA | NA | NA | NA |

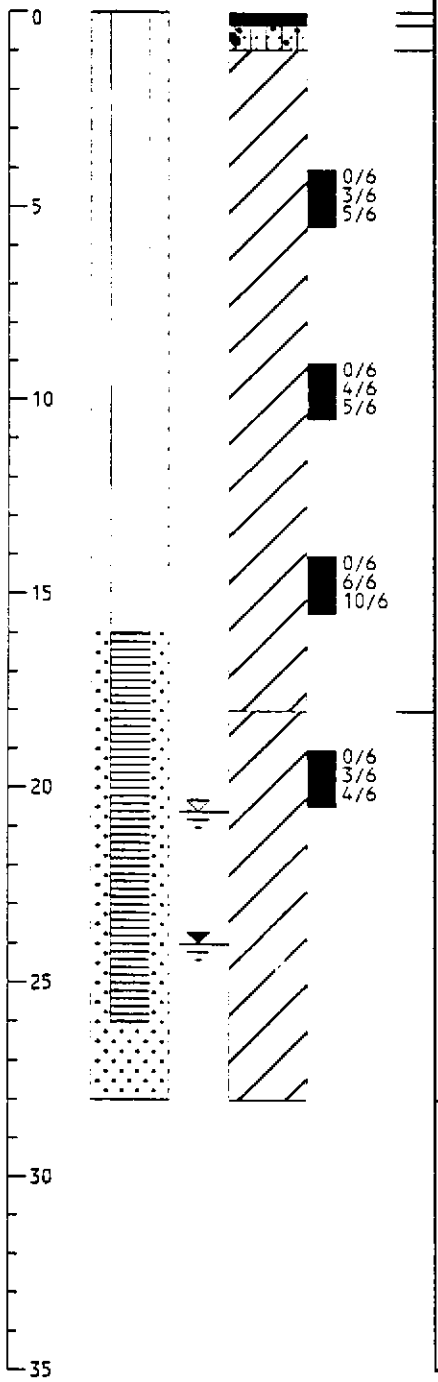
ND = None detected at the detection limit noted
DL = Detection Limit
* = Please refer to analytical reports for detection limits.
MCL = State of California Maximum Contaminant Level
AL = State of California Action Level
NA = Not available

# DRILL HOLE LOG

BORING NO.: B1

PROJECT: Proposed Taco Bell #06-1052 - Hayward
CLIENT: Taco Bell Corporation
LOCATION: Hesperian Boulevard and West Winton Avenue
DRILLER: Robert Fredericks
DRILL RIG: CME-55 Hollow Stem
DEPTH TO WATER> INITIAL: 24 feet AT COMPLETION: 20.6 feet

PROJECT NO.: 34-94-319
DATE: 10/28/94
ELEVATION: N/A
LOGGED BY: Dane Mathis




| ELEVATION/ DEPTH | WELL DETAIL | SOIL SYMBOLS, SAMPLERS AND TEST DATA | Description | PID | Odor | PENETRATION TEST DEPTH | PENETRATION TEST N |
|---|---|---|---|---|---|---|---|
| | | | Asphalt<br>Aggregate Base<br>Clay (CH) - dark brown, approximately 10% silt, very plastic, fine grained sand, less than 5%. | 0 | No | 4-5.5 | 8 |
| | | | Some reddish - brown mottling. | 0 | No | 9-10.5 | 9 |
| | | | | 0 | No | 14-15.5 | 16 |
| | | | Clay (CH) - brown, some reddish mottling, very plastic, some fragments of calcium carbonate up to 2 millimeters, approximately 5% silt. | 0 | No | 19-20.5 | 7 |
| | | | Firm soil. | | | | |
| | | | Bottom of Boring | | | | |

CURVE: 10 30 50

Boring backfilled with six sack sand cement slurry to near grade and capped with approximately six inches of asphalt patch.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

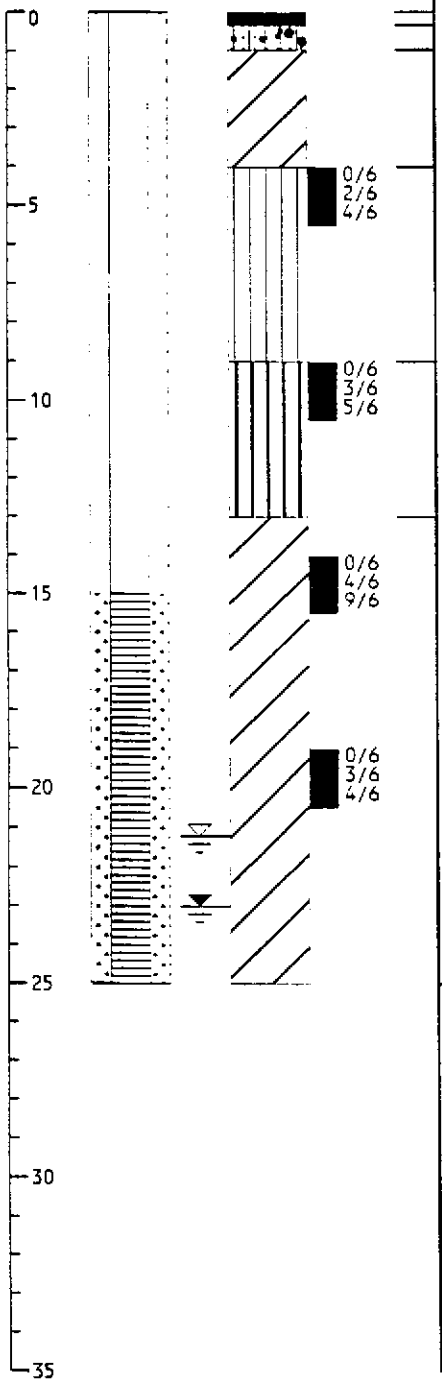
KRAZAN & ASSOCIATES, INC.

# DRILL HOLE LOG

BORING NO.: B2

PROJECT: Proposed Taco Bell #06-1052 - Hayward
CLIENT: Taco Bell Corporation
LOCATION: Hesperian Boulevard and West Winton Avenue
DRILLER: Robert Fredericks
DRILL RIG: CME-55 Hollow Stem
DEPTH TO WATER> INITIAL: 23 feet AT COMPLETION: 21.2 feet

PROJECT NO.: 34-94-319
DATE: 10/28/94
ELEVATION: N/A
LOGGED BY: Dane Mathis




| ELEVATION/ DEPTH | WELL DETAIL | SOIL SYMBOLS, SAMPLERS AND TEST DATA | Description | PID | Odor | PENETRATION TEST DEPTH | PENETRATION TEST N | PENETRATION TEST CURVE (10 30 50) |
|---|---|---|---|---|---|---|---|---|
| | | | Asphalt | | | | | |
| | | | Aggregate Base | | | | | |
| | | | Clay (CH), brown - dark brown, 10% very fine silts, very plastic, less than 5% fine sands. | | | | | |
| | | | Sandy Silt (ML) - brown, approximately 15% fine to medium sands, slightly plastic. | 0 | No | 4-5.5 | 6 | |
| | | | Silty Clay (MH) - brown, approximately 10% silts, very plastic, some calcium carbonate fragments up to 1 millimeter. | 0 | No | 9-10.5 | 8 | |
| | | | Clay (CH), brown - dark brown, 10% silts, very plastic, some reddish - brown mottling. | 0 | No | 14-15.5 | 13 | |
| | | | Some fine black (organic) layers up to 0.5 millimeters. | 0 | No | 19-20.5 | 7 | |
| | | | Firm soil. | | | | | |
| | | | Bottom of Boring | | | | | |

Boring backfilled with six sack sand cement slurry to near grade and capped with approximately six inches of asphalt patch.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

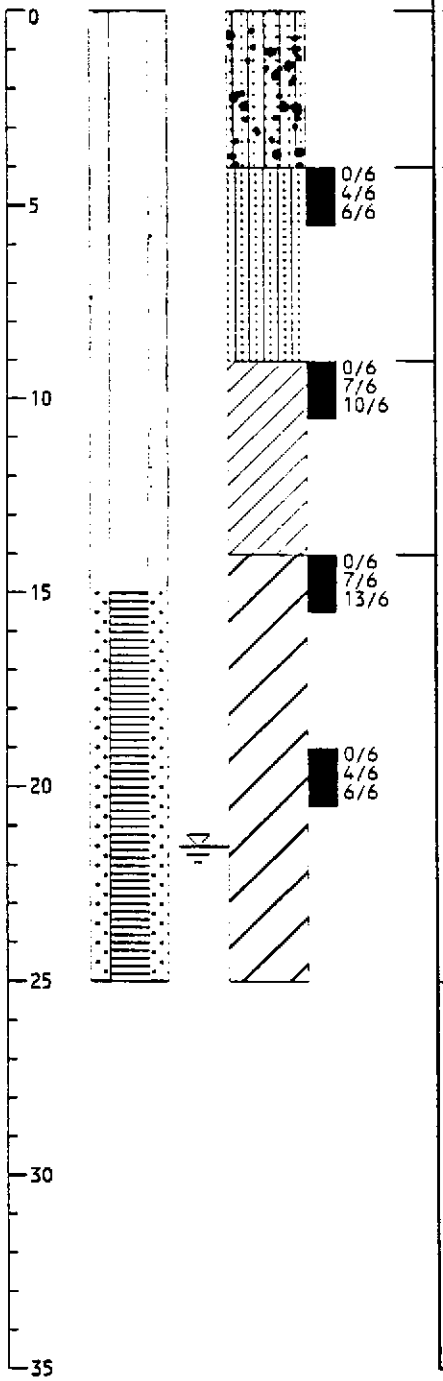
KRAZAN & ASSOCIATES, INC.

# DRILL HOLE LOG

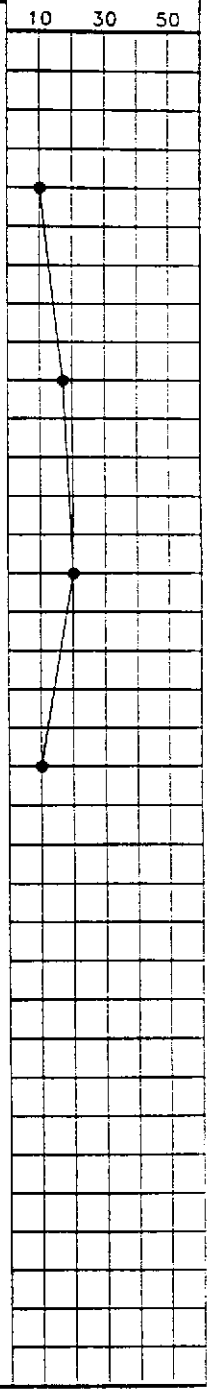
BORING NO.: B3

PROJECT: Proposed Taco Bell #06-1052 - Hayward
CLIENT: Taco Bell Corporation
LOCATION: Hesperian Boulevard and West Winton Avenue
DRILLER: Robert Fredericks
DRILL RIG: CME-55 Hollow Stem
DEPTH TO WATER> INITIAL: N/A AT COMPLETION: 21.5 feet

PROJECT NO.: 34-94-319
DATE: 10/28/94
ELEVATION: N/A
LOGGED BY: Dane Mathis




| ELEVATION/ DEPTH | WELL DETAIL | SOIL SYMBOLS, SAMPLERS AND TEST DATA | Description | PID | Odor | PENETRATION TEST DEPTH | PENETRATION TEST N |
|---|---|---|---|---|---|---|---|
| | | | Fill, Silty Sand, brown - dark brown. | | | | |
| | | 0/6 4/6 6/6 | Silty Sand (SM) - brown, approximately 20% silt, slightly plastic, very fine to fine grained sand. | 0 | No | 4-5.5 | 10 |
| | | 0/6 7/6 10/6 | Clay/Silty Clay (CL), brown - reddish brown, approximately 10% silts, medium plasticity. Some dark mottling. | 0 | No | 9-10.5 | 17 |
| | | 0/6 7/6 13/6 | Clay (CH) brown, dark brown - reddish mottling, dark organic lenses, very plastic. | 0 | No | 14-15.5 | 20 |
| | | 0/6 4/6 6/6 | | 0 | Slight | 19-20.5 | 10 |
| | | | Bottom of Boring | | | | |




Boring backfilled with six sack sand cement slurry to near grade.

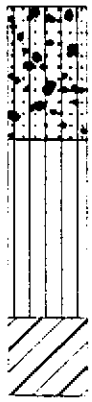
This information pertains only to this boring and should not be interpreted as being indicitive of the site.

# DRILL HOLE LOG

BORING NO.: HA-1

PROJECT: Proposed Taco Bell #06-1052 - Hayward
CLIENT: Taco Bell Corporation
LOCATION: Hesperian Boulevard and West Winton Avenue
DRILLER: Dane Mathis
DRILL RIG: Hand Auger
DEPTH TO WATER> INITIAL: N/A AT COMPLETION: N/A

PROJECT NO.: 34-94-319
DATE: 10/28/94
ELEVATION: N/A
LOGGED BY: Dane Mathis

| ELEVATION/ DEPTH | WELL DETAIL | SOIL SYMBOLS, SAMPLERS AND TEST DATA | Description | PID | Odor | PENETRATION TEST DEPTH | PENETRATION TEST N | PENETRATION TEST CURVE 10 30 50 |
|---|---|---|---|---|---|---|---|---|
| 0 | |  | Fill, Silty Sand, brown - dark brown. | | | | | |
| 5 | | | Sandy Silt (ML) - brown, approximately 15% very fine to fine grained sand. Slightly plastic. | 0 | No | | | |
| 10 | | | Silty Clay (CL) - brown, approximately 10% silts, medium plasticity. | 0 | No | | | |
| | | | Bottom of Boring | | | | | |
| 15 | | | | | | | | |
| 20 | | | | | | | | |
| 25 | | | | | | | | |
| 30 | | | | | | | | |
| 35 | | | | | | | | |

Boring backfilled with six sack sand cement slurry to near grade.

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

KRAZAN & ASSOCIATES, INC.

# Krazan

SRC # 379

# Chain of Custody Record

DATE 10/28/94 PAGE 1 OF 2


KRAZAN & ASSOCIATES, INC.
ATTN: Dane Mathis
215 WEST DAKOTA AVENUE
CLOVIS, CA 93612
(209) 348-2200 FAX: (209) 348-2201


Project No. 3494319

Sampler Signature: Dane Mathis

Printed Name: DANE MATHIS

| SAMPLE NO | DATE | TIME | DESCRIPTION/LOCATION | CAC METALS (TTLC STLC) | PR. POLLUTANT METALS | TOTAL LEAD | TPH-DIESEL | TPH-GAS | BTXE TPH-GAS | OIL & GREASE | HALOGENATED ORGANICS (EPA 8010/601) | VOLATILE ORGANICS (EPA 8010/602) | ORGANOCHLORINE PESTICIDES & PCB'S (EPA 8080) | PENTACHLOROPHENOL | CREOSOTE | DIOXINS/FURANS | ASBESTOS (PLM) | NUMBER OF CONTAINERS | OBSERVATIONS/ COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B1-5 | 10/28/94 | 0900 | Boring 1 | | | | | | | | | | | | | | | 1 | HOLD |
| B1-10 | | 0908 | | | | | | | | | | | | | | | | 1 | HOLD |
| B1-15 | | 0915 | | | | | | | | | | | | | | | | 1 | HOLD |
| B1-20 | | 0922 | | | | | X | | X | | X | | | | | | | 1 | |
| B1-W | | 1015 | | | | | X | | X | | X | | | | | | | 7 | |
| B2-5 | | 1105 | Boring 2 | | | | | | | | | | | | | | | 1 | HOLD |
| B2-10 | | 1113 | | | | | | | | | | | | | | | | 1 | HOLD |
| B2-15 | | 1123 | | | | | | | | | | | | | | | | 1 | HOLD |
| B2-20 | | 1131 | | | | | X | | X | | X | | | | | | | 1 | |
| B2-W | | 1200 | | | | | X | | X | | X | | | | | | | 7 | |

| RELINQUISHED BY | DATE | RECEIVED BY | DATE | RELINQUISHED BY | DATE | RECEIVED BY | DATE |
|---|---|---|---|---|---|---|---|
| Signature: Dane Mathis | 10/29 | Signature: James Phillips | 10/29 | Signature | | Signature | |
| Printed Name: DANE MATHIS | 1994 | Printed Name: JAMES PHILLIPS | | Printed Name | | Printed Name | |
| Company: KRAZAN | TIME 0700 | Company: KRAZAN & ASSOC | TIME 0705 | Company | TIME | Company | TIME |
| RELINQUISHED BY | DATE | RECEIVED BY | DATE | RELINQUISHED BY | DATE | RECEIVED BY (Laboratory) | DATE |
| Signature | | Signature | | Signature | | Signature | |
| Printed Name | TIME | Printed Name | TIME | Printed Name | TIME | Printed Name | TIME |
| Company | | Company | | Company | | Company | |

22 TOTAL NUMBER OF CONTAINERS SUBMITTED TO THE LAB

METHOD OF SHIPMENT/DELIVERY

SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS

RESULTS DUE: 10 Days

☒ VERBAL ☒ WRITTEN

White - Lab Yellow - Project File Pink - COC Binder

# Krazan

JT #379

# Chain of Custody Record

DATE 10/28/94 PAGE 2 OF 2


KRAZAN & ASSOCIATES, INC.
ATTN: Dane Mathis
215 WEST DAKOTA AVENUE
CLOVIS, CA 93612
(209) 348-2200 FAX: (209) 348-2201


Project No. 3494319

Sampler Signature: Dane Mathis

Printed Name: DANE MATHIS

| SAMPLE NO | DATE | TIME | DESCRIPTION/LOCATION | CAC METALS (TTLC/STLC) | PR. POLLUTANT METALS | TOTAL LEAD | TPH-DIESEL | TPH-GAS | BTXE-TPH-GAS | C - & GREASE | HALOGENATED ORGANICS (EPA 8010/8011) | VOLATILE ORGANICS (EPA 8010/8021) | ORGANOCHLORINE PESTICIDES & PCB'S (EPA 8080) | PENTACHLOROPHENOL | CREOSOTE | DIOXINS/FURANS | ASBESTOS (PLM) | | | | NUMBER OF CONTAINERS | OBSERVATIONS/ COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B3-5 | 10/28/94 | 1345 | Boring 3 | | | | | | | | | | | | | | | | | | 1 | HOLD |
| B3-10 | | 1355 | | | | | | | | | | | | | | | | | | | 1 | HOLD |
| B3-15 | | 1405 | | | | | | | | | | | | | | | | | | | 1 | HOLD |
| B3-20 | | 1414 | | | | | X | | X | | X | | | | | | | | | | 1 | |
| B3-W | | 1450 | | | | | X | | X | | X | | | | | | | | | | 7 | |
| HA1-5 | | 1535 | Hand Auger 2 | | | | X | | X | | X | | | | | | | | | | 1 | |
| HA1-10 | | 1605 | " | | | | | | | | | | | | | | | | | | 1 | HOLD |

| RELINQUISHED BY | DATE | RECEIVED BY | DATE | RELINQUISHED BY | DATE | RECEIVED BY | DATE |
|---|---|---|---|---|---|---|---|
| Signature: Dane Mathis | 10/29 | Signature: James Phill | 10/29 | Signature | | Signature | |
| Printed Name: DANE MATHIS | 1994 | Printed Name: James Phill | | Printed Name | | Printed Name | |
| Company: KRAZAN | TIME 0700 | Company: KRAZAN & ASSOC | TIME 0705 | Company | TIME | Company | TIME |
| RELINQUISHED BY | DATE | RECEIVED BY | DATE | RELINQUISHED BY | DATE | RECEIVED BY (Laboratory) | DATE |
| Signature | | Signature | | Signature | | Signature | |
| Printed Name | TIME | Printed Name | TIME | Printed Name | TIME | Printed Name | TIME |
| Company | | Company | | Company | | Company | |

13 TOTAL NUMBER OF CONTAINERS SUBMITTED TO THE LAB

METHOD OF SHIPMENT/DELIVERY

SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS

RESULTS DUE: 10 DAYS

☒ VERBAL ☒ WRITTEN

White - Lab Yellow - Project File Pink - C.O.C. Roster

# Krazan

P.O. # 4000

# Chain of Custody Record

DATE 10/31/94 PAGE 1 OF 1


KRAZAN & ASSOCIATES, INC.
ATTN: Dave Mathis
215 WEST DAKOTA AVENUE
CLOVIS, CA 93612
(209) 348-2200 FAX: (209) 348-2201


Project No 3494319

Sampler Signature

Dave Mathis

Printed Name

| SAMPLE NO | DATE | TIME | DESCRIPTION/LOCATION | CAC METALS (TTLC) | PR. POLLUTANT METALS | TOTAL LEAD | TPH-DIESEL | TPH-GAS | BTXE/TPH-GAS | OIL & GREASE | HALOGENATED ORGANICS (EPA 8010/601) | VOLATILE ORGANICS (EPA 8020/602) | ORGANOCHLORINE PESTICIDES & PCB'S (EPA 8080) | PENTACHLOROPHENOL | CREOSOTE | DIOXINS/FURANS | ASBESTOS (PLM) | NUMBER OF CONTAINERS | OBSERVATIONS/ COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PARAMETERS | | | | | | | | | | | | | | | |
| B1-20 | 10/28/94 | 0922 | | | | | | | | | X | | | | | | | 1 | Job #: 000219 |
| B2-20 | | 1131 | | | | | | | | | X | | | | | | | 1 | 94[illegible]-00464 |
| B3-20 | | 1414 | | | | | | | | | X | | | | | | | 1 | 00465 |
| HA1-5 | | 1535 | | | | | | | | | X | | | | | | | 1 | 00466 |
| B1-W | | 1015 | | | | | | | | | X | | | | | | | 2 | 00467 |
| B2-W | | 1200 | | | | | | | | | X | | | | | | | 2 | 00468 |
| B3-W | ↓ | 1450 | | | | | | | | | X | | | | | | | 2 | 00469 |
| | | | | | | | | | | | | | | | | | | | ↓ 00470 |

| RELINQUISHED BY | DATE | RECEIVED BY | DATE | RELINQUISHED BY | DATE | RECEIVED BY | DATE |
|---|---|---|---|---|---|---|---|
| Signature: [signature] | 10/31/94 | Signature: Michelle T. Ruiz | 10/31/94 | Signature | | Signature | |
| Printed Name: Jim Hawk | TIME 3:08 | Printed Name: Michelle Ruiz | TIME 3:08 pm | Printed Name | TIME | Printed Name | TIME |
| Company: Krazan | | Company: Pan-Ag Labs | | Company | | Company | |
| RELINQUISHED BY | DATE | RECEIVED BY | DATE | RELINQUISHED BY | DATE | RECEIVED BY (Laboratory) | DATE |
| Signature | | Signature | | Signature | | Signature | |
| Printed Name | TIME | Printed Name | TIME | Printed Name | TIME | Printed Name | TIME |
| Company | | Company | | Company | | Company | |

10 TOTAL NUMBER OF CONTAINERS SUBMITTED TO THE LAB

METHOD OF SHIPMENT/DELIVERY: Pan-Ag Pickup

SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS: (E)mail 11-1-94

RESULTS DUE: 11-11-94

☐ VERBAL ☒ WRITTEN

White - Lab Yellow - Project File Pink - C.O.C. Binder

Krazan

ENVIRONMENTAL

LABORATORY

Krazan & Associates, Inc.
215 W. Dakota Avenue
Clovis, CA 93612
(209) 348-2200

Krazan & Associates, Inc.
23 Commerce Circle
Clovis, CA 93612
Attn: Dane Mathis

Client Project ID: 34-94319
Reference Number: 379
Sample Description: Soil
Sample Prep/Analysis Method: EPA 5030/8015M, 8020
Lab Numbers: 379-1S, 2S, 3S, 4S

Sampled: 10-28-94
Received: 10-29-94
Extracted: 11-2-94
Analyzed: 11-2-94
Reported: 11-4-94

## TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE WITH BTEX DISTINCTION

| ANALYTE | REPORTING LIMIT (mg/kg) | SAMPLE ID B1-20 (mg/kg) | SAMPLE ID B2-20 (mg/kg) | SAMPLE ID B3-20 (mg/kg) | SAMPLE ID HA1-5 (mg/kg) |
|---|---|---|---|---|---|
| BENZENE | 0.0050 | ND | ND | ND | ND |
| TOLUENE | 0.0050 | ND | ND | ND | ND |
| ETHYL BENZENE | 0.0050 | ND | ND | ND | ND |
| TOTAL XYLENES | 0.010 | ND | ND | ND | ND |
| GASOLINE RANGE HYDROCARBONS | 1.0 | ND | ND | ND | ND |
| Report Limit Multiplication Factor: | | 1 | 1 | 1 | 1 |
| Surrogate % Recovery: | | FID-151%, PID-151% | FID-136%, PID-135% | FID-142%, PID-133% | FID-134%, PID-135% |
| Instrument ID: | | VAR-GC1 | VAR-GC1 | VAR-GC1 | VAR-GC1 |

Practical Quantitation Limit = Reporting Limit x Report Limit Multiplication Factor
Analytes reported as ND were not detected or below the Practical Quantitation Limit

ANALYST: _____
*Linda Phillips*

APPROVED BY: _____
*James C. Phillips*
*Environmental Lab Director*

Krazan

ENVIRONMENTAL

LABORATORY

Krazan & Associates, Inc.
215 W. Dakota Avenue
Clovis, CA 93612
(209) 348-2200

Krazan & Associates, Inc.
23 Commerce Circle
Sacramento, CA 95815
Attn: Dane Mathis

Client Project ID: 34-94319
Sample Description: Water
Sample Prep/Analysis Method: EPA 5030/8015M, 8020
Lab Numbers: 379-5W, 6W, 7W

Sampled: 10-28-94
Received: 10-29-94
Extracted: 11-2-94
Analyzed: 11-2-94
Reported: 11-4-94

## TOTAL PETROLEUM HYDROCARBONS - GASOLINE RANGE WITH BTEX DISTINCTION

| ANALYTE | REPORTING LIMIT (ug/L) | SAMPLE ID B1-W (ug/L) | SAMPLE ID B2-W (ug/L) | SAMPLE ID B3-W (ug/L) |
|---|---|---|---|---|
| BENZENE | 0.50 | ND | ND | 380 |
| TOLUENE | 0.50 | ND | ND | ND |
| ETHYL BENZENE | 0.50 | ND | ND | 1400 |
| TOTAL XYLENES | 1.0 | ND | ND | 860 |
| GASOLINE RANGE HYDROCARBONS | 50 | ND | 67* | 28000 |
| Report Limit Multiplication Factor: | | 1 | 1 | 100 |

*Extraneous peaks

| | | | |
|---|---|---|---|
| Surrogate % Recovery: | FID-99.7%, PID-99.6% | FID-99.9%, PID-98.9% | NA |
| Instrument ID: | VAR-GC1 | VAR-GC1 | VAR-GC1 |

Practical Quantitation Limit = Reporting Limit x Report Limit Multiplication Factor
Analytes reported as ND were not detected or below the Practical Quantitation Limit

ANALYST: _____
*Linda Phillips*

APPROVED BY: _____
*James C. Phillips*
*Environmental Lab Director*

Krazan

ENVIRONMENTAL

LABORATORY

Krazan & Associates, Inc.
215 W. Dakota Avenue
Clovis, CA 93612
(209) 348-2200

Krazan & Associates, Inc.
123 Commerce Circle
Sacramento, CA 95815
Attn: Dane Mathis

Client Project ID:34-94319
Reference Number: 379
Sample Description: Soil
Sample Prep/Analysis Method: LUFT
Lab Numbers: 379-1S, 2S, 3S, 4S

Sampled: 10-28-94
Received: 10-29-94
Extracted: 10-31-94
Analyzed: 11-2-94
Reported: 11-4-94

## TOTAL PETROLEUM HYDROCARBONS -DIESEL RANGE

| ANALYTE | REPORTING LIMIT (mg/kg) | SAMPLE ID B1-20 (mg/kg) | SAMPLE ID B2-20 (mg/kg) | SAMPLE ID B3-20 (mg/kg) | SAMPLE ID HA1-5 (mg/kg) |
|---|---|---|---|---|---|
| DIESEL RANGE HYDROCARBONS | 1.0 | ND | ND | ND | 1.9 |
| eport Limit Multiplication Factor: | | 1 | 1 | 1 | 1 |
| ıstrument ID: | | HP-GC1 | HP-GC1 | HP-GC1 | HP-GC1 |

ractical Quantitation Limit = Reporting Limit x Report Limit Multiplication Factor
nalytes reported as ND were not detected or below the Practical Quantitation Limit

ANALYST: Kelly A. Crawford

APPROVED BY: James C. Phillips
Environmental Lab Director

Krazan

ENVIRONMENTAL

LABORATORY

Krazan & Associates, Inc.
215 W. Dakota Avenue
Clovis, CA 93612
(209) 348-2200

Krazan & Associates, Inc.
123 Commerce Circle
Sacramento, CA 95815
Attn: Dane Mathis

Client Project ID: 34-94319
Reference Number: 379
Sample Description: Water
Sample Prep/Analysis Method: LUFT
Lab Numbers: 379-5W, 6W, 7W

Sampled: 10-28-94
Received: 10-29-94
Extracted: 10-31-94
Analyzed: 11-2-94
Reported: 11-4-94

## TOTAL PETROLEUM HYDROCARBONS -DIESEL RANGE

| ANALYTE | REPORTING LIMIT (ug/L) | SAMPLE ID B1-W (ug/L) | SAMPLE ID B2-W (ug/L) | SAMPLE ID B3-W (ug/L) |
|---|---|---|---|---|
| DIESEL RANGE HYDROCARBONS | 50 | 85* | 78* | 83000* |
| eport Limit Multiplication Factor: | | 1 | 1 | 50 |

Note: non-diesel pattern

ıstrument ID: HP-GC1

ractical Quantitation Limit = Reporting Limit x Report Limit Multiplication Factor
.nalytes reported as ND were not detected or below the Practical Quantitation Limit

ANALYST: Kelly A. Crawford
*Kelly A. Crawford*

APPROVED BY:
*James C. Phillips*
*Environmental Lab Director*

Krazan

ENVIRONMENTAL

LABORATORY

Krazan & Associates, Inc.
215 W. Dakota Avenue
Clovis, CA 93612
(209) 348-2200

| | | |
|---|---|---|
| Krazan & Associates, Inc. | Client Project ID: 34-94319 | Method: TPH-Diesel |
| 123 Commerce Circle | Reference Number: 379 | Instrument ID: HP-GC1 |
| Sacramento, CA 95815 | Matrix: Soil | Prepared: 10-31-94 |
| Attn: Dane Mathis | Analyst: Jim Hawk | Analyzed: 11-2-94 |
| | | Reported: 11-4-94 |

## QUALITY CONTROL DATA REPORT

| ANALYTE | TPH-Diesel |
|---|---|
| Spike Concentration: | 5.00 |
| Units: | mg/kg |
| LCS Batch #: | TPHD-0314 |
| LCS % Recovery: | 83.0% |
| Control Limits: | 60-130 % |
| MS/MSD Batch #: | TPHD-0314 |
| MS % Recovery: | 56.6% |
| MSD % Recovery: | 54.2% |
| Relative % Difference: | 2.51% |

Please Note:
The LCS (Laboratory Check Sample) is a control sample of known, interferent free matrix that is fortified with representative analytes and analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery is used for validation of sample batch results. Due to matrix effects, the QC limits and recoveries for MS/MSD's are advisory only and are not used to accept or reject batch results.

ANALYST: Kelly A. Crawford
*Kelly A. Crawford*

APPROVED BY:
*James C. Phillips*
*Environmental Lab Director*

Krazan

ENVIRONMENTAL

LABORATORY

Krazan & Associates, Inc.
215 W. Dakota Avenue
Clovis, CA 93612
(209) 348-2200

Krazan & Associates, Inc.
123 Commerce Circle
Stockton, CA 95815
Attn: Dane Mathis

Client Project ID: 34-94319
Reference Number: 379
Matrix: Water
Analyst: Jim Hawk

Method: TPH-Diesel
Instrument ID: HP-GC1
Prepared: 10-31-94
Analyzed: 11-2-94
Reported: 11-4-94

## QUALITY CONTROL DATA REPORT

| ANALYTE | TPH-Diesel |
|---|---|

| | | | |
|---|---|---|---|
| Spike Concentration: | 250 | | |
| Units: | ug/L | | |
| LCS Batch #: | TPHDW-0314 | | |
| LCSA % Recovery: | 69.2% | | |
| LCSD % Recovery: | 57.2% | Relative % Difference: | 18.8% |
| Control Limits: | 60-130 % | | |
| MS/MSD Batch #: | See note | | |
| MS % Recovery: | See note | | |
| MSD % Recovery: | See note | | |
| Relative % Difference: | See note | | |

Note: Insufficient sample material to prepare MS/MSD samples. LCS samples prepared in duplicate.

Please Note:
The LCS (Laboratory Check Sample) is a control sample of known, interferent free matrix that is fortified with representative analytes and analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery is used for validation of sample batch results. Due to matrix effects, the QC limits and recoveries for MS/MSD's are advisory only and are not used to accept or reject batch results.
Spikes for this set were out of control.

ANALYST: Kelly A. Crawford
*Kelly A. Crawford*

APPROVED BY:
*James C. Phillips*
*Environmental Lab Director*

Krazan

ENVIRONMENTAL

LABORATORY

Krazan & Associates, Inc.
215 W. Dakota Avenue
Clovis, CA 93612
(209) 348-2200

azan & Associates, Inc.
23 Commerce Circle
acramento, CA 95815
ttn: Dane Mathis

Client Project ID: 314-94319
Reference Number: 379
Matrix: Water
Analyst: Linda Phillips

Method: EPA 5030/8015M,8020
Instrument ID: Var-GC1
Prepared: 11-2-94
Analyzed: 11-2-94
Reported: 11-7-94

## QUALITY CONTROL DATA REPORT

| ANALYTE | Gasoline | Benzene | Toluene | Ethyl Benzene | Total Xylenes |
|---|---|---|---|---|---|
| ike Concentration: | 99.0 | 1.00 | 1.00 | 1.00 | 2.00 |
| nits: | ug/L | ug/L | ug/L | ug/L | ug/L |
| CS Batch #: | VG-N024 | VB-N024 | VB-N024 | VB-N024 | VB-N024 |
| CS % Recovery: | 112% | 108% | 114% | 113% | 114% |
| gate Recovery: | 96.0% | 98.2% | 98.2% | 98.2% | 98.2% |
| ontrol Limits: | 70-130 % | 70-130 % | 70-130 % | 70-130 % | 70-130 % |
| S/MSD Batch #: | VG-N024 | VB-N024 | VB-N024 | VB-N024 | VB-N024 |
| S % Recovery: | 98.4% | 103% | 104% | 107% | 108% |
| rrogate Recovery: | 98.8% | 99.3% | 99.3% | 99.3% | 99.3% |
| SD % Recovery: | 93.3% | 99.7% | 101% | 104% | 105% |
| rrogate Recovery: | 95.8% | 94.6% | 94.6% | 94.6% | 94.6% |
| elative % Difference: | 4.08% | 2.74% | 2.49% | 2.76% | 3.10% |
| ethanol Blank : | ND | ND | ND | ND | ND |
| rrogate Recovery: | 99.2% | 98.1% | 98.1% | 98.1% | 98.1% |

ease Note:
The LCS (Laboratory Check Sample) is a control sample of known, interferent free matrix that is fortified with representative analytes and alyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery is used for validation sample batch results. Due to matrix effects, the QC limits and recoveries for MS/MSD's are advisory only and are not used to accept or ject batch results.

ANALYST: Linda Phillips — Linda Phillips

APPROVED BY: James C. Phillips — James C. Phillips, Environmental Lab Director

Krazan

ENVIRONMENTAL

LABORATORY

Krazan & Associates, Inc.
215 W. Dakota Avenue
Clovis, CA 93612
(209) 348-2200

Krazan & Associates, Inc.
215 W. Dakota Avenue
Clovis, CA 93612
Attn: Dane Mathis

Client Project ID: 314-94319
Reference Number: 379
Matrix: Water
Analyst: Linda Phillips

Method: EPA 5030/8015M,8020
Instrument ID: Var-GC1
Prepared: 11-2-94
Analyzed: 11-2-94
Reported: 11-4-94

## QUALITY CONTROL DATA REPORT

| ANALYTE | Gasoline | Benzene | Toluene | Ethyl Benzene | Total Xylenes |
|---|---|---|---|---|---|
| pike Concentration: | 99.0 | 1.00 | 1.00 | 1.00 | 2.00 |
| nits: | ug/L | ug/L | ug/L | ug/L | ug/L |
| CS Batch #: | VG-N024 | VB-N024 | VB-N024 | VB-N024 | VB-N024 |
| CS % Recovery: | 112% | 108% | 114% | 113% | 114% |
| gate Recovery: | 96.0% | 98.2% | 98.2% | 98.2% | 98.2% |
| ontrol Limits: | 70-130 % | 70-130 % | 70-130 % | 70-130 % | 70-130 % |
| 1S/MSD Batch #: | VG-N024 | VB-N024 | VB-N024 | VB-N024 | VB-N024 |
| 1S % Recovery: | 98.4% | 103% | 104% | 107% | 108% |
| urrogate Recovery: | 98.8% | 99.3% | 99.3% | 99.3% | 99.3% |
| 1SD % Recovery: | 93.3% | 100% | 101% | 104% | 105% |
| urrogate Recovery: | 95.8% | 94.6% | 94.6% | 94.6% | 94.6% |
| elative % Difference: | 4.08% | 2.74% | 2.49% | 2.76% | 3.10% |
| lethanol Blank : | ND | ND | ND | ND | ND |
| urrogate Recovery: | 99.2% | 98.1% | 98.1% | 98.1% | 98.1% |

lease Note:
The LCS (Laboratory Check Sample) is a control sample of known, interferent free matrix that is fortified with representative analytes and nalyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery is used for validation f sample batch results. Due to matrix effects, the QC limits and recoveries for MS/MSD's are advisory only and are not used to accept or ject batch results.

ANALYST: _____ *Linda Phillips*

APPROVED BY: _____ *James C. Phillips*
*Environmental Lab Director*

Krazan

ENVIRONMENTAL

LABORATORY

Krazan & Associates, Inc.
215 W. Dakota Avenue
Clovis, CA 93612
(209) 348-2200

razan & Associates, Inc.
23 Commerce Circle
acramento, CA 95815
ttn: Dane Mathis

Client Project ID: 34-94319
Reference Number: 379
Matrix: Soil
Analyst: Linda Phillips

Method: EPA 5030/8015M,8020
Instrument ID: Var-GC1
Prepared: 10-31-94
Analyzed: 11-1-94
Reported: 11-7-94

## QUALITY CONTROL DATA REPORT

| ANALYTE | Gasoline | Benzene | Toluene | Ethyl Benzene | Total Xylenes |
|---|---|---|---|---|---|
| oike Concentration: | 2.00 | 20.0 | 20.0 | 20.0 | 40.0 |
| nits: | mg/kg | ug/kg | ug/kg | ug/kg | ug/kg |
| CS Batch #: | VG-0314 | VB-0314 | VB-0314 | VB-0314 | VB-0314 |
| CS % Recovery: | 114% | 122% | 123% | 125% | 124% |
| gate Recovery: | 119% | 124% | 124% | 124% | 124% |
| ontrol Limits: | 70-130 % | 70-130 % | 70-130 % | 70-130 % | 70-130 % |
| S/MSD Batch #: | VG-0314 | VB-0314 | VB-0314 | VB-0314 | VB-0314 |
| S % Recovery: | 112% | 114% | 109% | 116% | 112% |
| urrogate Recovery: | 120% | 120% | 120% | 120% | 120% |
| SD % Recovery: | 115% | 110% | 104% | 114% | 110% |
| urrogate Recovery: | 120% | 118% | 118% | 118% | 118% |
| elative % Difference: | 2.62% | 3.42% | 3.77% | 2.12% | 1.89% |
| ethanol Blank : | ND | ND | ND | ND | ND |
| urrogate Recovery: | 106% | 105% | 105% | 105% | 105% |

ease Note:
The LCS (Laboratory Check Sample) is a control sample of known, interferent free matrix that is fortified with representative analytes and alyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery is used for validation sample batch results. Due to matrix effects, the QC limits and recoveries for MS/MSD's are advisory only and are not used to accept or ject batch results.

ANALYST: Linda Phillips
Linda Phillips

APPROVED BY:
James C. Phillips
Environmental Lab Director

## Environmental Laboratory

Pan-Agricultural Environmental Labs
32380 Avenue 10
Madera, California 93638

*ELAP Certification Number 1973*

## Client

Krazan & Associates, Inc.
215 West Dakota Ave.
Clovis, CA 93612

## Pan-Ag Environmental Project Number

000219

## Client Project Number

3494319

## Date

November 18, 1994

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## CASE NARRATIVE

Pan-Ag Environmental Labs Project Number 000219

The Internal Standard and surrogates for sample 219-9411-470 failed QC criteria due to matrix interference.

**Pan-Ag Environmental Labs**

## SAMPLE DESCRIPTION INFORMATION
for
Krazan & Associates, Inc.

| Lab ID | Client ID | Matrix | Sampled | | Date Received |
|---|---|---|---|---|---|
| | | | Date | Time | |
| 00464 | B1-20 | Soil | 10/28/94 | 0922 | 10/31/94 |
| 00465 | B2-20 | Soil | 10/28/94 | 1131 | 10/31/94 |
| 00466 | B3-20 | Soil | 10/28/94 | 1414 | 10/31/94 |
| 00467 | HA1-5 | Soil | 10/28/94 | 1535 | 10/31/94 |
| 00468 | B1-W | Liquid | 10/28/94 | 1015 | 10/31/94 |
| 00469 | B2-W | Liquid | 10/28/94 | 1200 | 10/31/94 |
| 00470 | B3-W | Liquid | 10/28/94 | 1450 | 10/31/94 |
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**Pan-Ag Environmental Labs**

## LABORATORY CHRONICLE

| Lab Job Number | Sample ID Number | Date Sampled | Date Received | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|
| 000219 | 9410-00464 | 10/28/94 | 10/31/94 | N/A | 11/6/94 |
| 000219 | 9410-00465 | 10/28/94 | 10/31/94 | N/A | 11/6/94 |
| 000219 | 9410-00466 | 10/28/94 | 10/31/94 | N/A | 11/6/94 |
| 000219 | 9410-00467 | 10/28/94 | 10/31/94 | N/A | 11/6/94 |
| 000219 | 9410-00468 | 10/28/94 | 10/31/94 | N/A | 11/7/94 |
| 000219 | 9410-00469 | 10/28/94 | 10/31/94 | N/A | 11/5/94 |
| 000219 | 9410-00470 | 10/28/94 | 10/31/94 | N/A | 11/5/94 |
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11-22-1994 08:31AM

P.O. # 4058

# Krazan — Chain of Custody Record

DATE 10/31/94 PAGE 1 OF 1


KRAZAN & ASSOCIATES, INC.
ATTN: Dave Mathis
215 WEST DAKOTA AVENUE
CLOVIS, CA 93612
(209) 348-2200 FAX: (209) 348-2201


Project No. 34/94319

Sampler Signature: Dave Mathis

Printed Name

| SAMPLE NO | DATE | TIME | DESCRIPTION/LOCATION | PARAMETERS: HALOGENATED ORGANICS (EPA 8010/8021) | NUMBER OF CONTAINERS | OBSERVATIONS/ COMMENTS |
|---|---|---|---|---|---|---|
| | | | | | | Job #: 000219 |
| | | | | | | 110 |
| B1-20 | 10/20/94 | 0922 | | X | 1 | 9410-004464 |
| B2-20 | | 1131 | | X | 1 | 004465 |
| B3-20 | | 1414 | | X | 1 | 004466 |
| HA1-5 | | 1535 | | X | 1 | 004467 |
| B1-W | | 1015 | | X | 2 | 004468 |
| B2-W | | 1200 | | X | 2 | 004469 |
| B3-W | | 1450 | | X | 3 | 004470 |

PARAMETERS: CAM METALS (TTLC); PR. POLLUTANT METALS; TOTAL LEAD; TPH-DIESEL; TPH-GAS; BTXE/TPH-GAS; OIL & GREASE; HALOGENATED ORGANICS (EPA 8010/8021); VOLATILE ORGANICS (EPA 8020/8021); ORGAN/OCHLORINE PESTICIDES & PCB'S (EPA 8080); PENTACHLOROPHENOL; CREOSOTE; DIOXINS/FURANS; ASBESTOS (PLM)

| RELINQUISHED BY | DATE | RECEIVED BY | DATE | RELINQUISHED BY | DATE | RECEIVED BY | DATE |
|---|---|---|---|---|---|---|---|
| Signature: | | Signature: | | Signature: | | Signature: | |
| Jim Hawk | 10/31/94 | Michelle T. Ruiz | 10/31/94 | | | | |
| Printed Name: | TIME | Printed Name: | TIME | Printed Name: | TIME | Printed Name: | TIME |
| Krazan | 3:08 | Michelle Ruiz | 3:08 pm | | | | |
| Company: | | Company: Pan-Ag Labs | | Company: | | Company: | |
| RELINQUISHED BY | DATE | RECEIVED BY | DATE | RELINQUISHED BY | DATE | RECEIVED BY (Laboratory) | DATE |
| Signature: | | Signature: | | Signature: | | Signature: | |
| Printed Name: | TIME | Printed Name: | TIME | Printed Name: | TIME | Printed Name: | TIME |
| Company: | | Company: | | Company: | | Company: | |

TOTAL NUMBER OF CONTAINERS SUBMITTED TO THE LAB: 10

METHOD OF SHIPMENT/DELIVERY: Pan-Ag Pickup

SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS: EDF XMIT 11-1-94

RESULTS DUE: 11-11-94

☐ VERBAL ☒ WRITTEN

White - Lab Yellow - Project File Pink - C.O.C. Binder

P.06

**Pan-Ag Enviromental Labs, Inc., Madera, California.**

## Volatiles Analysis Data

| | | | | | |
|---|---|---|---|---|---|
| Client Sample ID. : | B1-20, (1.0gm) | Date Analyzed : | 6-Nov-94 | Matrix : | Soil |
| Pan-Ag Sample I.D. : | 219-9411-464 | Analyst : | SDW | Method No. : | 8010A |

| Compound | ug/Kg | QL | Compound | ug/Kg | QL |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | 5 | Dibromomethane | ND | 5 |
| Chloromethane | ND | 5 | 2-Chloroethyl vinyl ether | ND | 5 |
| Vinyl chloride | ND | 5 | cis-1,3-Dichloropropene | ND | 5 |
| Bromomethane | ND | 5 | trans-1,3-Dichloropropene | ND | 5 |
| Chloroethane | ND | 5 | 1,1,2-Trichloroethane | ND | 5 |
| Trichlorofluoromethane | ND | 5 | Tetrachloroethene | ND | 5 |
| 1,1-Dichloroethene | ND | 5 | Dibromochloromethane | ND | 5 |
| Methylene chloride | ND | 5 | Chlorobenzene | ND | 5 |
| trans-1,2-Dichloroethene | ND | 5 | 1,1,1,2-Tetrachloroethane | ND | 5 |
| 1,1-Dichloroethane | ND | 5 | Bromoform | ND | 5 |
| Chloroform | ND | 5 | 1,1,2,2-Tetrachloroethane | ND | 5 |
| 1,1,1-Trichloroethane | ND | 5 | 1,2,3-Trichloropropane | ND | 5 |
| Carbon tetrachloride | ND | 5 | Bromobenzene | ND | 5 |
| 1,2-Dichloroethane | ND | 5 | 1,3-Dichlorobenzene | ND | 5 |
| Trichloroethene | ND | 5 | 1,4-Dichlorobenzene | ND | 5 |
| 1,2-Dichloropropane | ND | 5 | Benzyl chloride | ND | 5 |
| Bromodichloromethane | ND | 5 | 1,2-Dichlorobenzene | ND | 5 |

| Surrogates | Percent Recovery | |
|---|---|---|
| | Detector A | Detector B |
| 4-Bromofluorobenzene | 97.5 | 104.1 |
| 1-Chloro-2,4-difluorobenzene | 103.5 | 97.3 |

Internal Standard was within QC limits on detector B (ELCD).

QL = Sample specific quantitation limit.

Qualifiers : (J) Indicates an estimated value. (D) Indicates surrogates have been diluted out of detection range.
(B) Indicates compound found in blank. (ND) Indicates compound not detected.

Results based on a total solid of 100%.

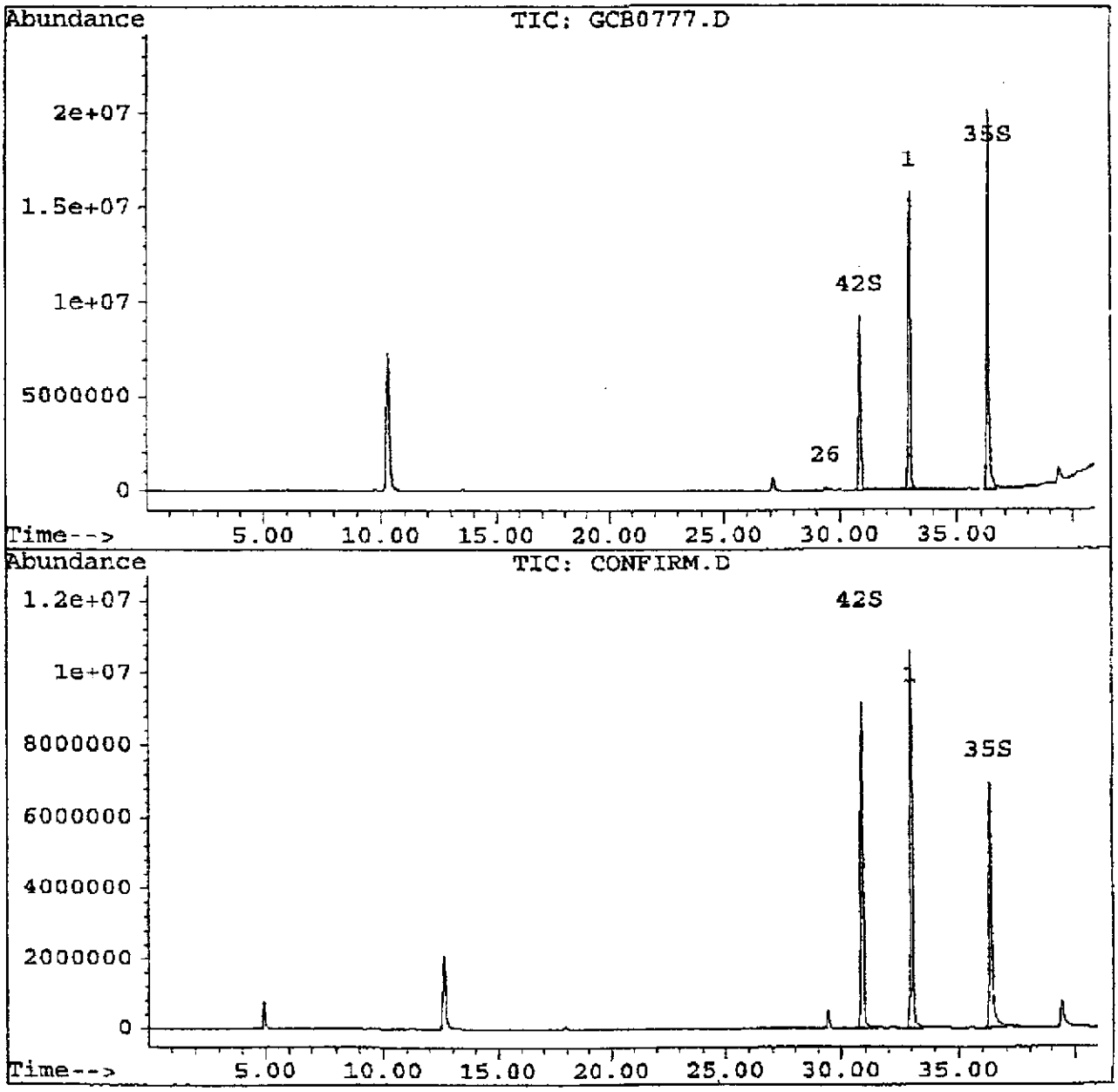
Approved by : _____

Signal #1 : D:\HPCHEM\5\DATA\GCB0777.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0777.D\CONFIRM.D
Acq On : 06 Nov 94 12:12 PM
Sample : 219-9411-464
Misc : B1-20, (1.0gm)
Quant Time: Nov 6 14:11 1994

Vial: 1
Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :



Pan-Ag Enviromental Labs, Inc., Madera, California.

## Volatiles Analysis Data

Client Sample .ID. : B2-20, (1.0gm) | Date Analyzed : 6-Nov-94 | Matrix : Soil

Pan-Ag Sample I.D. : 219-9411-465 | Analyst : SDW | Method No. : 8010A

| Compound | ug/Kg | QL | Compound | ug/Kg | QL |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | 5 | Dibromomethane | ND | 5 |
| Chloromethane | ND | 5 | 2-Chloroethyl vinyl ether | ND | 5 |
| Vinyl chloride | ND | 5 | cis-1,3-Dichloropropene | ND | 5 |
| Bromomethane | ND | 5 | trans-1,3-Dichloropropene | ND | 5 |
| Chloroethane | ND | 5 | 1,1,2-Trichloroethane | ND | 5 |
| Trichlorofluoromethane | ND | 5 | Tetrachloroethene | ND | 5 |
| 1,1-Dichloroethene | ND | 5 | Dibromochloromethane | ND | 5 |
| Methylene chloride | ND | 5 | Chlorobenzene | ND | 5 |
| trans-1,2-Dichloroethene | ND | 5 | 1,1,1,2-Tetrachloroethane | ND | 5 |
| 1,1-Dichloroethane | ND | 5 | Bromoform | ND | 5 |
| Chloroform | ND | 5 | 1,1,2,2-Tetrachloroethane | ND | 5 |
| 1,1,1-Trichloroethane | ND | 5 | 1,2,3-Trichloropropane | ND | 5 |
| Carbon tetrachloride | ND | 5 | Bromobenzene | ND | 5 |
| 1,2-Dichloroethane | ND | 5 | 1,3-Dichlorobenzene | ND | 5 |
| Trichloroethene | ND | 5 | 1,4-Dichlorobenzene | ND | 5 |
| 1,2-Dichloropropane | ND | 5 | Benzyl chloride | ND | 5 |
| Bromodichloromethane | ND | 5 | 1,2-Dichlorobenzene | ND | 5 |

| Surrogates | Percent Recovery | |
|---|---|---|
| | Detector A | Detector B |
| 4-Bromofluorobenzene | 97.8 | 105.4 |
| 1-Chloro-2,4-difluorobenzene | 102.2 | 98.5 |

Internal Standard was within QC limits on detector B (ELCD).

QL = Sample specific quantitation limit.

Qualifiers : (J) Indicates an estimated value. (D) Indicates surrogates have been diluted out of detection range.
(B) Indicates compound found in blank. (ND) Indicates compound not detected.

Results based on a total solid of 100%.

Approved by : _____

Quantitation Report

Signal #1 : D:\HPCHEM\5\DATA\GCB0778.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0778.D\CONFIRM.D
Acq On : 06 Nov 94 01:03 PM
Sample : 219-9411-465
Misc : B2-20, (1.0gm)
Quant Time: Nov 6 14:13 1994

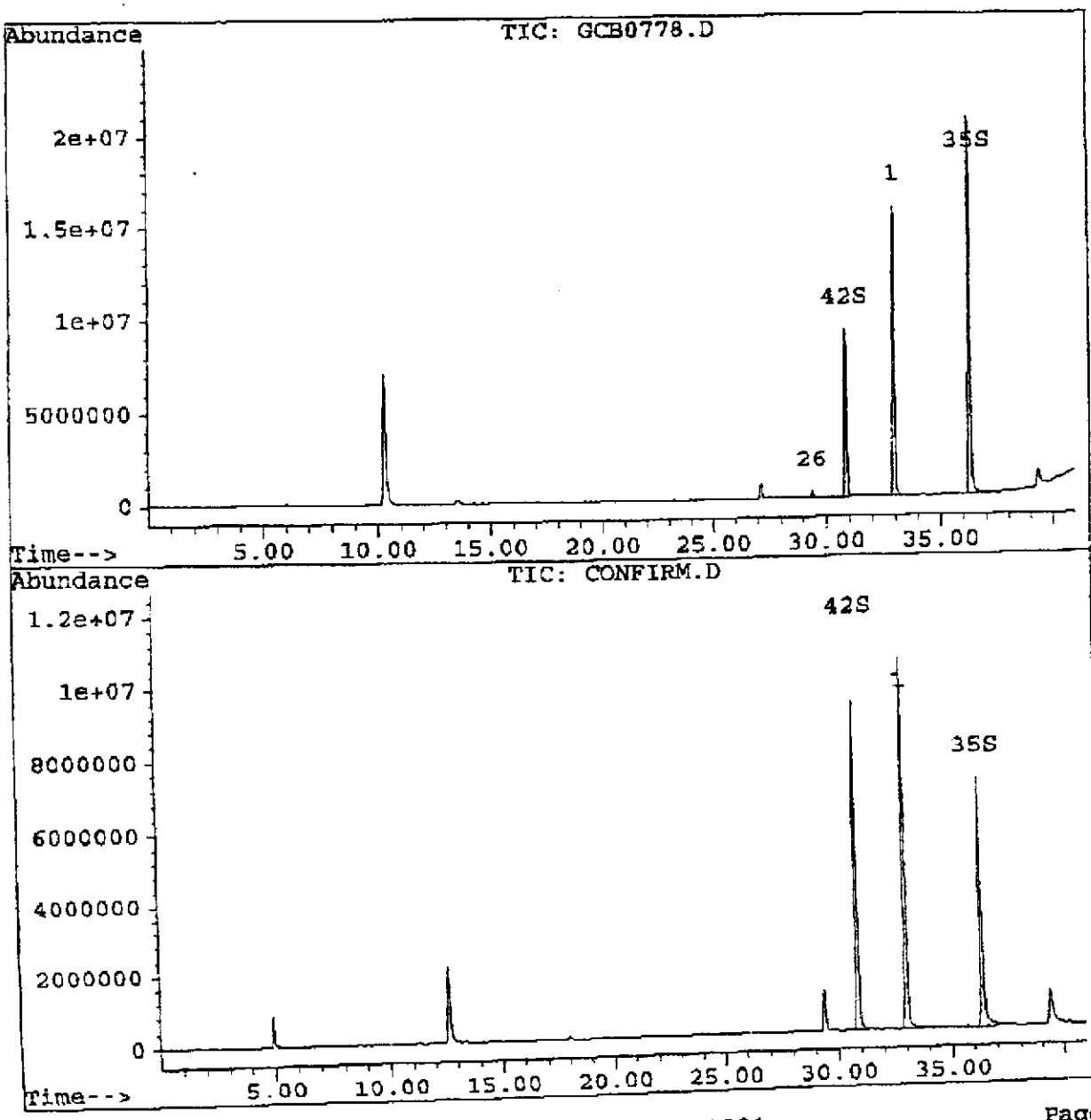
Vial: 2

Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



Pan-Ag Enviromental Labs, Inc., Madera, California.

## Volatiles Analysis Data

Client Sample .ID. : B3-20, (1.0gm) | Date Analyzed : 6-Nov-94 | Matrix : Soil

Pan-Ag Sample I.D. : 219-9411-466 | Analyst : SDW | Method No. : 8010A

| Compound | ug/Kg | QL | Compound | ug/Kg | QL |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | 5 | Dibromomethane | ND | 5 |
| Chloromethane | ND | 5 | 2-Chloroethyl vinyl ether | ND | 5 |
| Vinyl chloride | ND | 5 | cis-1,3-Dichloropropene | ND | 5 |
| Bromomethane | ND | 5 | trans-1,3-Dichloropropene | ND | 5 |
| Chloroethane | ND | 5 | 1,1,2-Trichloroethane | ND | 5 |
| Trichlorofluoromethane | ND | 5 | Tetrachloroethene | ND | 5 |
| 1,1-Dichloroethene | ND | 5 | Dibromochloromethane | ND | 5 |
| Methylene chloride | ND | 5 | Chlorobenzene | ND | 5 |
| trans-1,2-Dichloroethene | ND | 5 | 1,1,1,2-Tetrachloroethane | ND | 5 |
| 1,1-Dichloroethane | ND | 5 | Bromoform | ND | 5 |
| Chloroform | ND | 5 | 1,1,2,2-Tetrachloroethane | ND | 5 |
| 1,1,1-Trichloroethane | ND | 5 | 1,2,3-Trichloropropane | ND | 5 |
| Carbon tetrachloride | ND | 5 | Bromobenzene | ND | 5 |
| 1,2-Dichloroethane | ND | 5 | 1,3-Dichlorobenzene | ND | 5 |
| Trichloroethene | ND | 5 | 1,4-Dichlorobenzene | ND | 5 |
| 1,2-Dichloropropane | ND | 5 | Benzyl chloride | ND | 5 |
| Bromodichloromethane | ND | 5 | 1,2-Dichlorobenzene | ND | 5 |

| Surrogates | Percent Recovery | |
|---|---|---|
| | Detector A | Detector B |
| 4-Bromofluorobenzene | 98.6 | 102.5 |
| 1-Chloro-2,4-difluorobenzene | 102.0 | 100.3 |

Internal Standard was within QC limits on detector B (ELCD).

QL = Sample specific quantitation limit.

Qualifiers : (J) Indicates an estimated value. (D) Indicates surrogates have been diluted out of detection range.
(B) Indicates compound found in blank. (ND) Indicates compound not detected.

Results based on a total solid of 100%.

Approved by : _____

Quantitation Report

Signal #1 : D:\HPCHEM\5\DATA\GCB0779.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0779.D\CONFIRM.D
Acq On : 06 Nov 94 01:54 PM
Sample : 219-9411-466
Misc : B3-20, (1.0gm)
Quant Time: Nov 6 14:42 1994

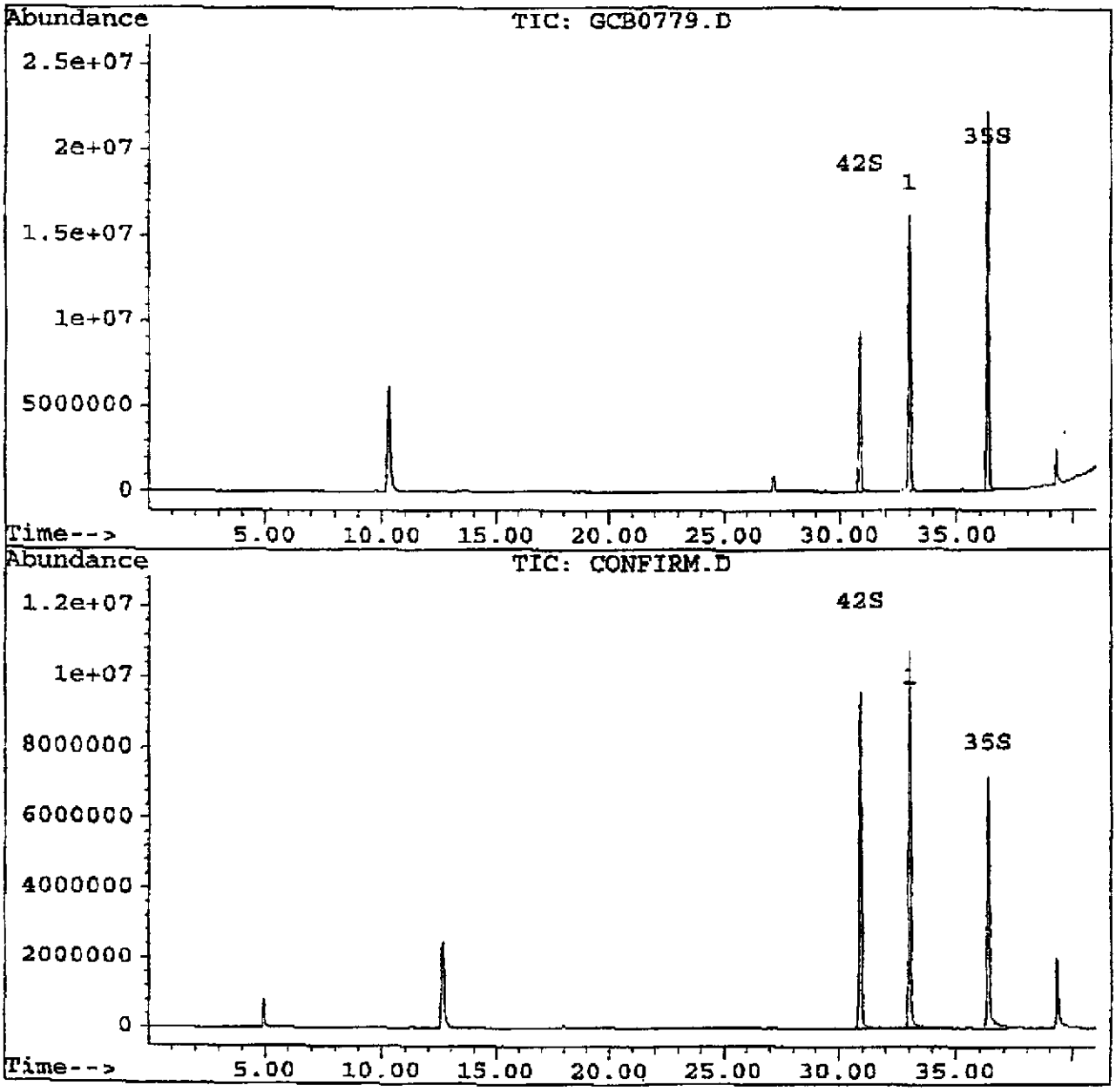
Vial: 1

Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



Pan-Ag Environmental Labs, Inc., Madera, California.

## Volatiles Analysis Data

Client Sample ID.: HA1-6, (1.0gm) Date Analyzed: 6-Nov-94 Matrix: Soil

Pan-Ag Sample I.D.: 219-8411-467 Analyst: SDW Method No.: 8010A

| Compound | ug/Kg | QL | Compound | ug/Kg | QL |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | 5 | Dibromomethane | ND | 5 |
| Chloromethane | ND | 5 | 2-Chloroethyl vinyl ether | ND | 5 |
| Vinyl chloride | ND | 5 | cis-1,3-Dichloropropene | ND | 5 |
| Bromomethane | ND | 5 | trans-1,3-Dichloropropene | ND | 5 |
| Chloroethane | ND | 5 | 1,1,2-Trichloroethane | ND | 5 |
| Trichlorofluoromethane | ND | 5 | Tetrachloroethene | ND | 5 |
| 1,1-Dichloroethene | ND | 5 | Dibromochloromethane | ND | 5 |
| Methylene chloride | ND | 5 | Chlorobenzene | ND | 5 |
| trans-1,2-Dichloroethene | ND | 5 | 1,1,1,2-Tetrachloroethane | ND | 5 |
| 1,1-Dichloroethane | ND | 5 | Bromoform | ND | 5 |
| Chloroform | ND | 5 | 1,1,2,2-Tetrachloroethane | ND | 5 |
| 1,1,1-Trichloroethane | ND | 5 | 1,2,3-Trichloropropane | ND | 5 |
| Carbon tetrachloride | ND | 5 | Bromobenzene | ND | 5 |
| 1,2-Dichloroethane | ND | 5 | 1,3-Dichlorobenzene | ND | 5 |
| Trichloroethene | ND | 5 | 1,4-Dichlorobenzene | ND | 5 |
| 1,2-Dichloropropane | ND | 5 | Benzyl chloride | ND | 5 |
| Bromodichloromethane | ND | 5 | 1,2-Dichlorobenzene | ND | 5 |

| Surrogates | Percent Recovery | |
|---|---|---|
| | Detector A | Detector B |
| 4-Bromofluorobenzene | 98.7 | 109.1 |
| 1-Chloro-2,4-difluorobenzene | 102.1 | 96.8 |

Internal Standard was within QC limits on detector B (ELCD).

QL = Sample specific quantitation limit.

Qualifiers: (J) Indicates an estimated value. (D) Indicates surrogates have been diluted out of detection range.
(B) Indicates compound found in blank. (ND) Indicates compound not detected.

Results based on a total solid of 100%.

Approved by: _____

Quantitation Report

Signal #1 : D:\HPCHEM\5\DATA\GCB0780.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0780.D\CONFIRM.D
Acq On : 06 Nov 94 02:51 PM
Sample : 219-9411-467
Misc : HA1-5, (1.0gm)
Quant Time: Nov 6 15:42 1994

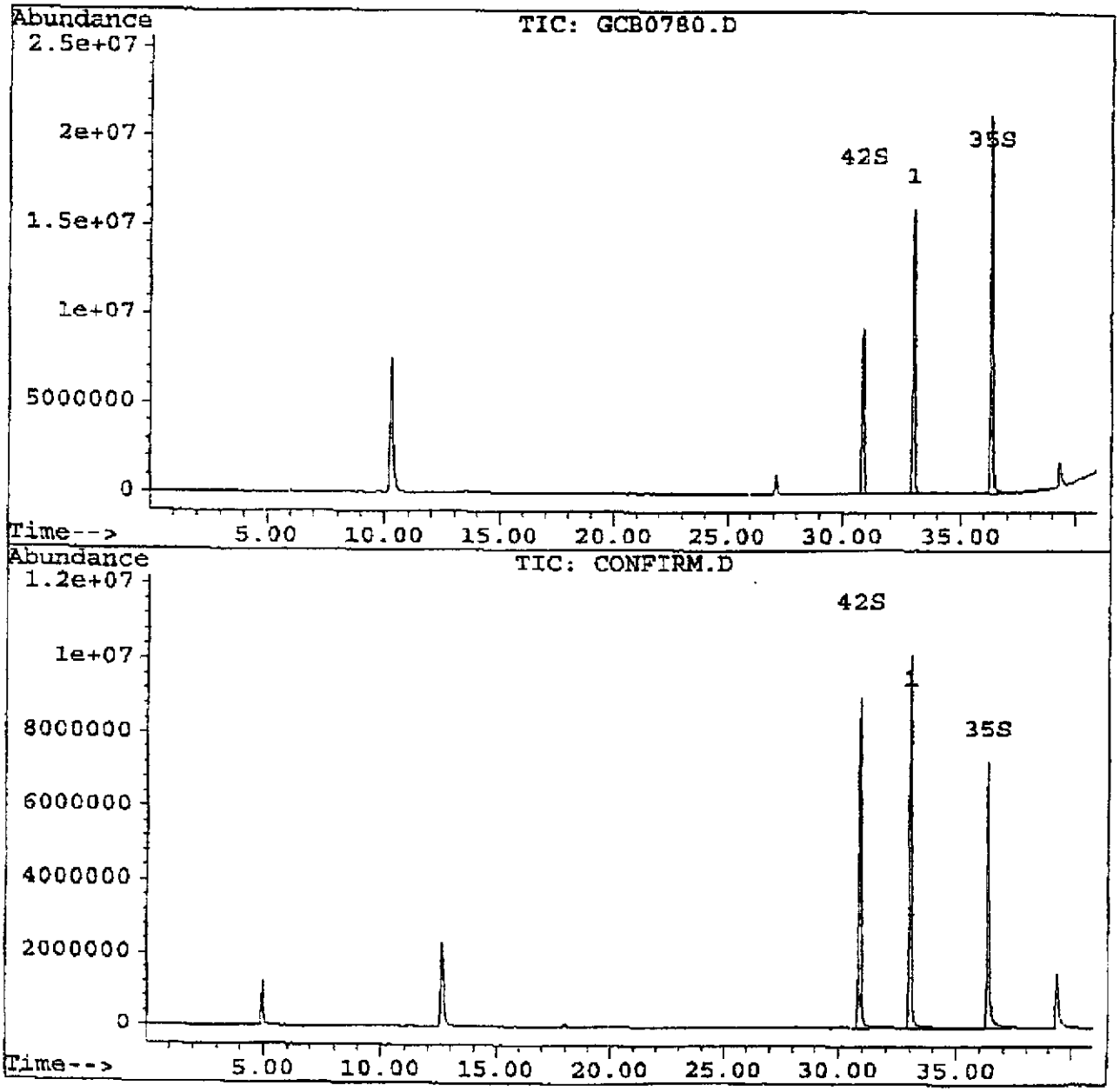
Vial: 1

Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



Pan-Ag Enviromental Labs, Inc., Madera, California.

## Volatiles Analysis Data

Client Sample .ID. : B1-W
Date Analyzed : 7-Nov-94
Matrix : Aqueous
Pan-Ag Sample I.D. : 219-9411-468
Analyst : SDW
Method No. : 8010A

| Compound | ug/L | QL | | ug/L | QL | |
|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | 1 | Dibromomethane | ND | 1 | |
| Chloromethane | ND | 1 | 2-Chloroethyl vinyl ether | ND | 1 | |
| Vinyl chloride | ND | 1 | cis-1,3-Dichloropropene | ND | 1 | |
| Bromomethane | ND | 1 | trans-1,3-Dichloropropene | ND | 1 | |
| Chloroethane | ND | 1 | 1,1,2-Trichloroethane | ND | 1 | |
| Trichlorofluoromethane | ND | 1 | Tetrachloroethene | 56 | 5 | DL |
| 1,1-Dichloroethene | ND | 1 | Dibromochloromethane | ND | 1 | |
| Methylene chloride | ND | 1 | Chlorobenzene | ND | 1 | |
| trans-1,2-Dichloroethene | ND | 1 | 1,1,1,2-Tetrachloroethane | ND | 1 | |
| 1,1-Dichloroethane | ND | 1 | Bromoform | ND | 1 | |
| Chloroform | ND | 1 | 1,1,2,2-Tetrachloroethane | ND | 1 | |
| 1,1,1-Trichloroethane | ND | 1 | 1,2,3-Trichloropropane | ND | 1 | |
| Carbon tetrachloride | ND | 1 | Bromobenzene | ND | 1 | |
| 1,2-Dichloroethane | ND | 1 | 1,3-Dichlorobenzene | ND | 1 | |
| Trichloroethene | ND | 1 | 1,4-Dichlorobenzene | ND | 1 | |
| 1,2-Dichloropropane | ND | 1 | Benzyl chloride | ND | 1 | |
| Bromodichloromethane | ND | 1 | 1,2-Dichlorobenzene | ND | 1 | |

| Surrogates | Percent Recovery | |
|---|---|---|
| | Detector A | Detector B |
| 4-Bromofluorobenzene | 99.3 | 113.3 |
| 1-Chloro-2,4-difluorobenzene | 101.9 | 101.8 |

Internal Standard was within QC limits on detector B (ELCD).

QL = Sample specific quantitation limit.

Qualifiers :
(J) Indicates an estimated value.
(B) Indicates compound found in blank.
(D) Indicates surrogates have been diluted out of detection range.
(ND) Indicates compound not detected.
(DL) Indicates compound concentration reported from dilution run.

Approved by : _____

Quantitation Report

Vial: 1

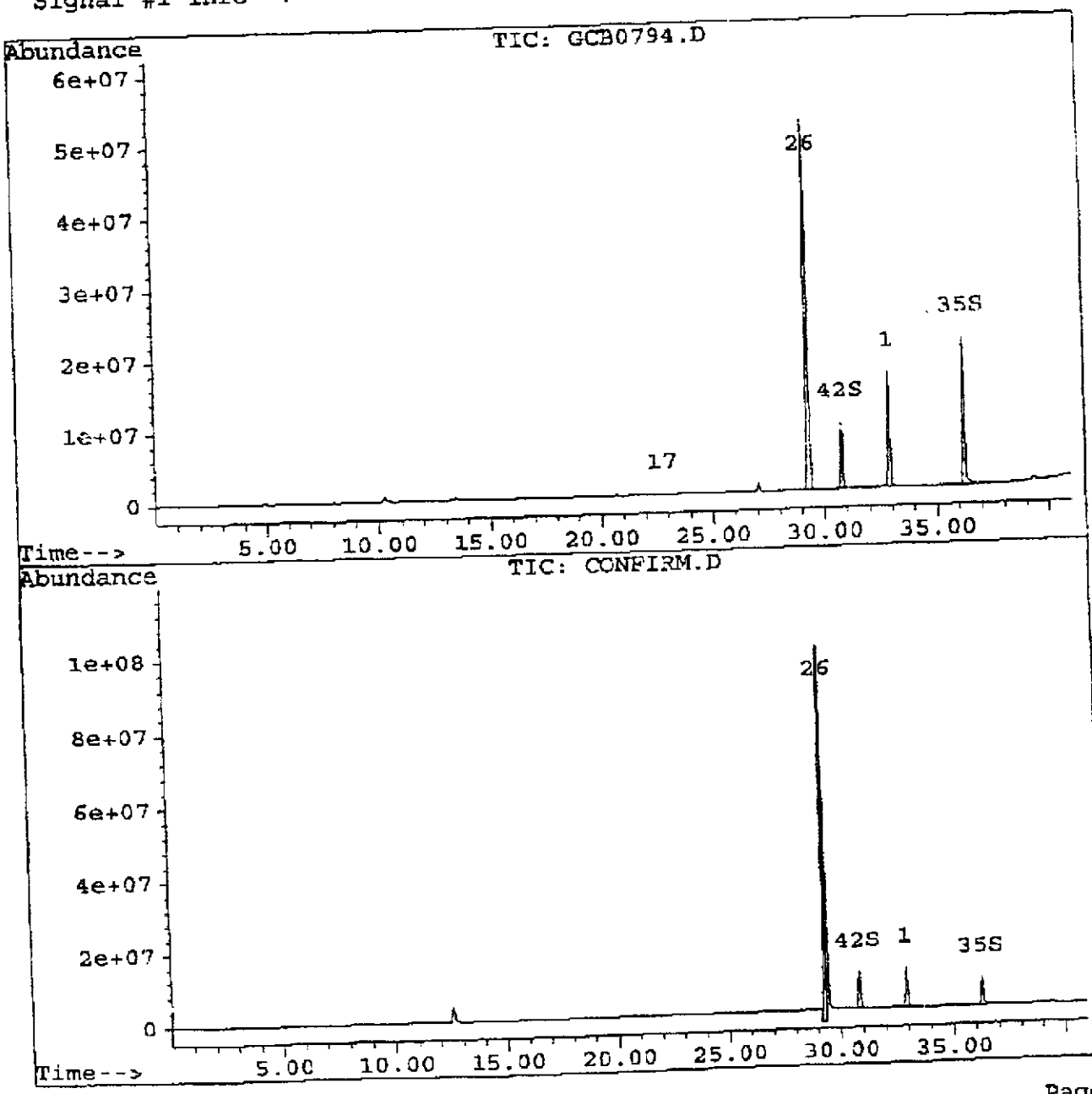
Signal #1 : D:\HPCHEM\5\DATA\GCB0794.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0794.D\CONFIRM.D
Acq On : 07 Nov 94 02:44 PM
Sample : 219-9411-468
Misc : B1-W
Quant Time: Nov 8 8:44 1994

Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



Pan-Ag Enviromental Labs, Inc., Madera, California.

## Volatiles Analysis Data

Client Sample ID. : B2-W
Date Analyzed : 5-Nov-94
Matrix : Aqueous
Pan-Ag Sample I.D. : 219-9411-469
Analyst : SDW
Method No. : 8010A

| Compound | ug/L | QL | Compound | ug/L | QL | |
|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | 1 | Dibromomethane | ND | 1 | |
| Chloromethane | ND | 1 | 2-Chloroethyl vinyl ether | ND | 1 | |
| Vinyl chloride | ND | 1 | cis-1,3-Dichloropropene | ND | 1 | |
| Bromomethane | ND | 1 | trans-1,3-Dichloropropene | ND | 1 | |
| Chloroethane | ND | 1 | 1,1,2-Trichloroethane | ND | 1 | |
| Trichlorofluoromethane | ND | 1 | Tetrachloroethene | 140 | 10 | DL |
| 1,1-Dichloroethene | ND | 1 | Dibromochloromethane | ND | 1 | |
| Methylene chloride | ND | 1 | Chlorobenzene | ND | 1 | |
| trans-1,2-Dichloroethene | ND | 1 | 1,1,1,2-Tetrachloroethane | ND | 1 | |
| 1,1-Dichloroethane | ND | 1 | Bromoform | ND | 1 | |
| Chloroform | ND | 1 | 1,1,2,2-Tetrachloroethane | ND | 1 | |
| 1,1,1-Trichloroethane | ND | 1 | 1,2,3-Trichloropropane | ND | 1 | |
| Carbon tetrachloride | ND | 1 | Bromobenzene | ND | 1 | |
| 1,2-Dichloroethane | ND | 1 | 1,3-Dichlorobenzene | ND | 1 | |
| Trichloroethene | ND | 1 | 1,4-Dichlorobenzene | ND | 1 | |
| 1,2-Dichloropropane | ND | 1 | Benzyl chloride | ND | 1 | |
| Bromodichloromethane | ND | 1 | 1,2-Dichlorobenzene | ND | 1 | |

| Surrogates | Percent Recovery | |
|---|---|---|
| | Detector A | Detector B |
| 4-Bromofluorobenzene | 100.1 | 109.9 |
| 1-Chloro-2,4-difluorobenzene | 102.2 | 106.2 |

Internal Standard was within QC limits on detector B (ELCD).

QL = Sample specific quantitation limit.

Qualifiers : (J) Indicates an estimated value. (D) Indicates surrogates have been diluted out of detection range.
(B) Indicates compound found in blank. (ND) Indicates compound not detected.
(DL) Indicates compound concentration reported from dilution run.

Results based on a total solid of 100%.

Approved by : _____

Quantitation Report

Signal #1 : D:\HPCHEM\5\DATA\GCB0763.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0763.D\CONFIRM.D
Acq On : 05 Nov 94 01:20 PM
Sample : 219-9411-469
Misc : B2-W
Quant Time: Nov 6 10:34 1994

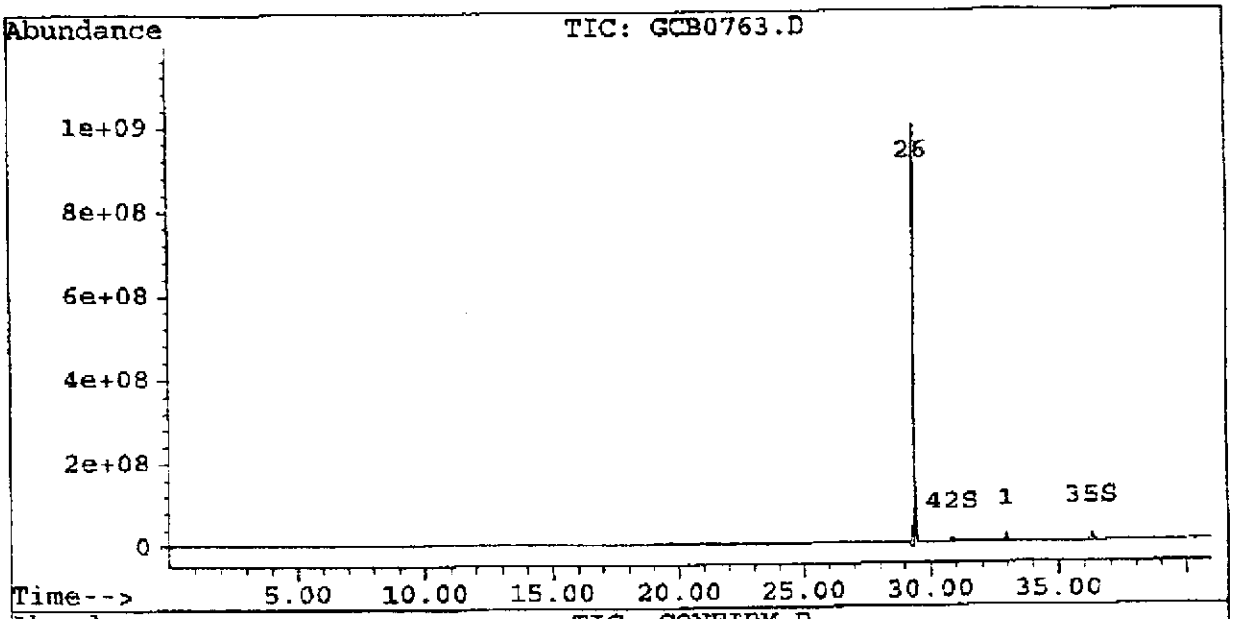
Vial: 4

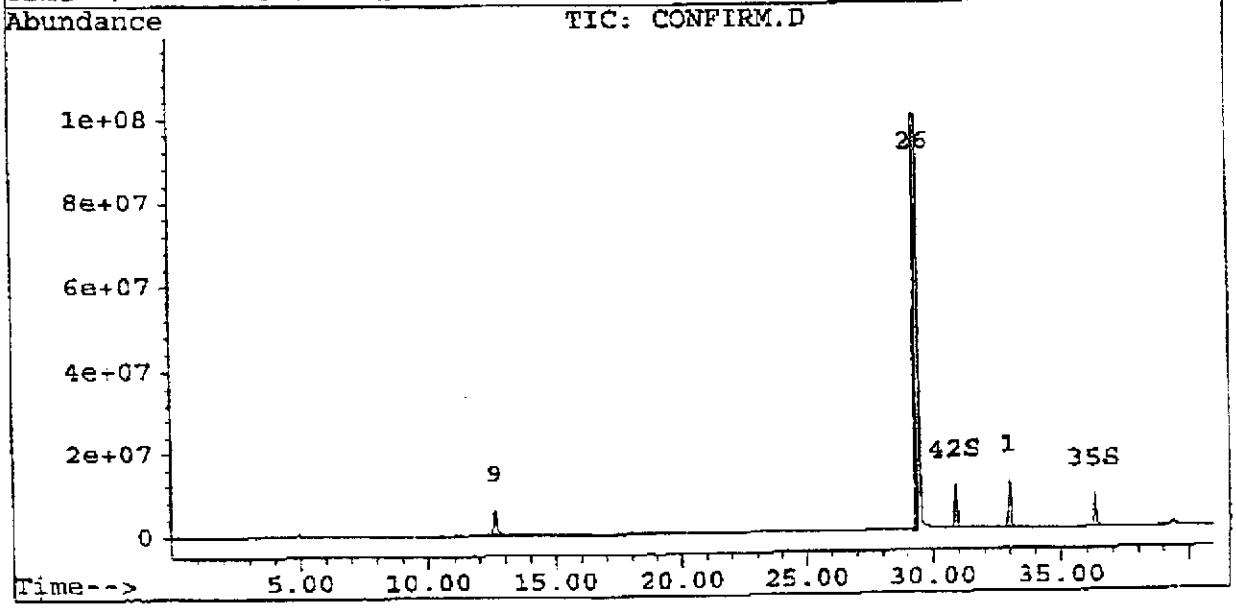
Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



Pan-Ag Enviromental Labs, Inc., Madera, California.

## Volatiles Analysis Data

Client Sample ID. : B3-W | Date Analyzed : 6-Nov-94 | Matrix : Aqueous

Pan-Ag Sample I.D. : 219-9411-470 | Analyst : SDW | Method No. : 8010A

| Compound | ug/L | QL | Compound | ug/L | QL |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | 1 | Dibromomethane | ND | 1 |
| Chloromethane | ND | 1 | 2-Chloroethyl vinyl ether | ND | 1 |
| Vinyl chloride | 15 | 1 | cis-1,3-Dichloropropene | ND | 1 |
| Bromomethane | ND | 1 | trans-1,3-Dichloropropene | ND | 1 |
| Chloroethane | ND | 1 | 1,1,2-Trichloroethane | ND | 1 |
| Trichlorofluoromethane | ND | 1 | Tetrachloroethene | ND | 1 |
| 1,1-Dichloroethene | ND | 1 | Dibromochloromethane | ND | 1 |
| Methylene chloride | ND | 1 | Chlorobenzene | ND | 1 |
| trans-1,2-Dichloroethene | ND | 1 | 1,1,1,2-Tetrachloroethane | ND | 1 |
| 1,1-Dichloroethane | ND | 1 | Bromoform | ND | 1 |
| Chloroform | ND | 1 | 1,1,2,2-Tetrachloroethane | ND | 1 |
| 1,1,1-Trichloroethane | ND | 1 | 1,2,3-Trichloropropane | ND | 1 |
| Carbon tetrachloride | ND | 1 | Bromobenzene | ND | 1 |
| 1,2-Dichloroethane | 10 | 1 | 1,3-Dichlorobenzene | ND | 1 |
| Trichloroethene | ND | 1 | 1,4-Dichlorobenzene | ND | 1 |
| 1,2-Dichloropropane | ND | 1 | Benzyl chloride | ND | 1 |
| Bromodichloromethane | ND | 1 | 1,2-Dichlorobenzene | ND | 1 |

| Surrogates | Percent Recovery | |
|---|---|---|
| | Detector A | Detector B |
| 4-Bromofluorobenzene | 72.9 | 139.0 |
| 1-Chloro-2,4-difluorobenzene | 58.2 | 118.5 |

Internal Standard failed QC limits on detector B (ELCD).

QL = Sample specific quantitation limit.

Qualifiers : (J) Indicates an estimated value. (D) Indicates surrogates have been diluted out of detection range.
(B) Indicates compound found in blank. (ND) Indicates compound not detected.
(DL) Indicates compound concentration reported from dilution run.

Results based on a total solid of 100%.

Approved by : _____

Quantitation Report

Signal #1 : D:\HPCHEM\5\DATA\GCB0764.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0764.D\CONFIRM.D
Acq On : 05 Nov 94 02:11 PM
Sample : 219-9411-470
Misc : B3-W
Quant Time: Nov 5 15:11 1994

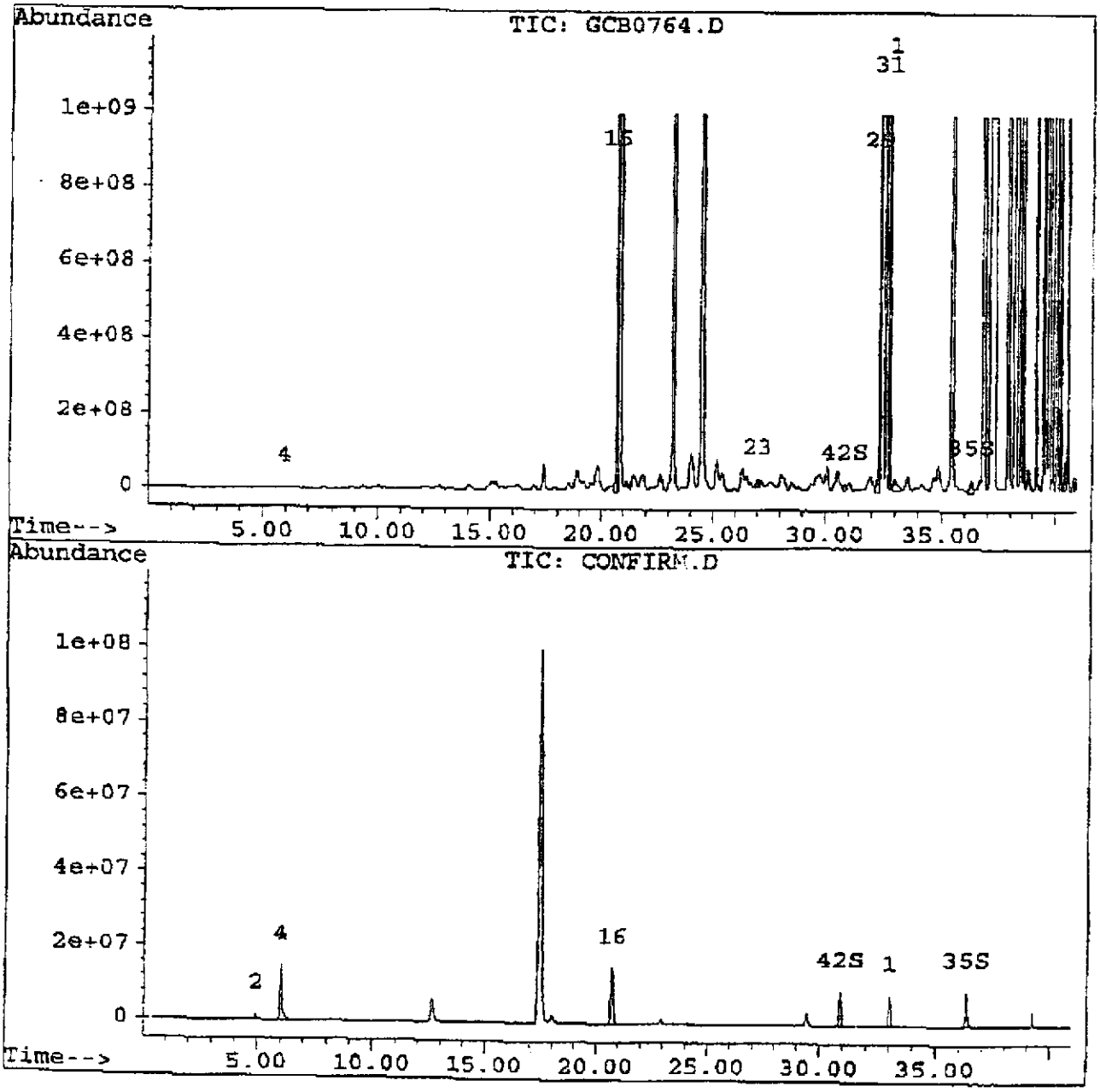
Vial: 5

Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



Pan-Ag Enviromental Labs, Inc., Madera, California.

## Volatiles Analysis Data

Client Sample .ID. : Method Blank, 11-05-94 | Date Analyzed : 5-Nov-94 | Matrix : Aqueous

Pan-Ag Sample I.D. : MB309 | Analyst : SDW | Method No. : 8010A

| Compound | ug/L | QL | Compound | ug/L | QL |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | 1 | Dibromomethane | ND | 1 |
| Chloromethane | ND | 1 | 2-Chloroethyl vinyl ether | ND | 1 |
| Vinyl chloride | ND | 1 | cis-1,3-Dichloropropene | ND | 1 |
| Bromomethane | ND | 1 | trans-1,3-Dichloropropene | ND | 1 |
| Chloroethane | ND | 1 | 1,1,2-Trichloroethane | ND | 1 |
| Trichlorofluoromethane | ND | 1 | Tetrachloroethene | ND | 1 |
| 1,1-Dichloroethene | ND | 1 | Dibromochloromethane | ND | 1 |
| Methylene chloride | ND | 1 | Chlorobenzene | ND | 1 |
| trans-1,2-Dichloroethene | ND | 1 | 1,1,1,2-Tetrachloroethane | ND | 1 |
| 1,1-Dichloroethane | ND | 1 | Bromoform | ND | 1 |
| Chloroform | ND | 1 | 1,1,2,2-Tetrachloroethane | ND | 1 |
| 1,1,1-Trichloroethane | ND | 1 | 1,2,3-Trichloropropane | ND | 1 |
| Carbon tetrachloride | ND | 1 | Bromobenzene | ND | 1 |
| 1,2-Dichloroethane | ND | 1 | 1,3-Dichlorobenzene | ND | 1 |
| Trichloroethene | ND | 1 | 1,4-Dichlorobenzene | ND | 1 |
| 1,2-Dichloropropane | ND | 1 | Benzyl chloride | ND | 1 |
| Bromodichloromethane | ND | 1 | 1,2-Dichlorobenzene | ND | 1 |

| Surrogates | Percent Recovery | |
|---|---|---|
| | Detector A | Detector B |
| 4-Bromofluorobenzene | 99.0 | 105.6 |
| 1-Chloro-2,4-difluorobenzene | 101.5 | 98.1 |

Internal Standard was within QC limits on detector B (ELCD).

QL = Sample specific quantitation limit.

Qualifiers : (J) Indicates an estimated value. (D) Indicates surrogates have been diluted out of detection range.
(B) Indicates compound found in blank. (ND) Indicates compound not detected.
(DL) Indicates compound concentration reported from dilution run.

Results based on a total solid of 100%.

Approved by : _____

Quantitation Report

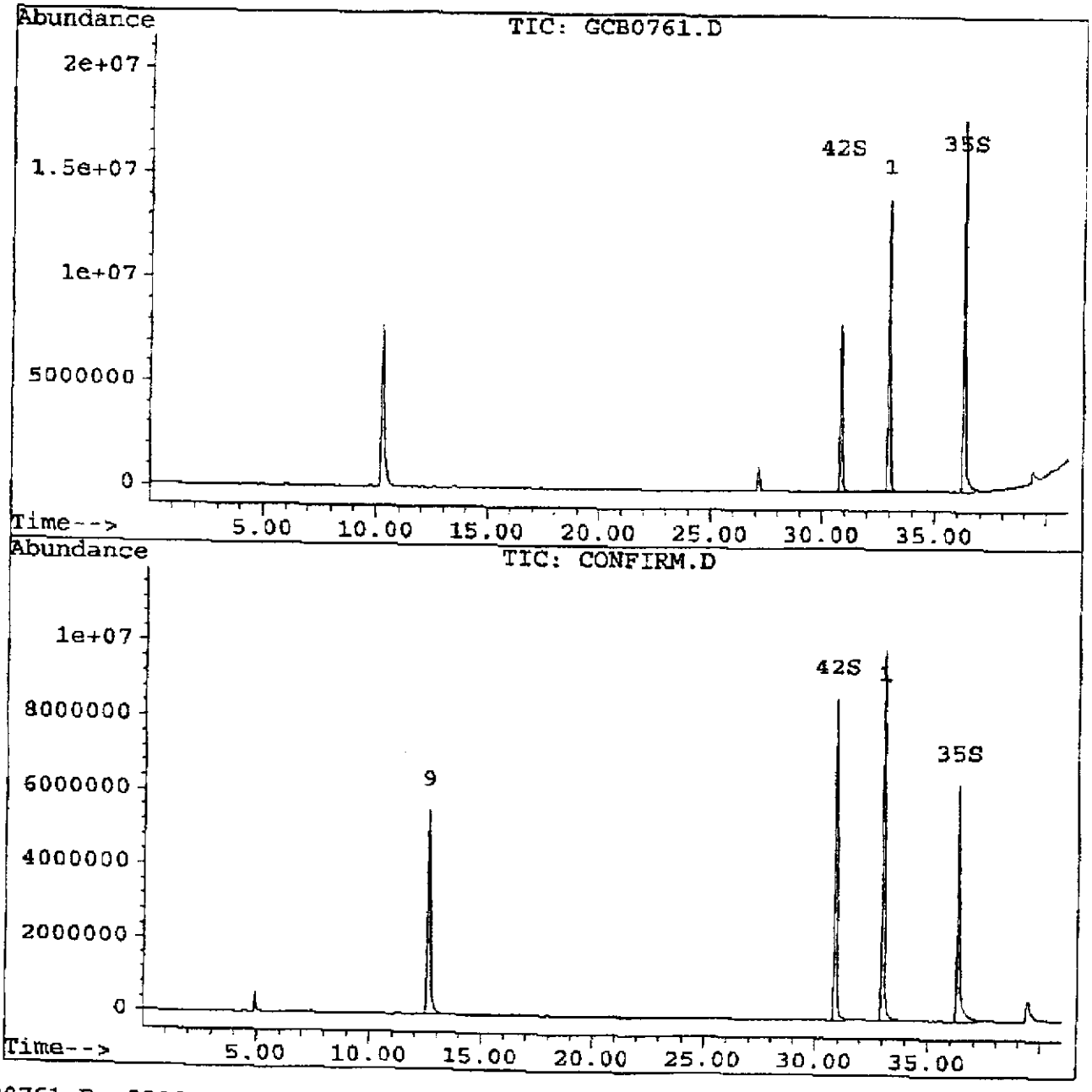
Signal #1 : D:\HPCHEM\5\DATA\GCB0761.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0761.D\CONFIRM.D
Acq On : 05 Nov 94 11:29 AM
Sample : MB309
Misc : Method Blank, 11-05-94
Quant Time: Nov 5 12:36 1994

Vial: 2
Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



Pan-Ag Enviromental Labs, Inc., Madera, California.

## Volatiles Analysis Data

Client Sample .ID. : Method Blank, 11-06-94 | Date Analyzed : 8-Nov-94 | Matrix : Soil

Pan-Ag Sample I.D. : MBV310 | Analyst : SDW | Method No. : 8010A

| Compound | ug/Kg | QL | Compound | ug/Kg | QL |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | 5 | Dibromomethane | ND | 5 |
| Chloromethane | ND | 5 | 2-Chloroethyl vinyl ether | ND | 5 |
| Vinyl chloride | ND | 5 | cis-1,3-Dichloropropene | ND | 5 |
| Bromomethane | ND | 5 | trans-1,3-Dichloropropene | ND | 5 |
| Chloroethane | ND | 5 | 1,1,2-Trichloroethane | ND | 5 |
| Trichlorofluoromethane | ND | 5 | Tetrachloroethene | ND | 5 |
| 1,1-Dichloroethene | ND | 5 | Dibromochloromethane | ND | 5 |
| Methylene chloride | ND | 5 | Chlorobenzene | ND | 5 |
| trans-1,2-Dichloroethene | ND | 5 | 1,1,1,2-Tetrachloroethane | ND | 5 |
| 1,1-Dichloroethane | ND | 5 | Bromoform | ND | 5 |
| Chloroform | ND | 5 | 1,1,2,2-Tetrachloroethane | ND | 5 |
| 1,1,1-Trichloroethane | ND | 5 | 1,2,3-Trichloropropane | ND | 5 |
| Carbon tetrachloride | ND | 5 | Bromobenzene | ND | 5 |
| 1,2-Dichloroethane | ND | 5 | 1,3-Dichlorobenzene | ND | 5 |
| Trichloroethene | ND | 5 | 1,4-Dichlorobenzene | ND | 5 |
| 1,2-Dichloropropane | ND | 5 | Benzyl chloride | ND | 5 |
| Bromodichloromethane | ND | 5 | 1,2-Dichlorobenzene | ND | 5 |

| Surrogates | Percent Recovery | |
|---|---|---|
| | Detector A | Detector B |
| 4-Bromofluorobenzene | 97.2 | 93.5 |
| 1-Chloro-2,4-difluorobenzene | 101.7 | 95.5 |

Internal Standard was within QC limits on detector B (ELCD).

QL = Sample specific quantitation limit.

Qualifiers : (J) Indicates an estimated value. (D) Indicates surrogates have been diluted out of detection range.
(B) Indicates compound found in blank. (ND) Indicates compound not detected.

Results based on a total solid of 100%.

Approved by : _____

Quantitation Report

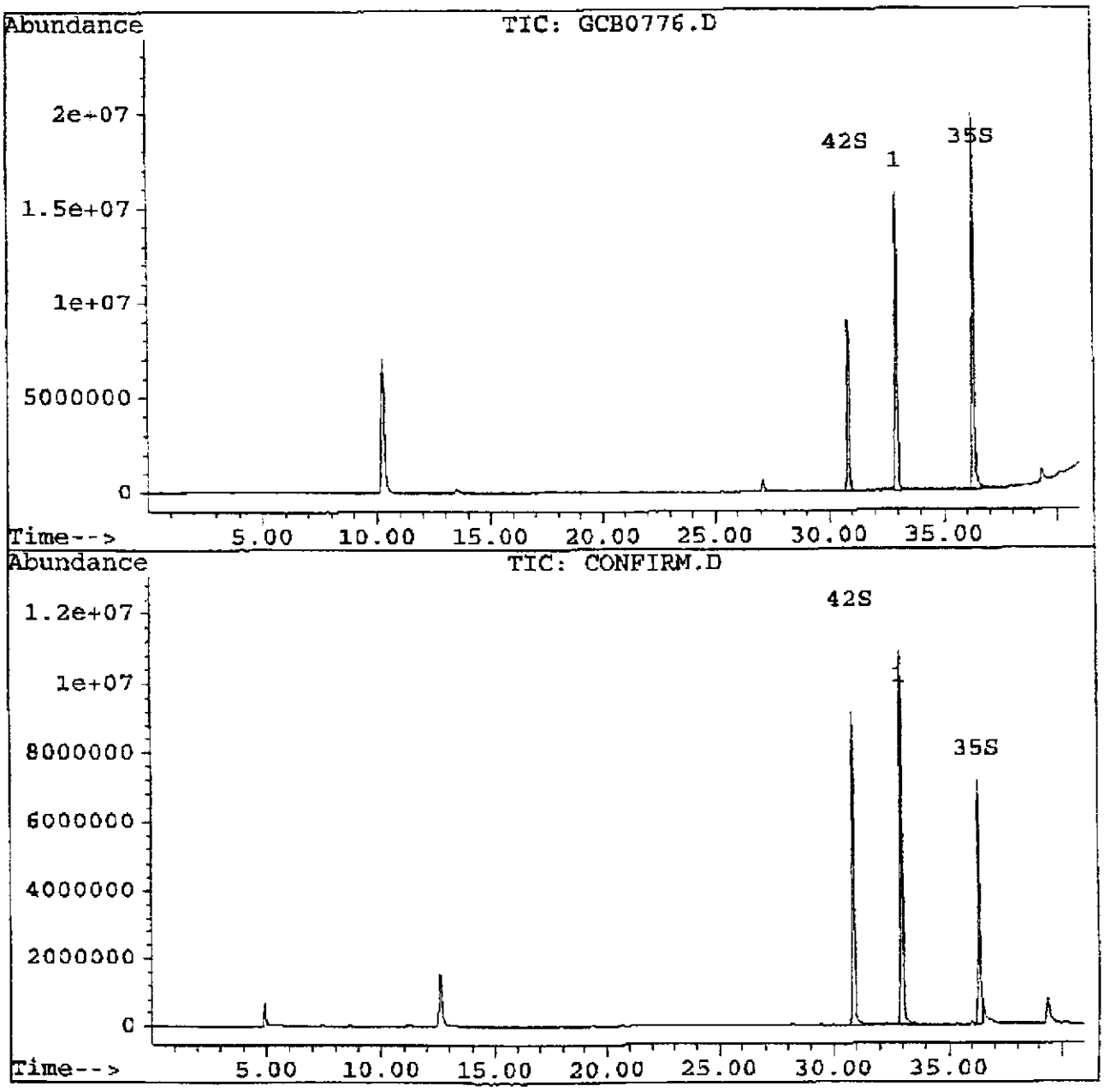
Signal #1 : D:\HPCHEM\5\DATA\GCB0776.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0776.D\CONFIRM.D
Acq On : 06 Nov 94 10:59 AM
Sample : MBV310
Misc : Method Blank, 11-06-94
Quant Time: Nov 6 14:10 1994

Vial: 1

Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :



Pan-Ag Environmental Labs, Inc., Madera, California.

## Volatiles Analysis Data

Client Sample ID. : Method Blank, 11-07-94 | Date Analyzed : 7-Nov-94 | Matrix : Aqueous

Pan-Ag Sample I.D. : MBV311 | Analyst : SDW | Method No. : 8010A

| Compound | ug/L | QL | Compound | ug/L | QL |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | 1 | Dibromomethane | ND | 1 |
| Chloromethane | ND | 1 | 2-Chloroethyl vinyl ether | ND | 1 |
| Vinyl chloride | ND | 1 | cis-1,3-Dichloropropene | ND | 1 |
| Bromomethane | ND | 1 | trans-1,3-Dichloropropene | ND | 1 |
| Chloroethane | ND | 1 | 1,1,2-Trichloroethane | ND | 1 |
| Trichlorofluoromethane | ND | 1 | Tetrachloroethene | ND | 1 |
| 1,1-Dichloroethene | ND | 1 | Dibromochloromethane | ND | 1 |
| Methylene chloride | ND | 1 | Chlorobenzene | ND | 1 |
| trans-1,2-Dichloroethene | ND | 1 | 1,1,1,2-Tetrachloroethane | ND | 1 |
| 1,1-Dichloroethane | ND | 1 | Bromoform | ND | 1 |
| Chloroform | ND | 1 | 1,1,2,2-Tetrachloroethane | ND | 1 |
| 1,1,1-Trichloroethane | ND | 1 | 1,2,3-Trichloropropane | ND | 1 |
| Carbon tetrachloride | ND | 1 | Bromobenzene | ND | 1 |
| 1,2-Dichloroethane | ND | 1 | 1,3-Dichlorobenzene | ND | 1 |
| Trichloroethene | ND | 1 | 1,4-Dichlorobenzene | ND | 1 |
| 1,2-Dichloropropane | ND | 1 | Benzyl chloride | ND | 1 |
| Bromodichloromethane | ND | 1 | 1,2-Dichlorobenzene | ND | 1 |

| Surrogates | Percent Recovery | |
|---|---|---|
| | Detector A | Detector B |
| 4-Bromofluorobenzene | 97.4 | 100.9 |
| 1-Chloro-2,4-difluorobenzene | 102.2 | 99.4 |

Internal Standard was within QC limits on detector B (ELCD).

QL = Sample specific quantitation limit.

Qualifiers : (J) Indicates an estimated value. (D) Indicates surrogates have been diluted out of detection range.
(B) Indicates compound found in blank. (ND) Indicates compound not detected.

Approved by : _____

Quantitation Report

Signal #1 : D:\HPCHEM\5\DATA\GCB0791.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0791.D\CONFIRM.D
Acq On : 07 Nov 94 09:54 AM
Sample : MBV311
Misc : Method Blank, 11-07-94
Quant Time: Nov 7 10:42 1994

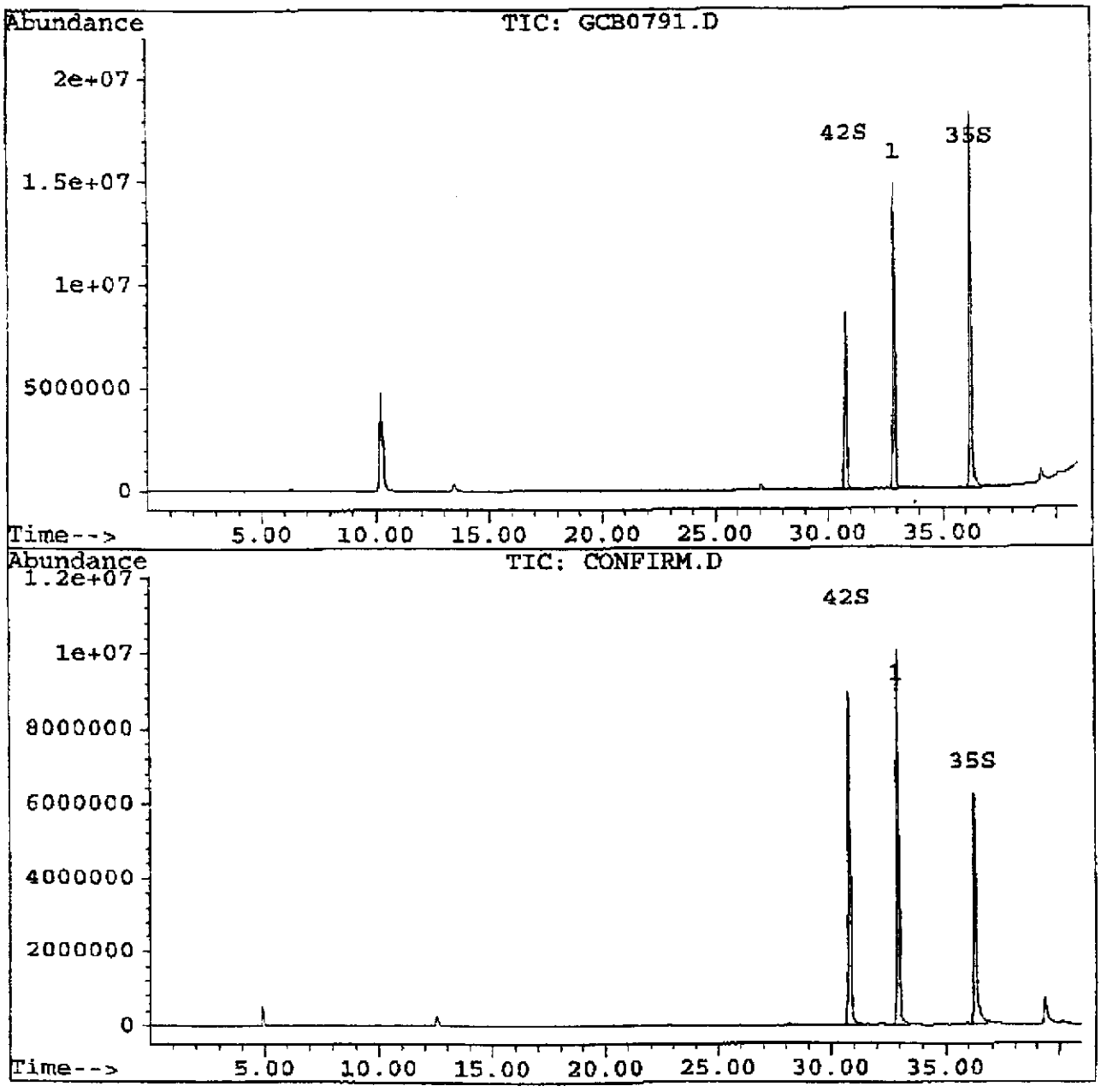
Vial: 1

Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



# QUALITY CONTROL REPORTS

## Pan-Ag Environmental Labs

## MATRIX SPECIFIC QC ASSIGNMENT REPORT

| QC Sample Type | Parameter | Laboratory Sample Number | QC Batch |
|---|---|---|---|
| Matrix Spike/ Matrix Spike Duplicate | Method 8010 | 219-9411-464 | V310 |
| Matrix Spike/ Matrix Spike Duplicate | Method 8010 | 219-9411-468 | V311 |
| | | | |
| | | | |
| | | | |
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3B

## SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: PAN-AG ENVIRO LABS Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix Spike - Sample No.: 219-9411-464 Level: (low/med) LOW

| COMPOUND | SPIKE ADDED (ug/Kg) | SAMPLE CONCENTRATION (ug/Kg) | MS CONCENTRATION (ug/Kg) | MS % REC # | QC. LIMITS REC. |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50 | 0 | 52 | 105 | (59-172) |
| Benzene | 50 | 0 | 53 | 107 | (66-142) |
| Trichloroethene | 50 | 0 | 52 | 103 | (62-137) |
| Toluene | 50 | 0 | 55 | 110 | (59-139) |
| Chlorobenzene | 50 | 0 | 55 | 109 | (60-133) |

| COMPOUND | SPIKE ADDED (ug/Kg) | MSD CONCENTRATION (ug/Kg) | MS % REC # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50 | 51 | 102 | 3 | 22 | (59-172) |
| Benzene | 50 | 51 | 102 | 4 | 21 | (66-142) |
| Trichloroethene | 50 | 53 | 105 | 2 | 24 | (62-137) |
| Toluene | 50 | 53 | 105 | 5 | 21 | (59-139) |
| Chlorobenzene | 50 | 56 | 113 | 3 | 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: Method : 8010

Quantitation Report

Signal #1 : D:\HPCHEM\5\DATA\GCB0785.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0785.D\CONFIRM.D
Acq On : 06 Nov 94 07:17 PM
Sample : 219-9411-464M8
Misc : Soil Matrix Spike, 11-6-94
Quant Time: Nov 7 7:55 1994

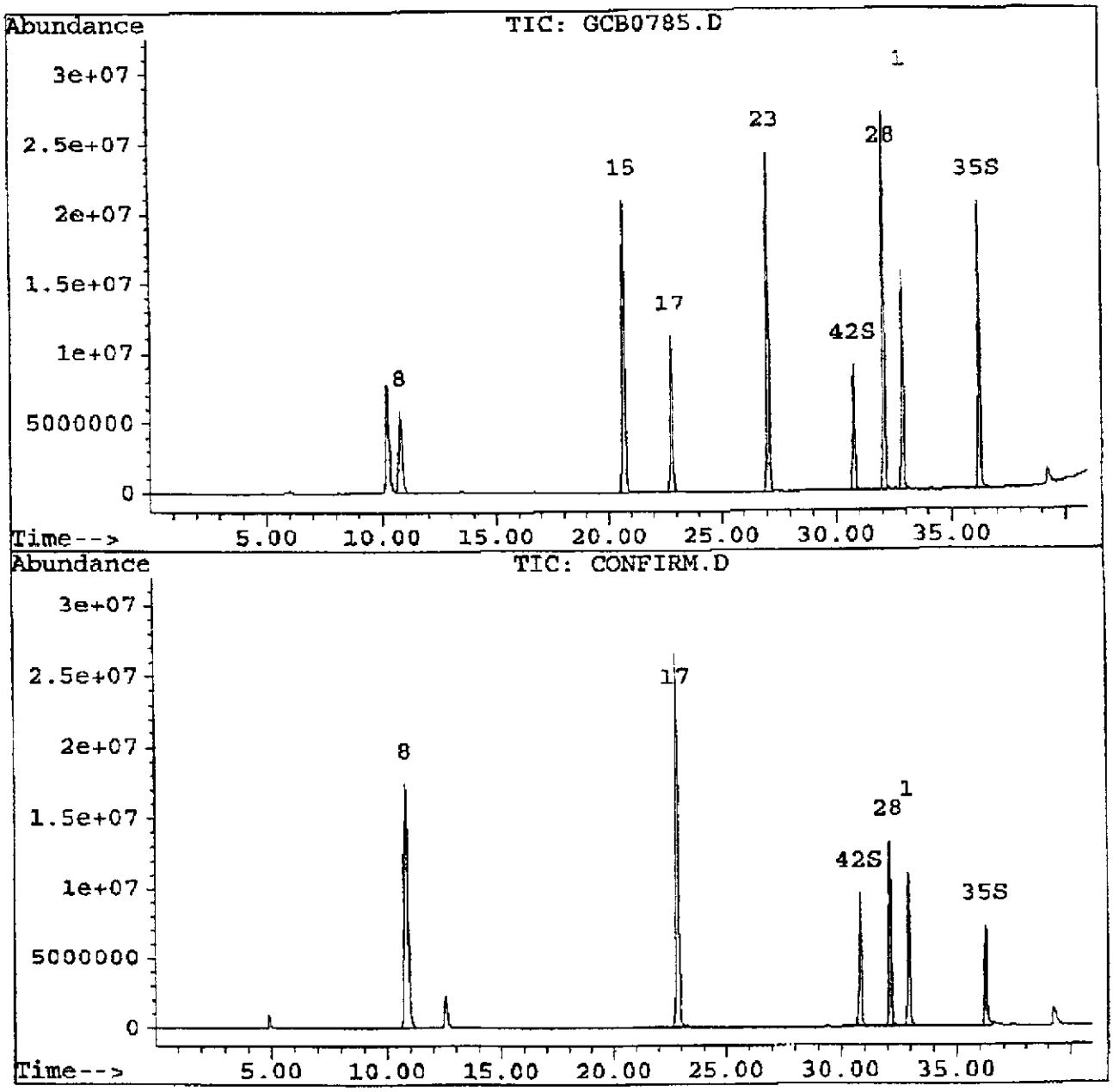
Vial: 1

Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



# WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: PAN-AG ENVIRO LABS Contract: _____

Project No.: _____ Site: _____ Location: _____ Group: _____

Matrix Spike - Sample No.: 219-9411-468

| COMPOUND | SPIKE ADDED (ug/Kg) | SAMPLE CONCENTRATION (ug/Kg) | MS CONCENTRATION (ug/Kg) | MS % REC # | QC. LIMITS REC. |
|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50 | 0 | 56 | 112 | (65-145) |
| Benzene | 50 | 0 | 57 | 114 | (76-127) |
| Trichloroethene | 50 | 0 | 58 | 116 | (71-120) |
| Toluene | 50 | 0 | 57 | 114 | (76-125) |
| Chlorobenzene | 50 | 0 | 57 | 115 | (75-130) |

| COMPOUND | SPIKE ADDED (ug/Kg) | MSD CONCENTRATION (ug/Kg) | MS % REC # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 50 | 51 | 101 | 10 | 14 | (65-145) |
| Benzene | 50 | 55 | 110 | 3 | 11 | (76-127) |
| Trichloroethene | 50 | 55 | 110 | 5 | 14 | (71-120) |
| Toluene | 50 | 55 | 111 | 3 | 13 | (76-125) |
| Chlorobenzene | 50 | 57 | 115 | 0 | 13 | (75-130) |

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

* Values outside of QC limits

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

Comments: Method : 8010

Quantitation Report

Signal #1 : D:\HPCHEM\5\DATA\GCB0798.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0798.D\CONFIRM.D
Acq On : 07 Nov 94 06:42 PM
Sample : 219-9411-468MS
Misc : Aqueous Matrix Spike, 11-07-94
Quant Time: Nov 8 8:53 1994

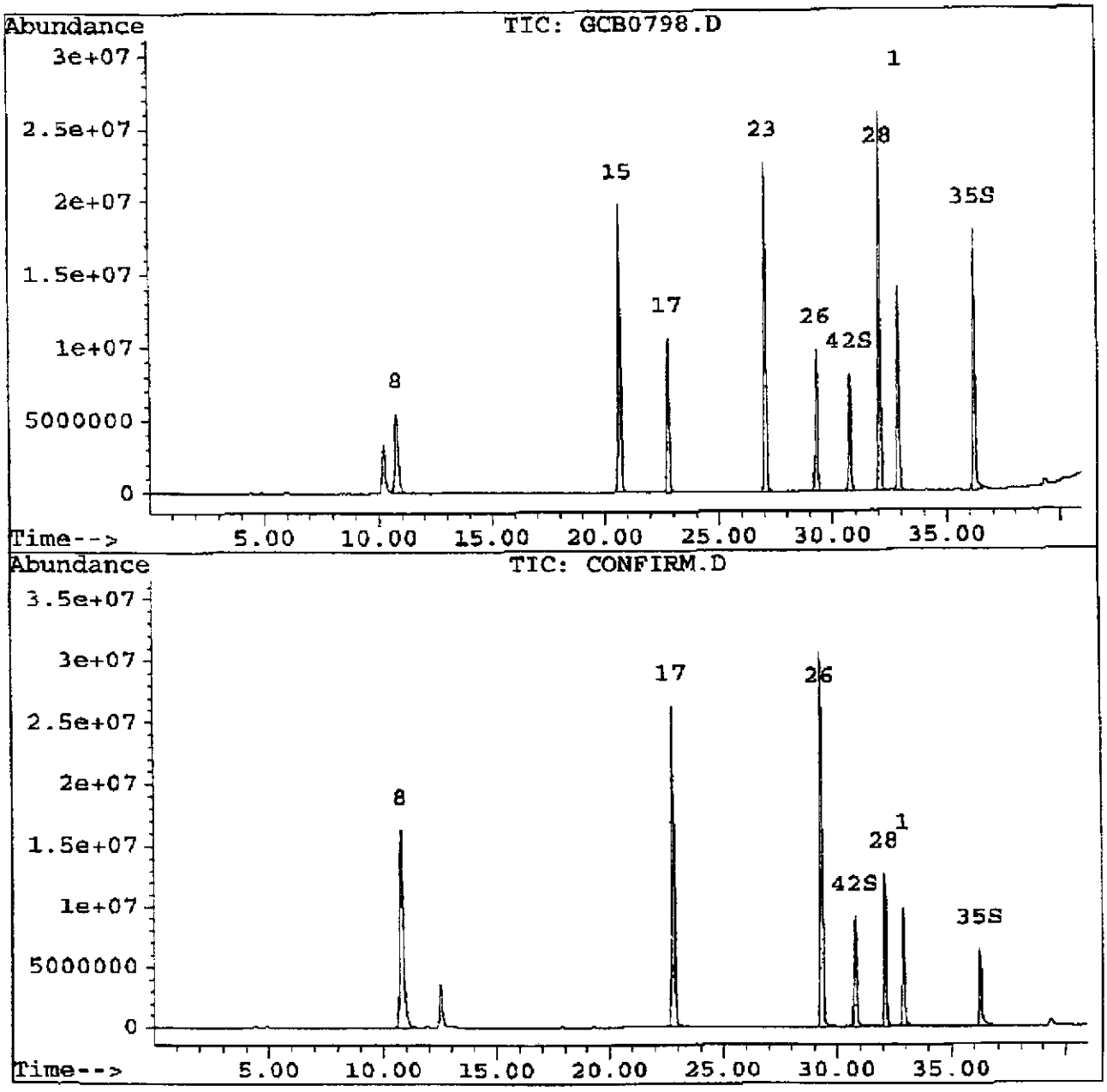
Vial: 3

Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



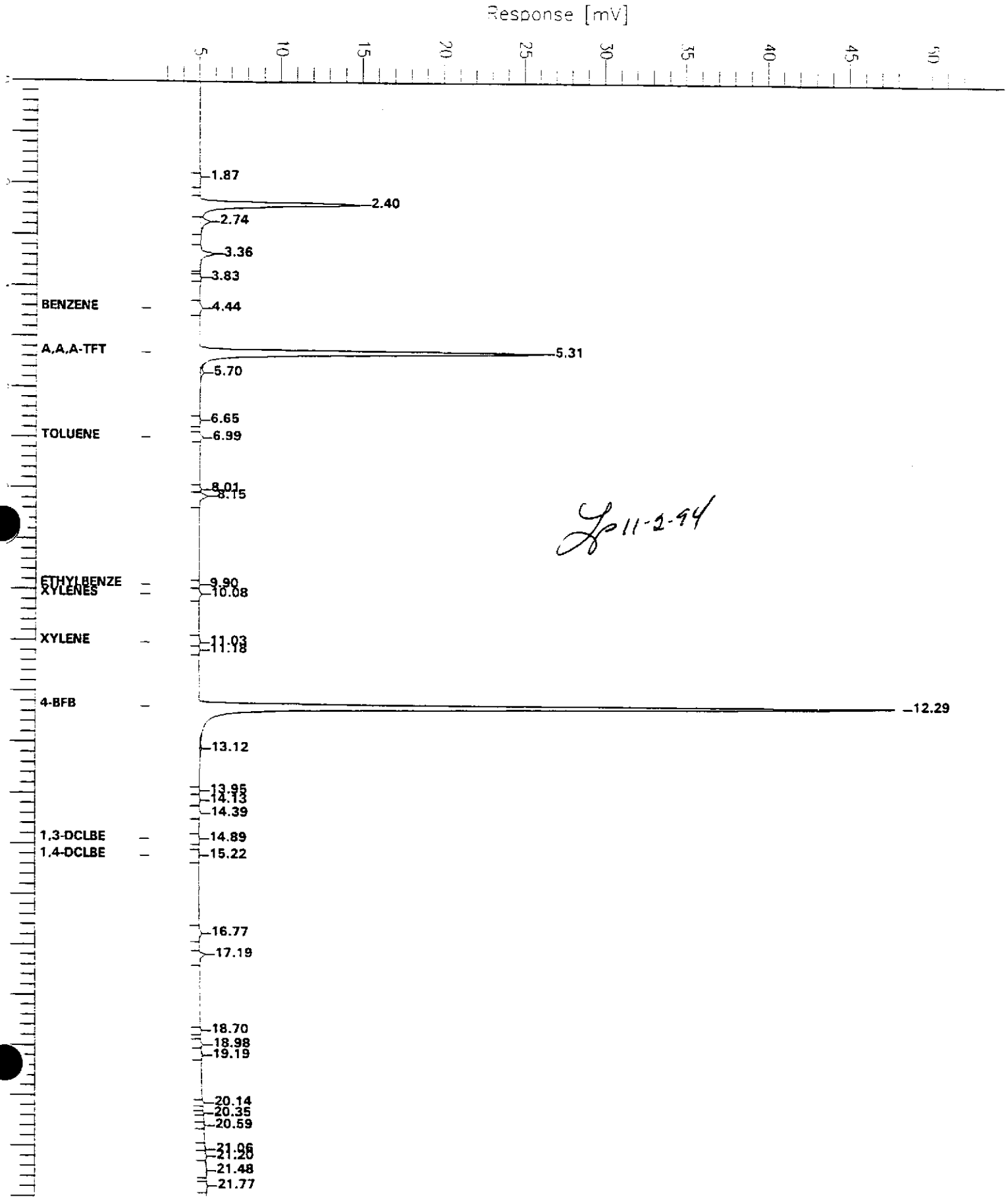
BTEX- PID
Chromatogram

B1-20

le Name : 379-1S
Name : D:\VAR_DATA\N01A016.raw
od : N018020
t Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 2 mV

Sample #:
Date : 10/31/94 10:35 AM
Time of Injection: 10/30/94 09:54 PM
Low Point : 2.00 mV High Point : 52.00 mV
Plot Scale: 50.0 mV





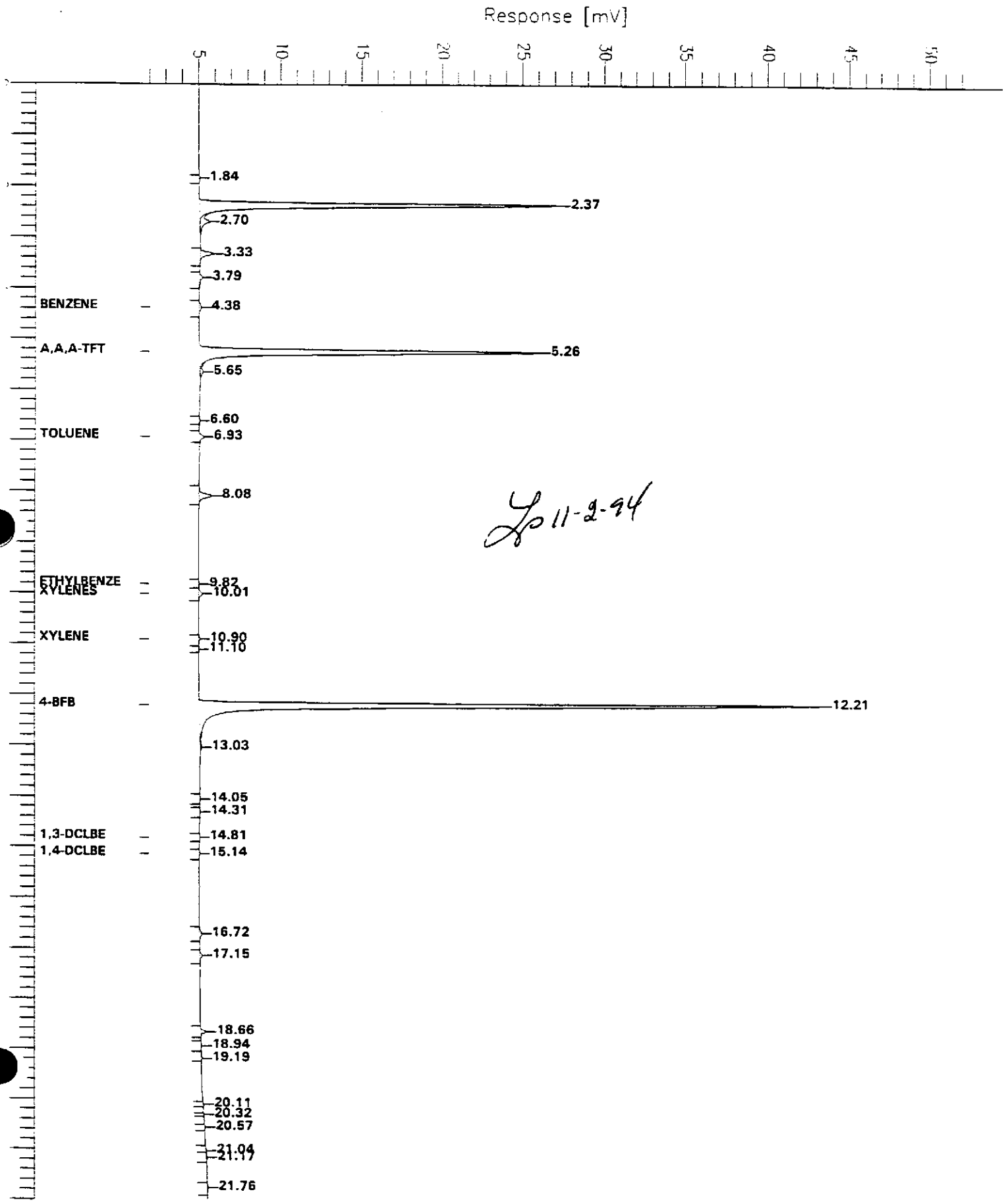

11-2-94

# Chromatogram

B2 - 20

Le Name : 379-2S
Name : D:\VAR_DATA\N01A017.raw
od : N018020
: Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 2 mV

Sample #: Page 1 of 1
Date : 10/31/94 10:37 AM
Time of Injection: 10/30/94 10:23 PM
Low Point : 2.00 mV High Point : 52.00 mV
Plot Scale: 50.0 mV



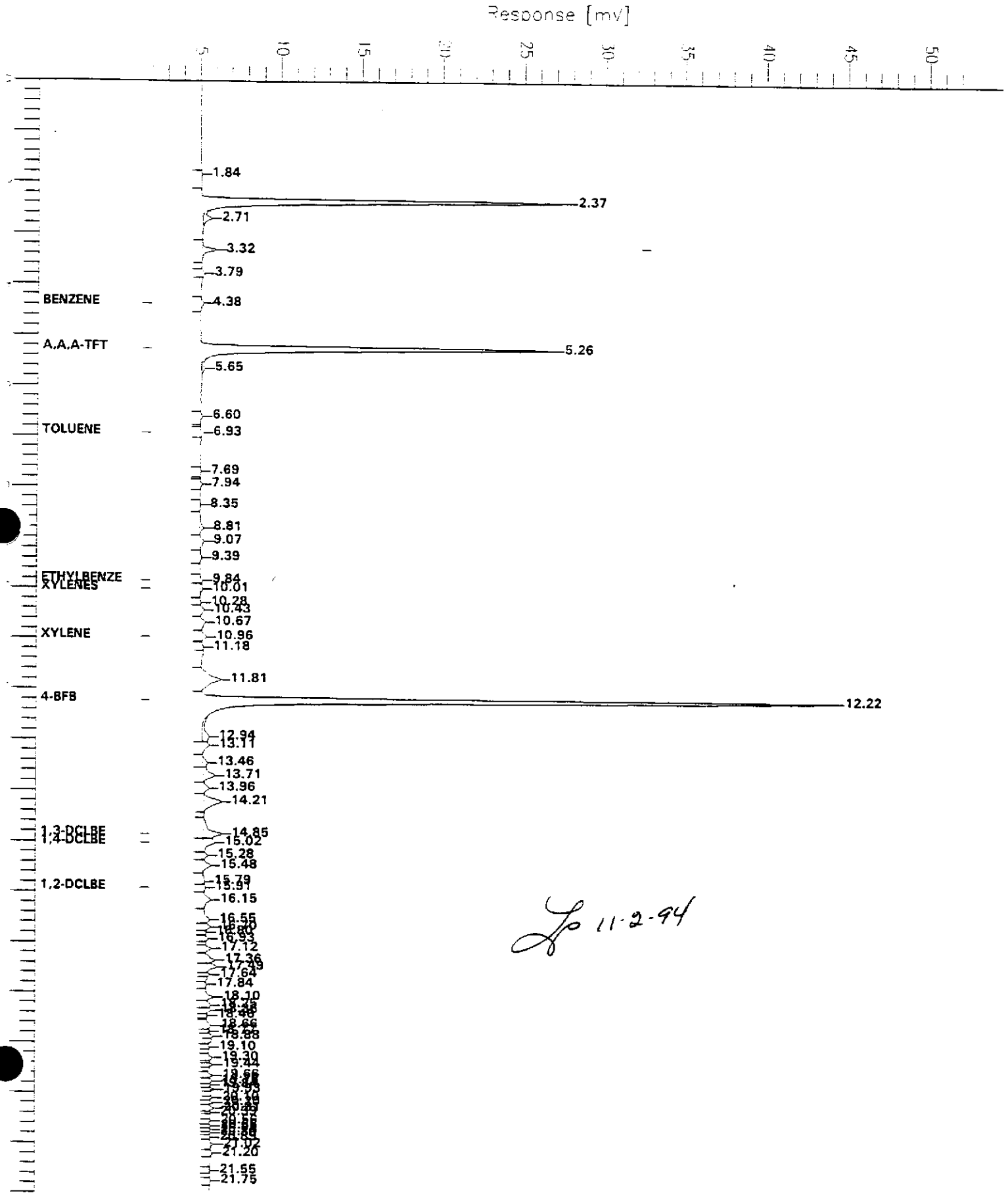

LP 11-2-94

# Chromatogram

le Name : 379-3S B3-20
Name : D:\VAR_DATA\N01A018.raw
od : N018020
t Time : 0.00 min End Time : 22.00 min
e Factor: 0.0 Plot Offset: 2 mV

Sample #:
Date : 10/31/94 10:38 AM
Time of Injection: 10/30/94 10:52 PM
Low Point : 2.00 mV High Point : 52.00 mV
Plot Scale: 50.0 mV





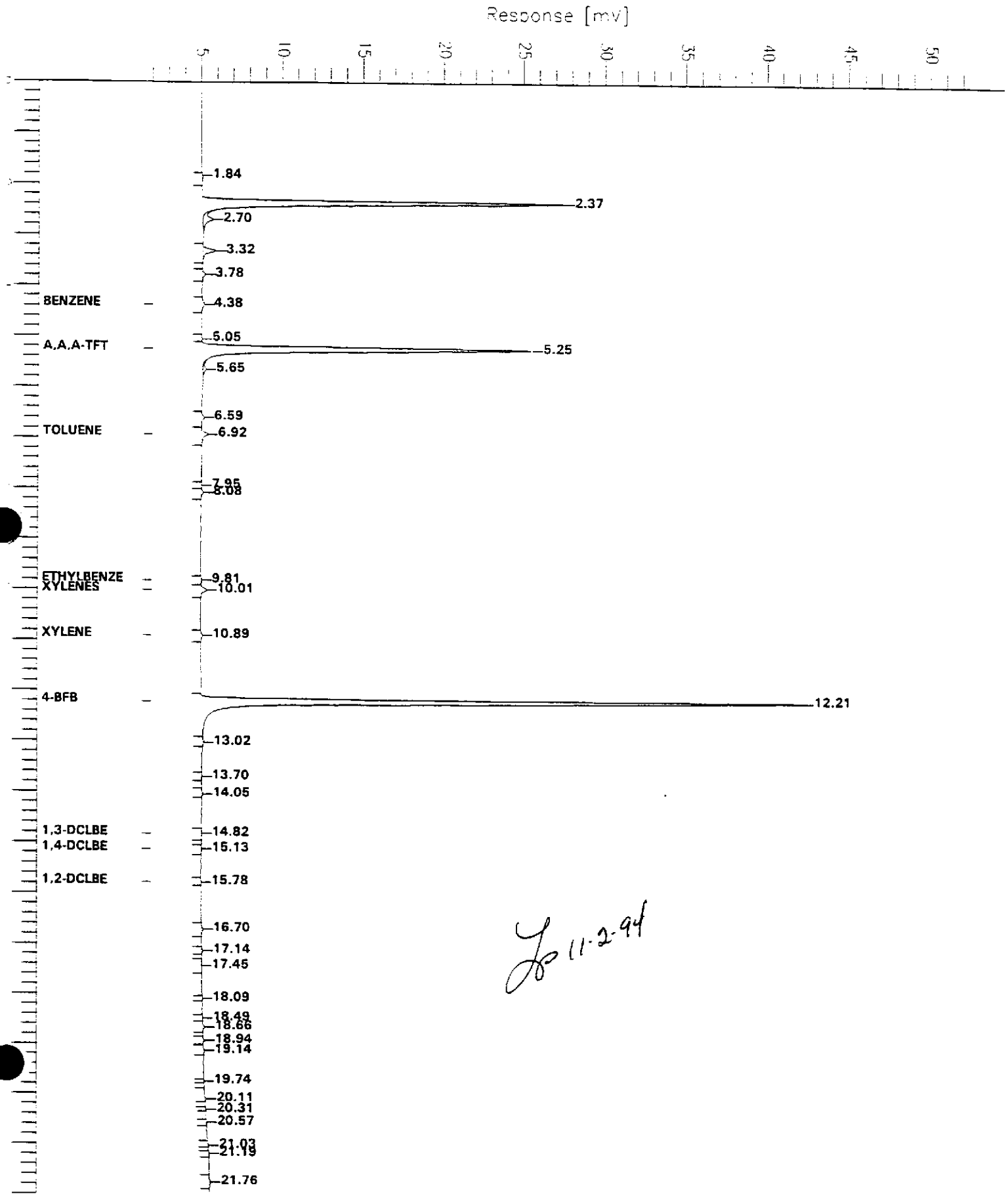

LO 11-2-94

# Chromatogram

le Name : 379-4S HA1-5
Name : D:\VAR_DATA\N01A019.raw
od : N018020
t Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 2 mV

Sample #:
Date : 10/31/94 10:40 AM
Time of Injection: 10/30/94 11:21 PM
Low Point : 2.00 mV High Point : 52.00 mV
Plot Scale: 50.0 mV






11-2-94

# Chromatogram

B1-W

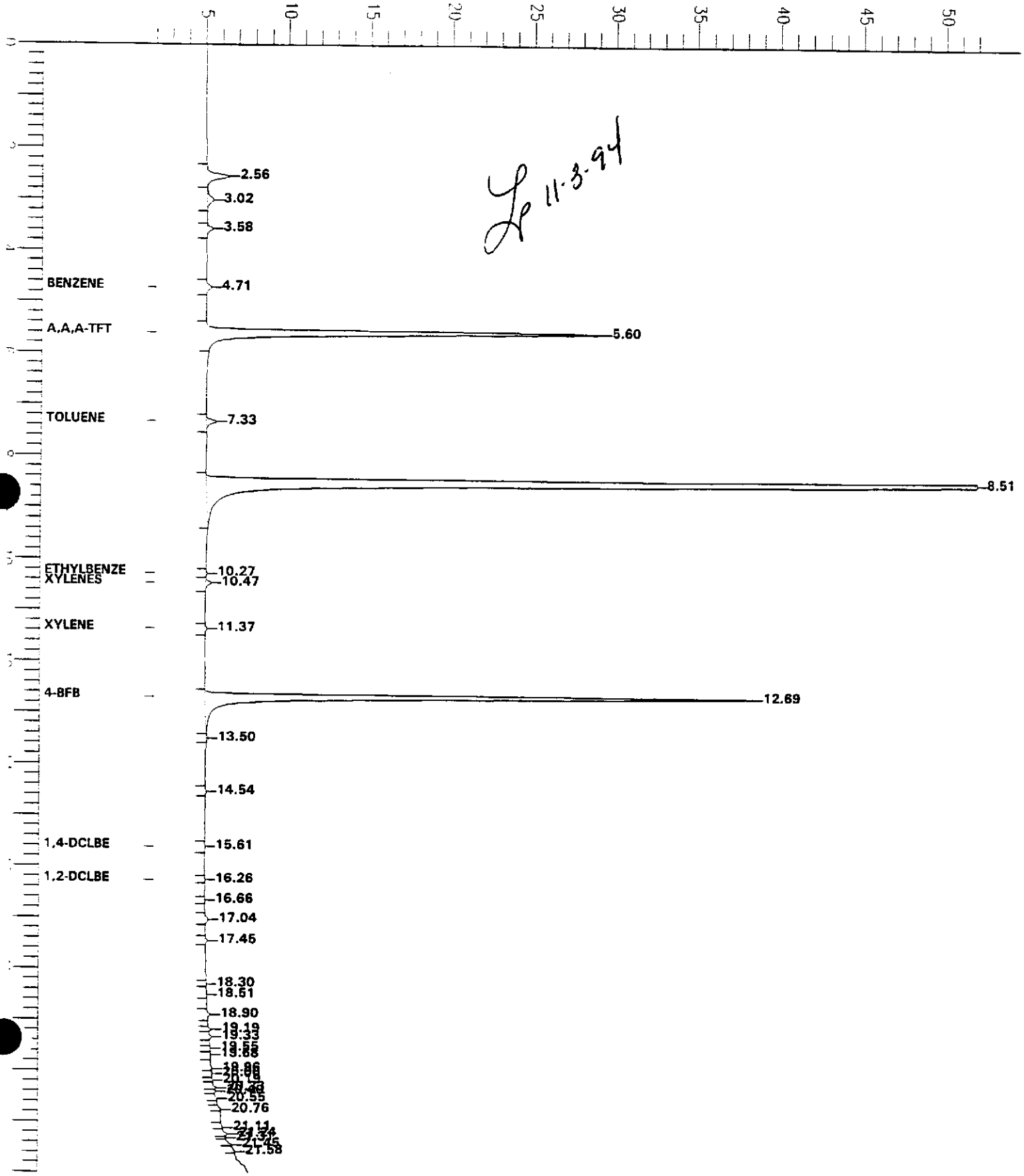
ple Name : 379-5WA
eName : D:\VAR_DATA\N02A004.raw
hod : N028020
rt Time : 0.00 min
e Factor: 0.0

End Time : 22.00 min
Plot Offset: 2 mV

Sample #:
Date : 11/2/94 03:12 PM
Time of Injection: 11/2/94 12:42 PM
Low Point : 2.00 mV
Plot Scale: 50.0 mV



Response [mV]



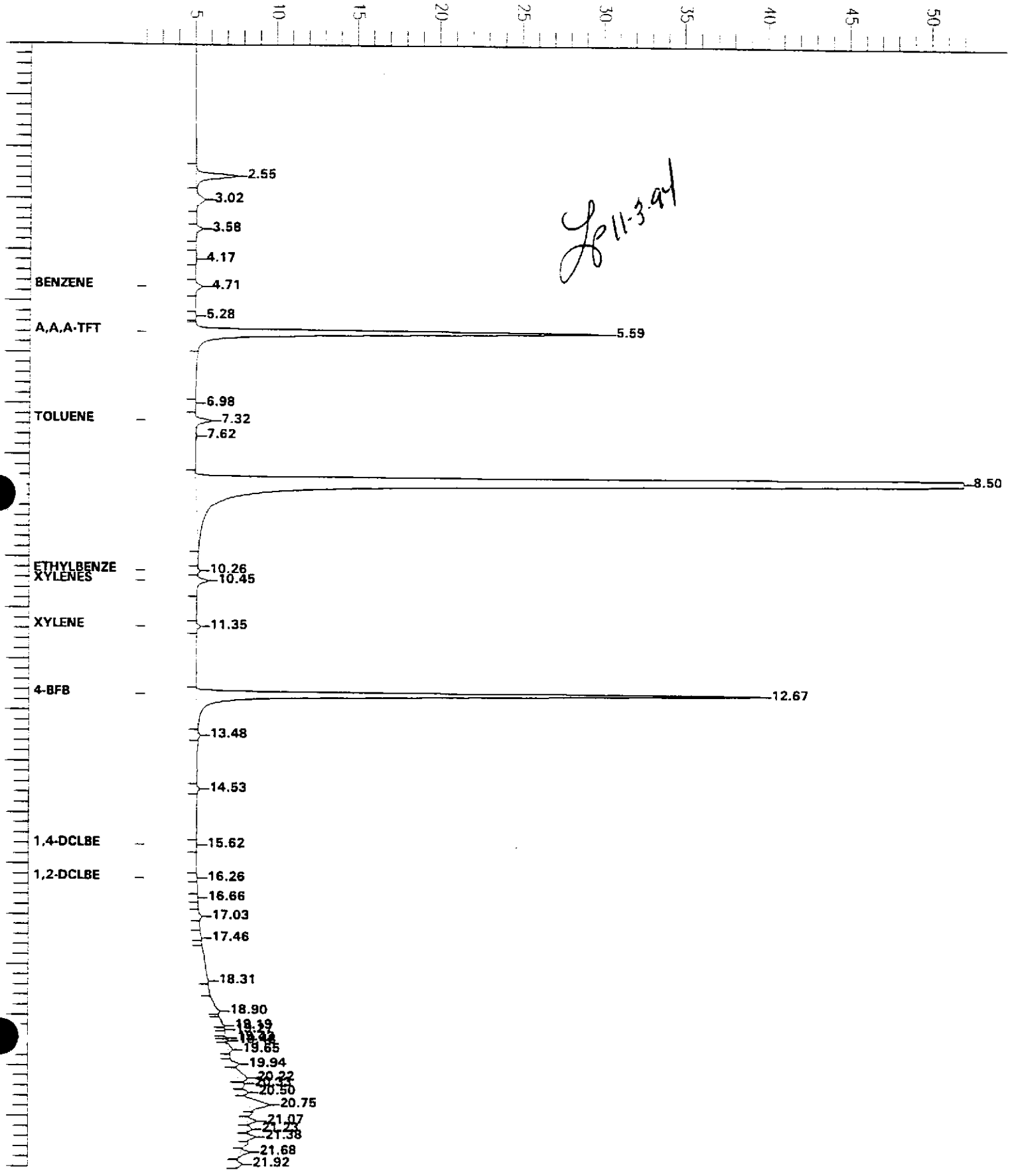

Lp 11-3-94

# Chromatogram

e Name : 379-6WA B 2-W
ame : D:\VAR_DATA\N02A005.raw
d : N028020
Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 2 mV

Sample #: Page 1 of 1
Date : 11/2/94 01:34 PM
Time of Injection: 11/2/94 01:11 PM
Low Point : 2.00 mV High Point : 52.00 mV
Plot Scale: 50.0 mV

Response [mV]




LP 11-3-94

# Chromatogram

.e Name : 379-7WA DF 50 B 3-W
lame : D:\VAR_DATA\NO2A006.raw
)d : NO28020
Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 2 mV

Sample #: Page 1 of 1
Date : 11/2/94 02:03 PM
Time of Injection: 11/2/94 01:40 PM
Low Point : 2.00 mV High Point : 52.00 mV
Plot Scale: 50.0 mV

Response [mV]

5 10 15 20 25 30 35 40 45 50

BENZENE
A,A,A-TFT
TOLUENE
ETHYLBENZE
XYLENES
XYLENE
4-BFB
1,3-DCLBE
1,4-DCLBE
1,2-DCLBE

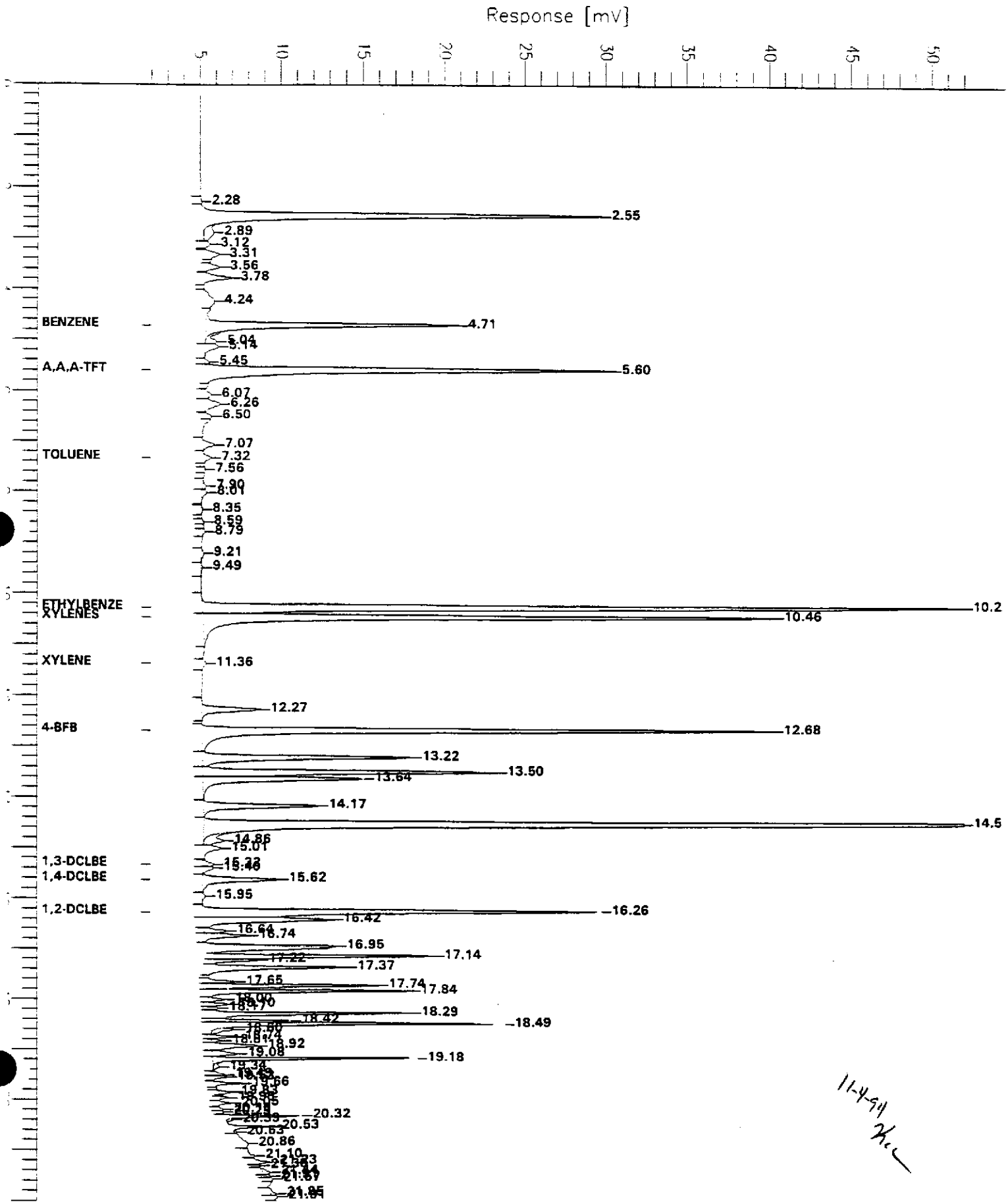
2.30 2.56 2.91 3.13 3.33 3.57 3.79 4.29 4.73 5.06 5.16 5.47 5.62 5.91 6.10 6.28 6.52 7.09 7.35 7.59 7.68 7.92 8.04 8.38 8.61 8.85 8.92 9.25 9.51 9.90 10.2 10.4 11.10 11.39 11.58 11.73 12.29 12.71 13.24 13.53 13.66 14.19 14.5 14.88 15.03 15.42 15.64 15.97 16.2 16.44 16.66 16.76 16.97 17.16 17.24 17.39 17.67 17.75 17.85 18.02 18.11 18.30 18.44 18.51 18.61 18.75 18.89 18.93 19.09 19.19 19.36 19.67 19.86 20.07 20.24 20.33 20.54 20.75 21.02 21.42 21.63 21.92

11-3-94

# Chromatogram

le Name : 379-7WB df 100 B3-W
Name : D:\VAR_DATA\N03A004.raw
od : N038020
t Time : 0.00 min End Time : 22.00 min
e Factor: 0.0 Plot Offset: 2 mV

Sample #: Page 1 of 1
Date : 11/3/94 03:51 PM
Time of Injection: 11/3/94 03:28 PM
Low Point : 2.00 mV High Point : 52.00 mV
Plot Scale: 50.0 mV




11-4-94

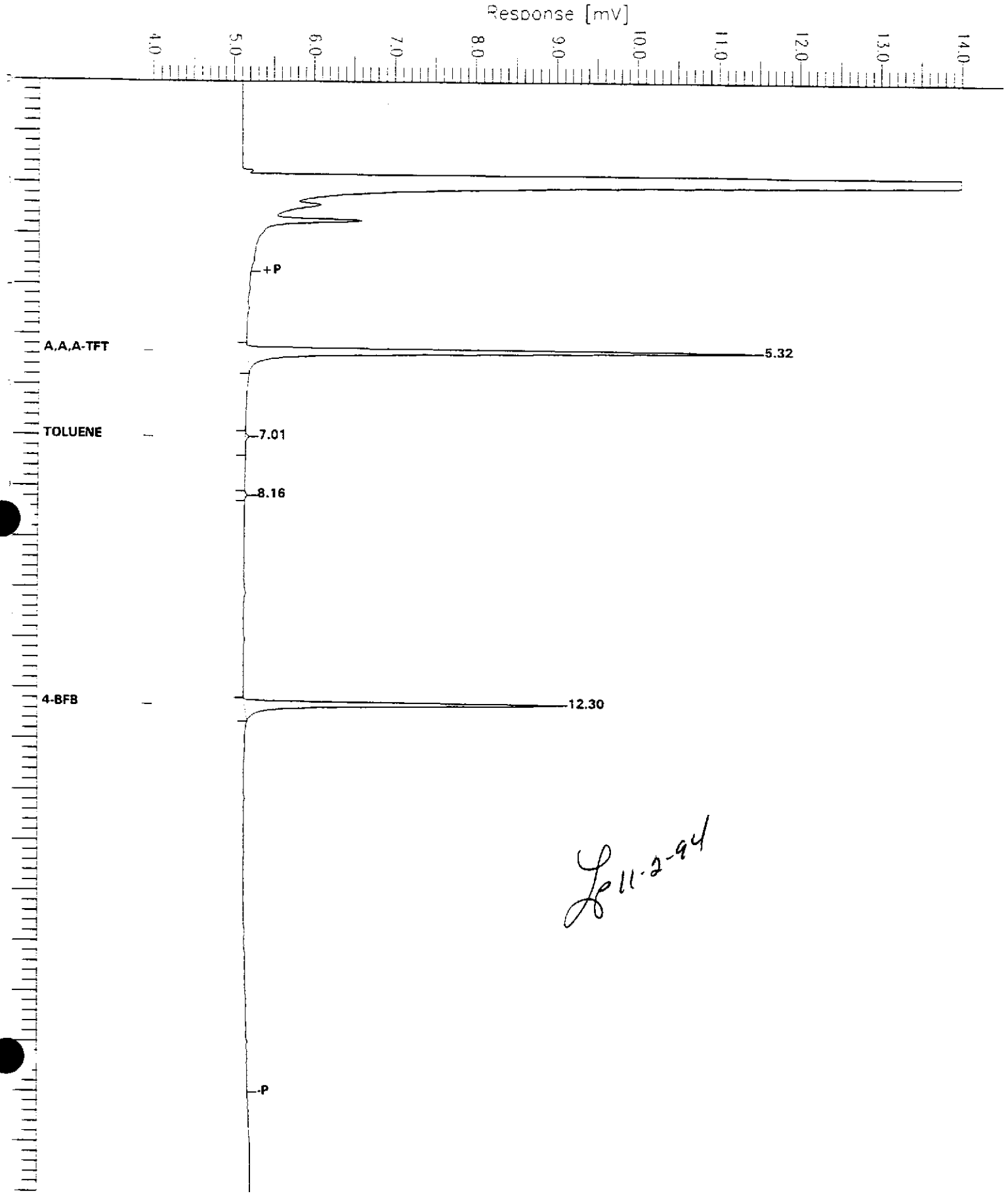
TPH - Gas - FID

Chromatogram

le Name : 379-1S Bi-2C
Name : D:\VAR_DATA\N018016.raw
od : N018020
t Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 4 mV

Sample #:
Date : 10/31/94 10:36 AM
Time of Injection: 10/30/94 09:54 PM
Low Point : 4.00 mV High Point : 14.00 mV
Plot Scale: 10.0 mV





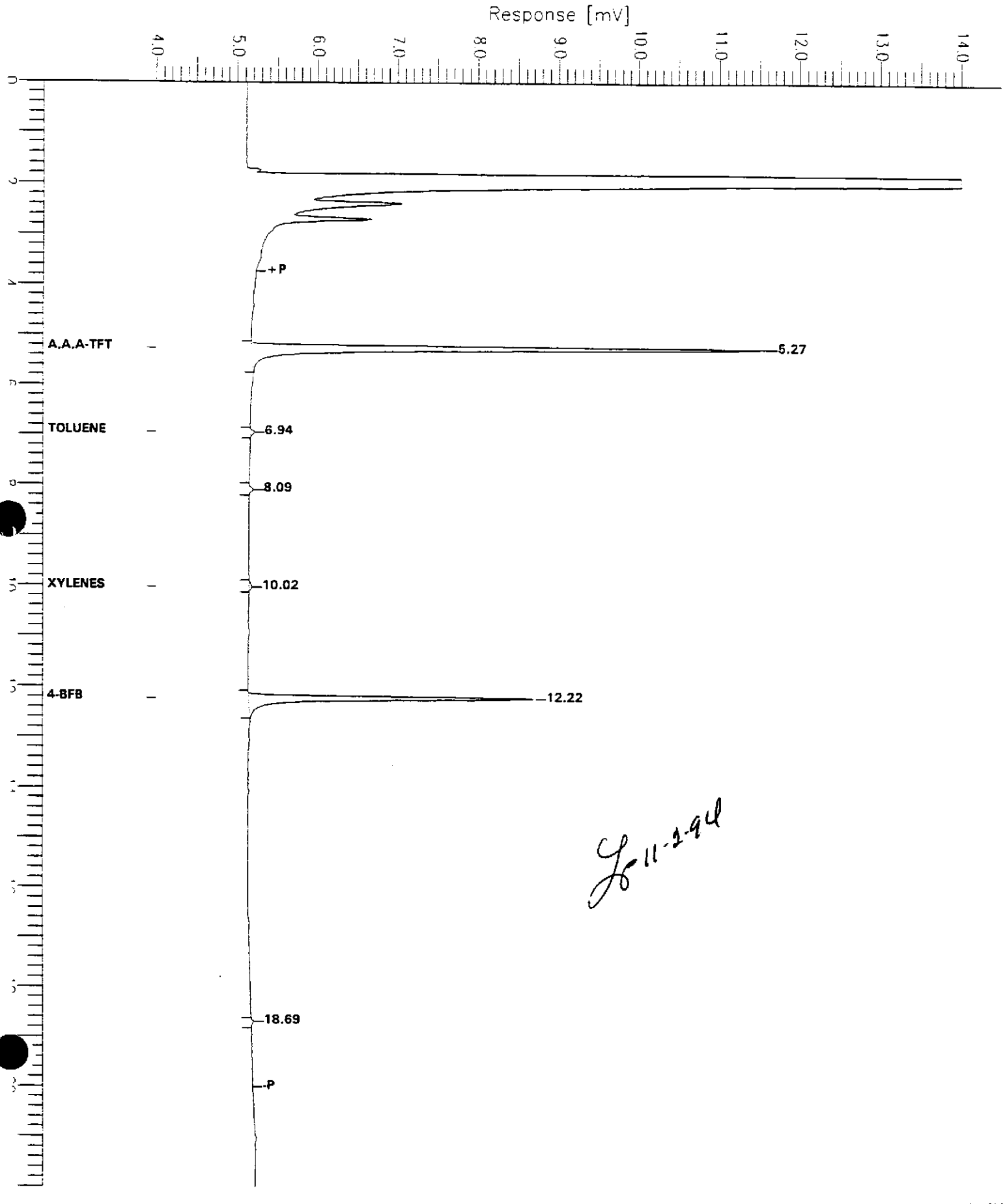

11-2-94

# Chromatogram

ole Name : 379-2S B2-20
eName : D:\VAR_DATA\N01B017.raw
iod : N018020
t Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 4 mV

Sample #:
Date : 10/31/94 10:37 AM
Time of Injection: 10/30/94 10:23 PM
Low Point : 4.00 mV High Point : 14.00 mV
Plot Scale: 10.0 mV



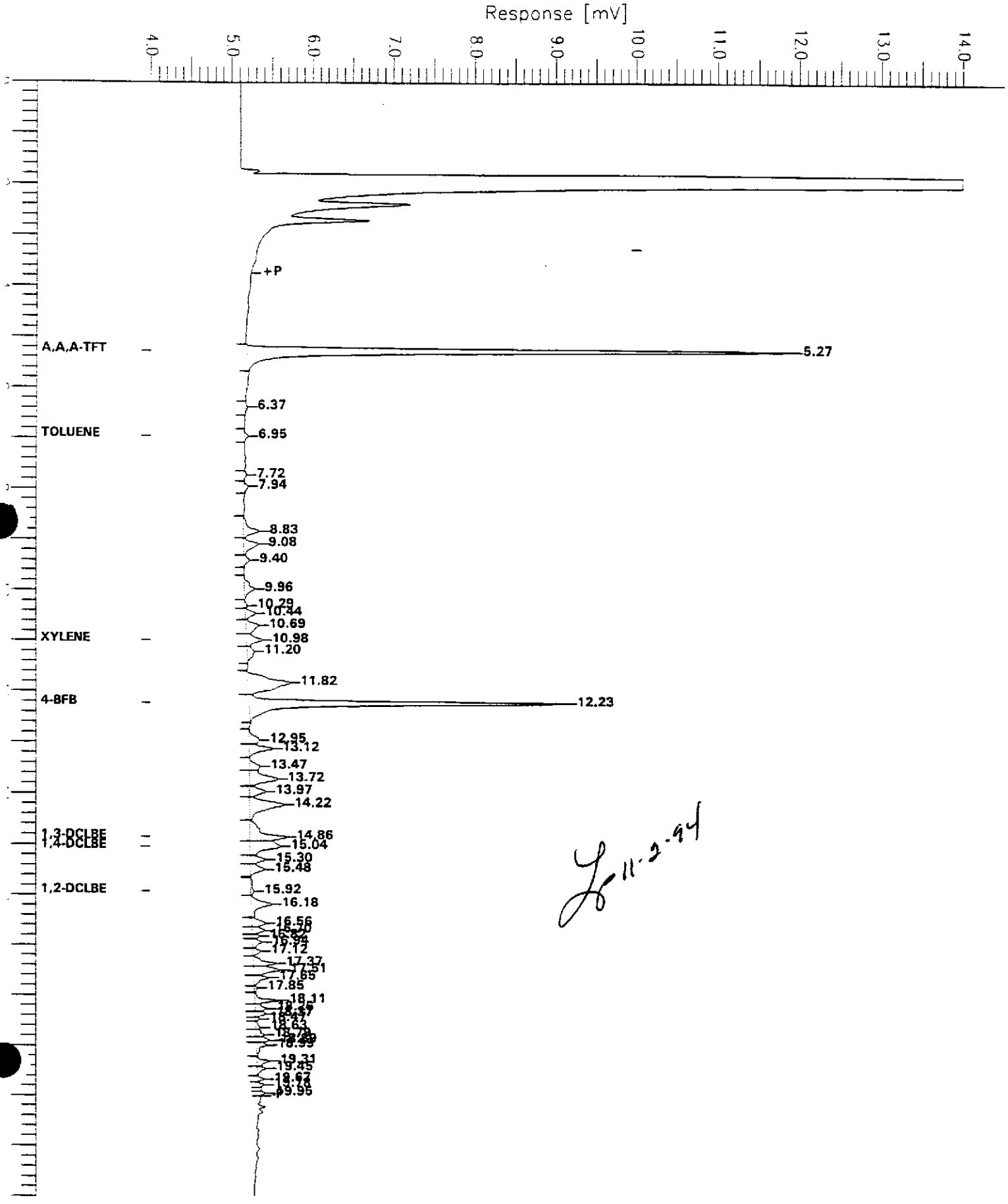



11-2-94

# Chromatogram

le Name : 379-3S B3-2C
Name : D:\VAR_DATA\N01B018.raw
od : N018020
t Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 4 mV

Sample #: Page 1 of 1
Date : 10/31/94 10:39 AM
Time of Injection: 10/30/94 10:52 PM
Low Point : 4.00 mV High Point : 14.00 mV
Plot Scale: 10.0 mV



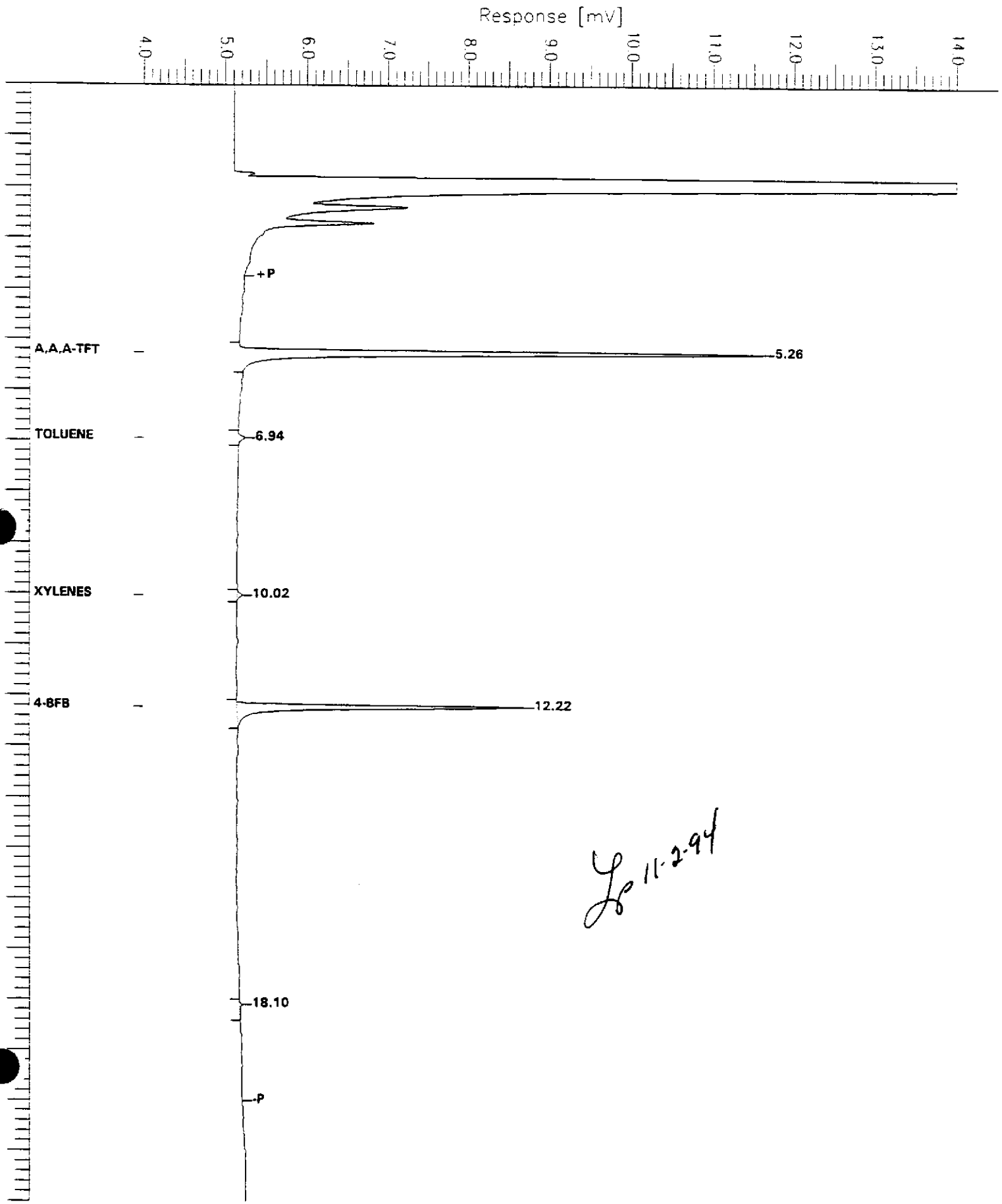

11-2-94

# Chromatogram

e Name : 379-45 HA1-5
ame : D:\VAR_DATA\N018019.raw
d : N018020
Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 4 mV

Sample #:
Date : 10/31/94 10:41 AM
Time of Injection: 10/30/94 11:21 PM
Low Point : 4.00 mV High Point : 14.00 mV
Plot Scale: 10.0 mV





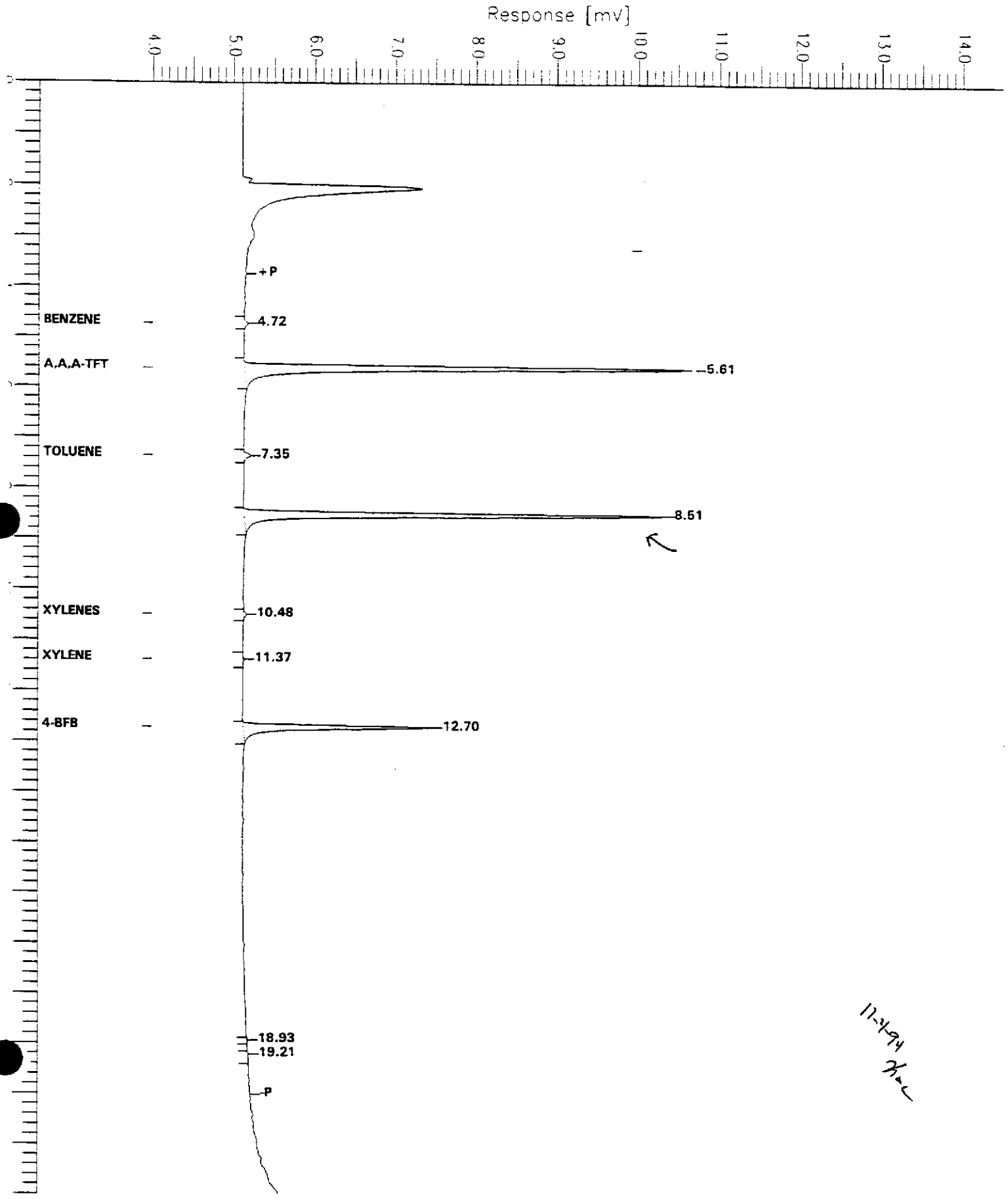

LP 11-2-94

# Chromatogram

le Name : 379-5WA B1-W'
Name : D:\VAR_DATA\N028004.raw
od : N028020
t Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 4 mV

Sample #:
Date : 11/2/94 03:12 PM
Time of Injection: 11/2/94 12:42 PM
Low Point : 4.00 mV High Point : 14.00 mV
Plot Scale: 10.0 mV



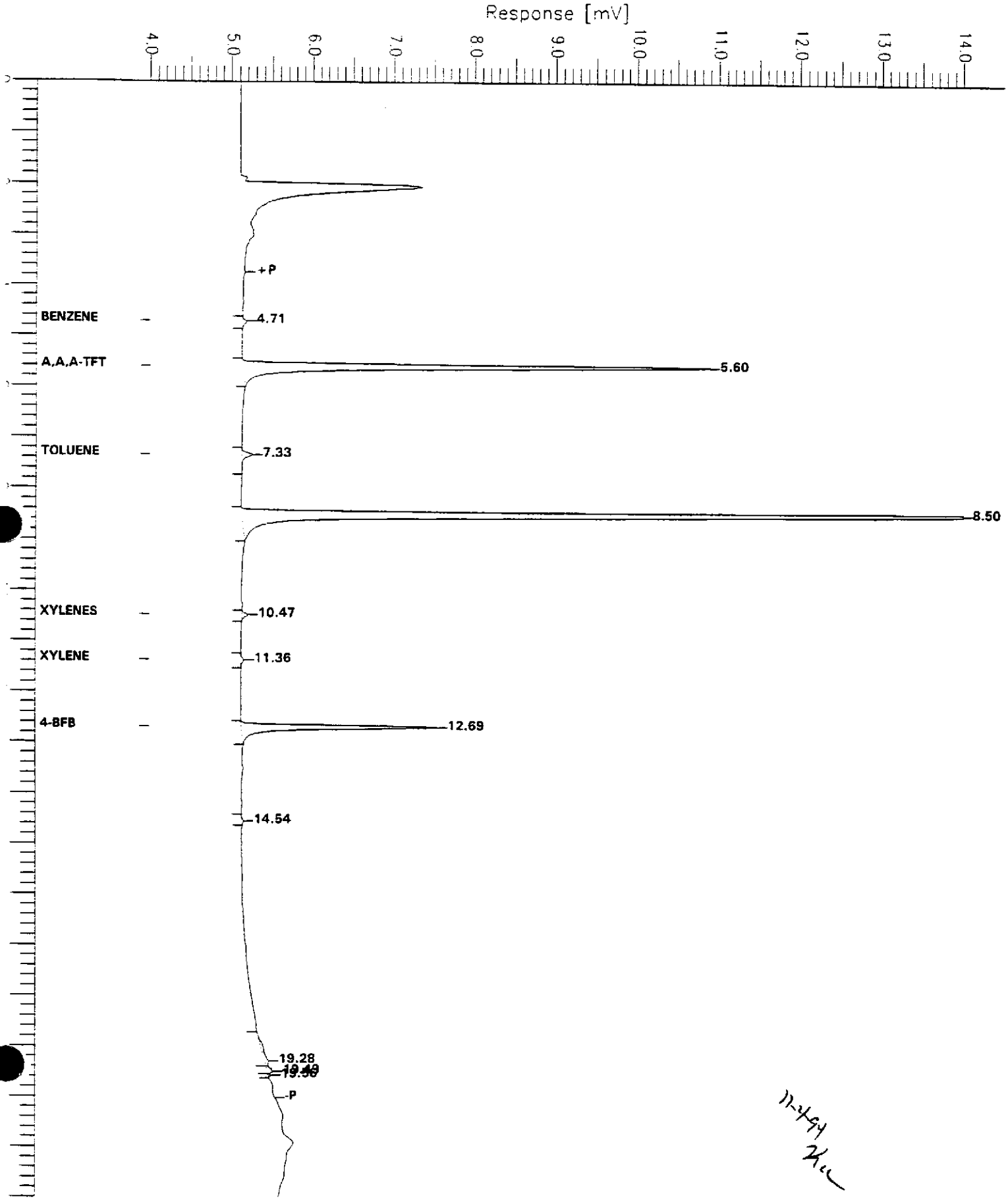



11-4-94

# Chromatogram

le Name : 379-6WA B2-W
Name : D:\VAR_DATA\N02B005.raw
od : N028020
t Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 4 mV

Sample #: Page 1 of 1
Date : 11/2/94 01:35 PM
Time of Injection: 11/2/94 01:11 PM
Low Point : 4.00 mV High Point : 14.00 mV
Plot Scale: 10.0 mV

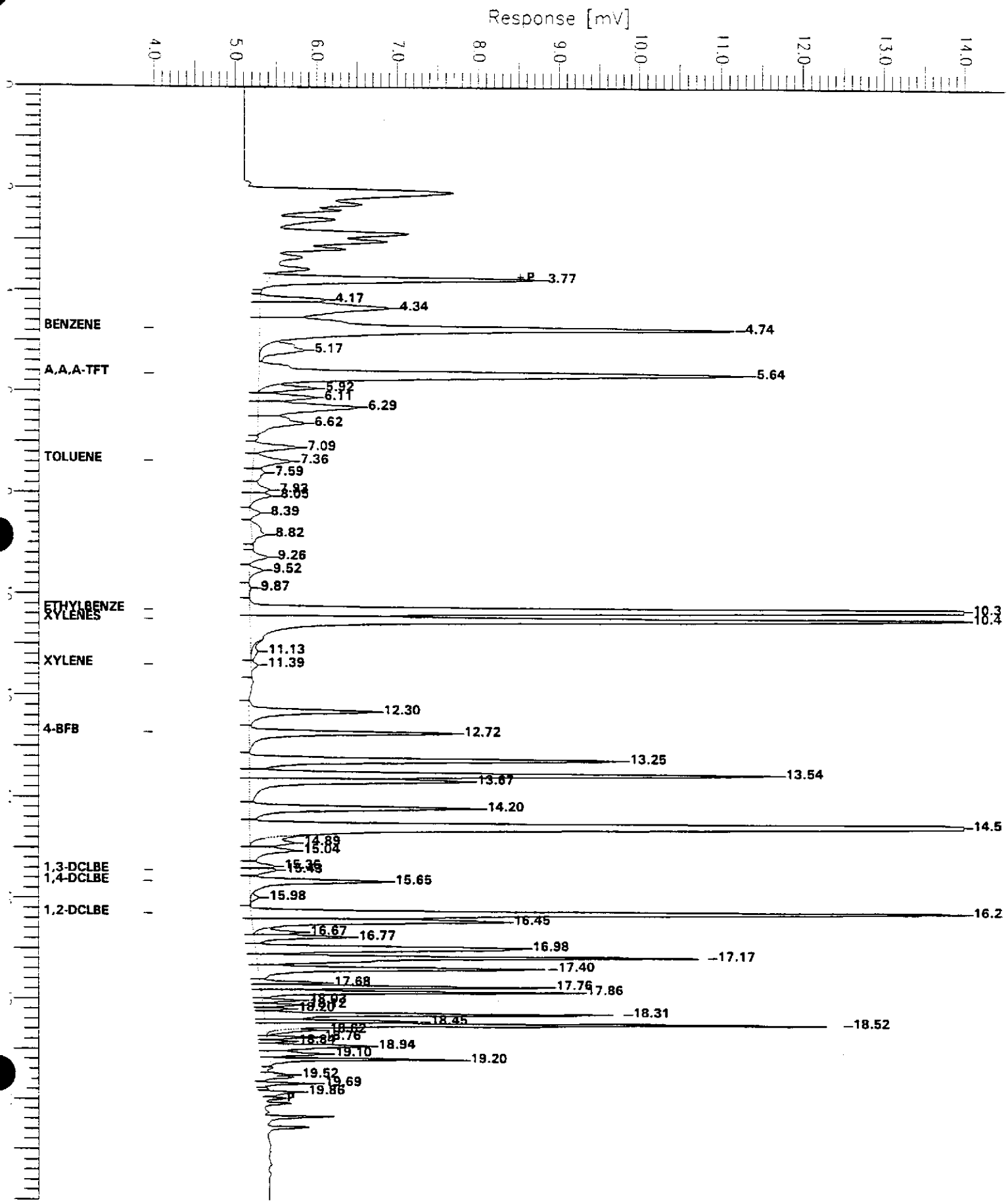



11-4-94

# Chromatogram

le Name : 379-7WA DF5C B3-W
Name : D:\VAR_DATA\N028006.raw
od : N028020
t Time : 0.00 min End Time : 22.00 min
e Factor: 0.0 Plot Offset: 4 mV

Sample #: Page 1 of 1
Date : 11/2/94 02:04 PM
Time of Injection: 11/2/94 01:40 PM
Low Point : 4.00 mV High Point : 14.00 mV
Plot Scale: 10.0 mV

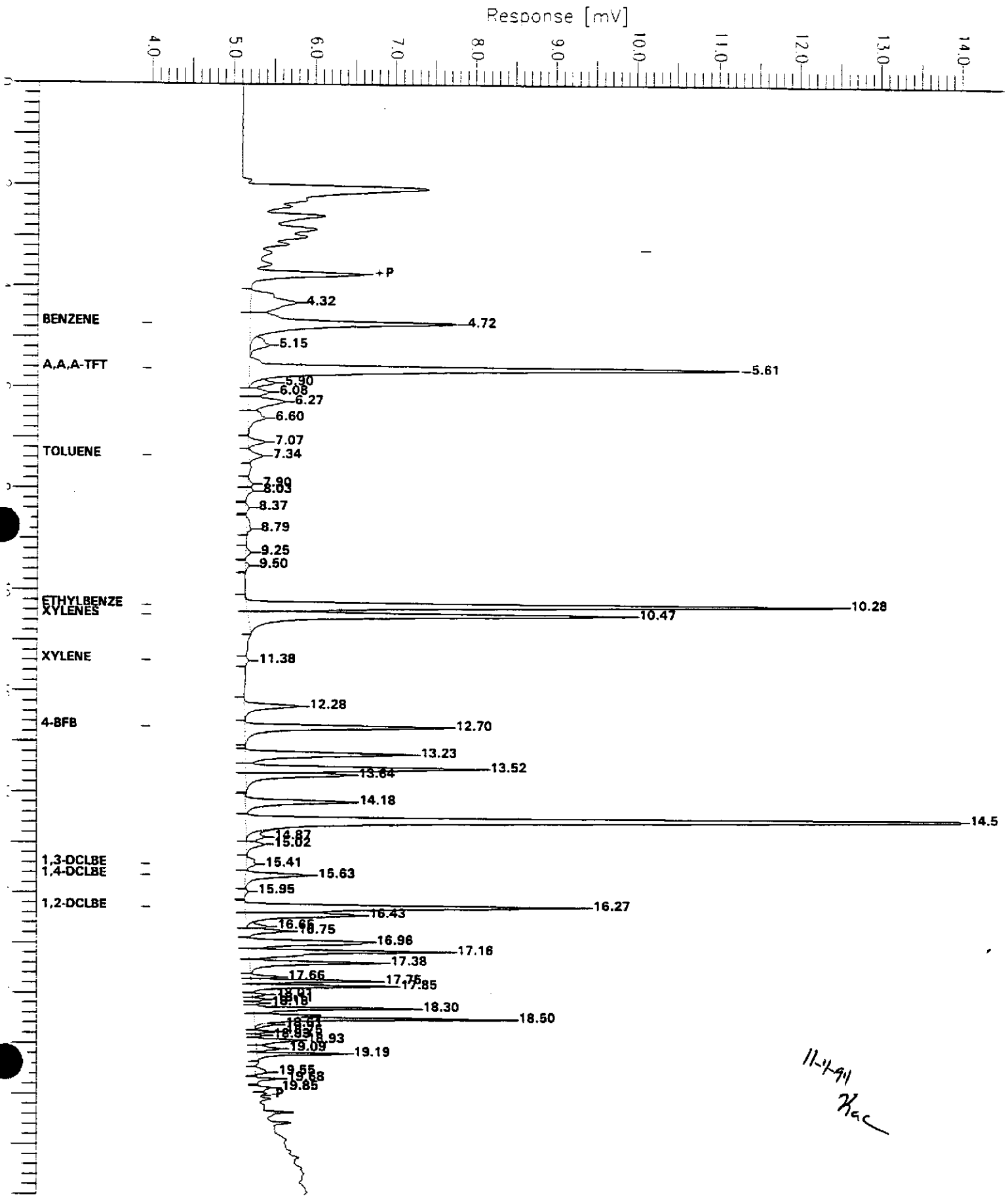


# Chromatogram



le Name : 379-7WB df 100 BB-W
Name : D:\VAR_DATA\N038004.raw
od : N038020
t Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 4 mV

Sample #:
Date : 11/3/94 03:52 PM
Time of Injection: 11/3/94 03:28 PM
Low Point : 4.00 mV High Point : 14.00 mV
Plot Scale: 10.0 mV



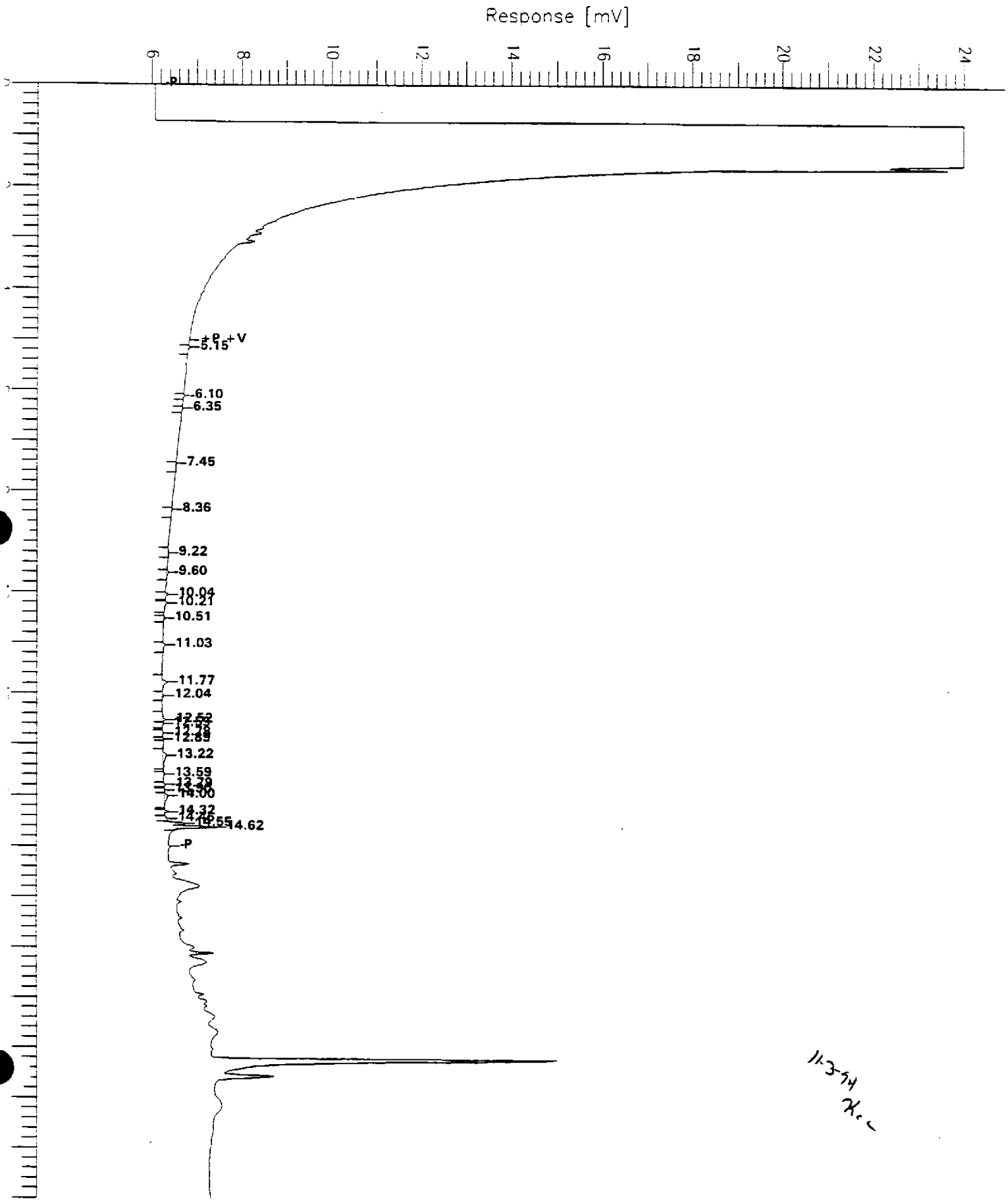

11-4-94
Kac

TPH Diesel - FID

Chromatogram

le Name : 379-1S B1-20
Name : D:\HP_DATA\NO2A010.raw
od : NO2TPHD
t Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 6 mV

Sample #: Page 1 of 1
Date : 11/3/94 09:29 AM
Time of Injection: 11/2/94 09:30 PM
Low Point : 6.00 mV High Point : 24.00 mV
Plot Scale: 18.0 mV




11-3-94
K.C

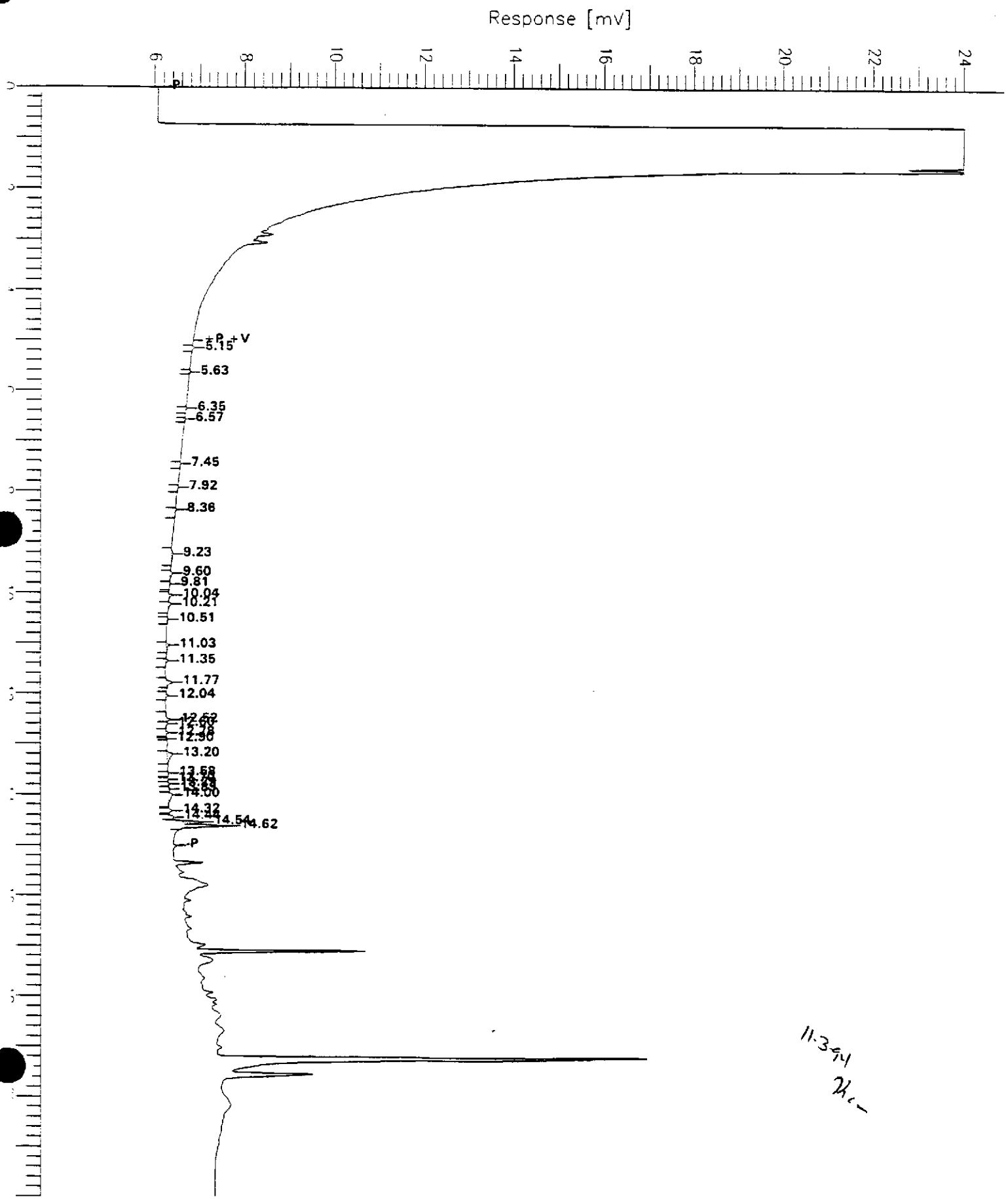
# Chromatogram

B2-20

le Name : 379-2S
Name : D:\HP_DATA\NO2A011.raw
od : NO2TPHD
t Time : 0.00 min End Time : 22.00 min
e Factor: 0.0 Plot Offset: 6 mV

Sample #:
Date : 11/3/94 09:30 AM
Time of Injection: 11/2/94 10:00 PM
Low Point : 6.00 mV High Point : 24.00 mV
Plot Scale: 18.0 mV






11.3-94

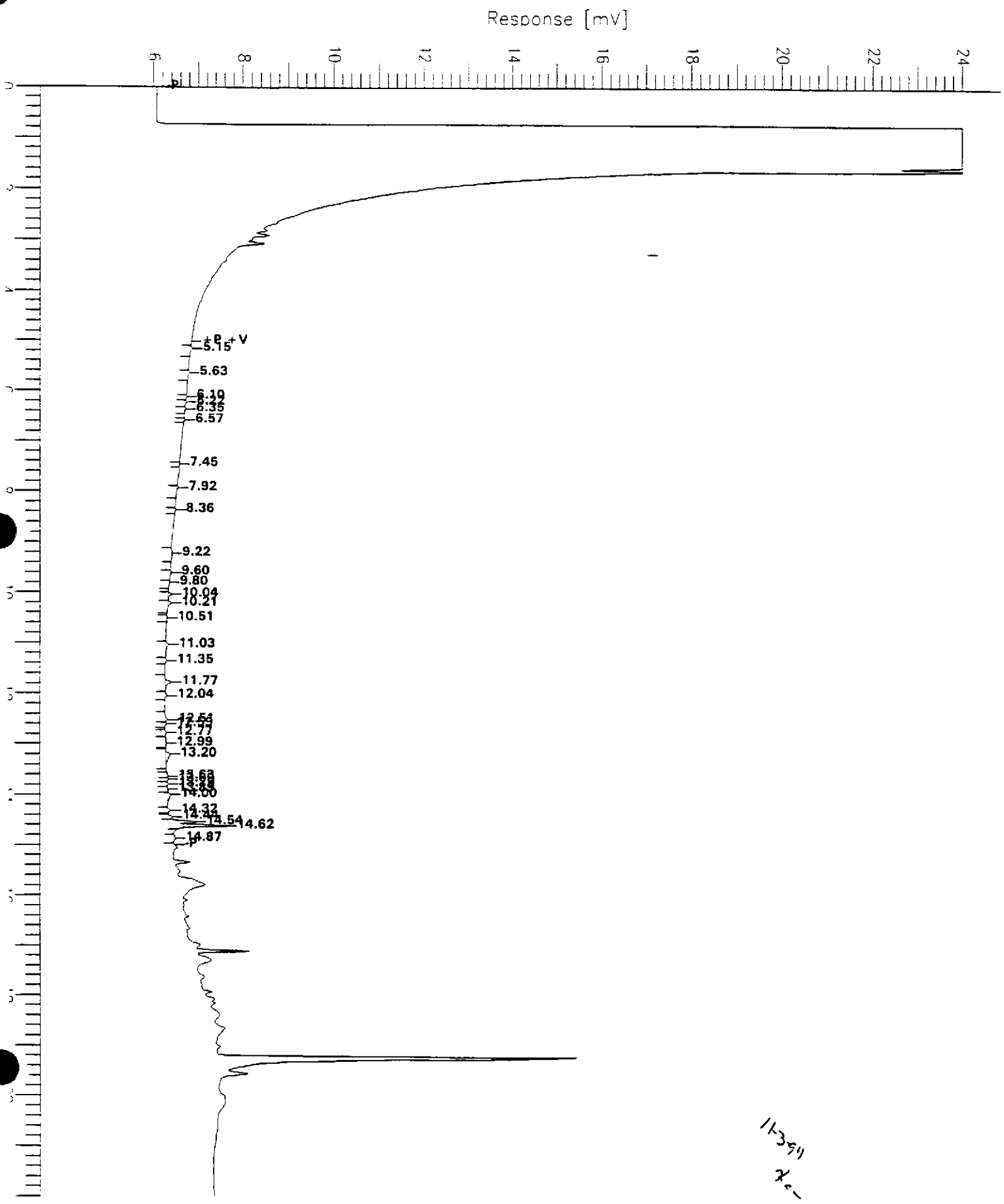
# Chromatogram

B3-20

ile Name : 379-3S
Name : D:\HP_DATA\NO2A012.raw
od : NO2TPHD
t Time : 0.00 min End Time : 22.00 min
e Factor: 0.0 Plot Offset: 6 mV

Sample #:
Date : 11/3/94 09:30 AM
Time of Injection: 11/2/94 10:29 PM
Low Point : 6.00 mV High Point : 24.00 mV
Plot Scale: 18.0 mV






11/3/94

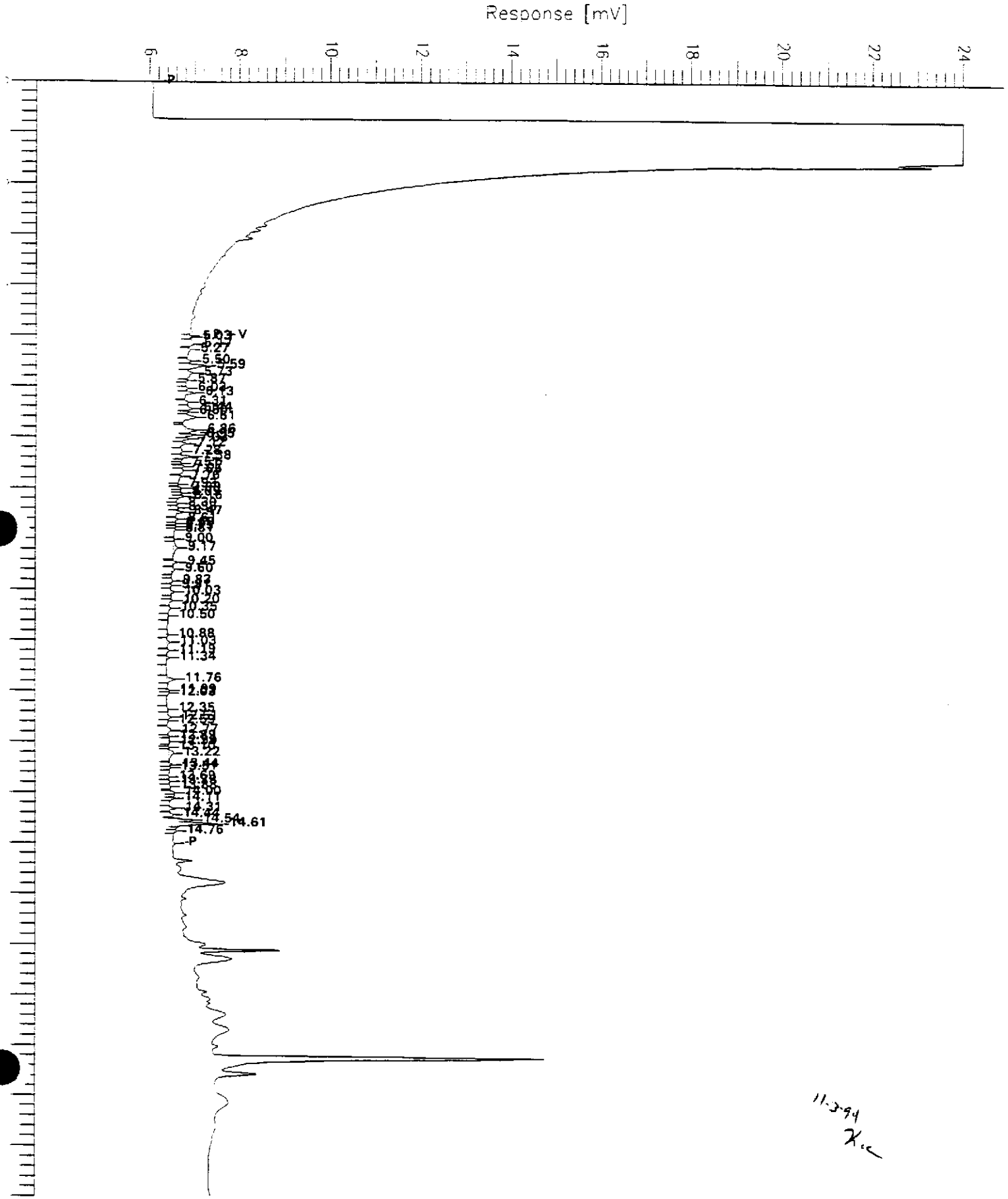
# Chromatogram

HA1-5

le Name : 379-4S
Name : D:\HP_DATA\NO2A013.raw
od : NO2TPHD
: Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 6 mV

Sample #:
Date : 11/3/94 09:31 AM
Time of Injection: 11/2/94 10:59 PM
Low Point : 6.00 mV High Point : 24.00 mV
Plot Scale: 18.0 mV





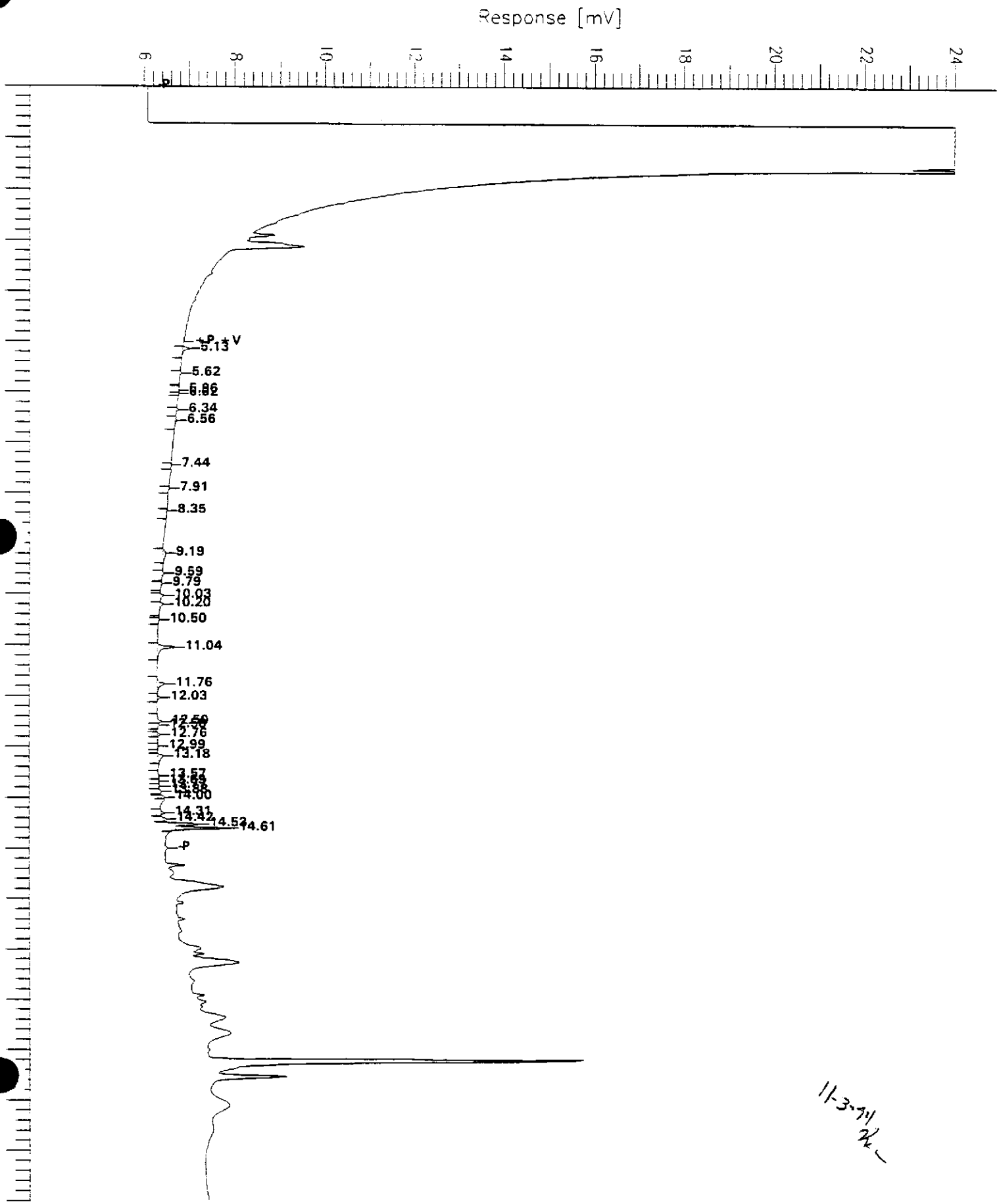

11-3-94

# Chromatogram

B1 - W'

e Name : 379-5W
ame : D:\HP_DATA\NO2A018.raw
d : NO2TPHD
Time : 0.00 min End Time : 22.00 min
Factor: 0.0 Plot Offset: 6 mV

Sample #: Page 1 of 1
Date : 11/3/94 09:34 AM
Time of Injection: 11/3/94 01:27 AM
Low Point : 6.00 mV High Point : 24.00 mV
Plot Scale: 18.0 mV



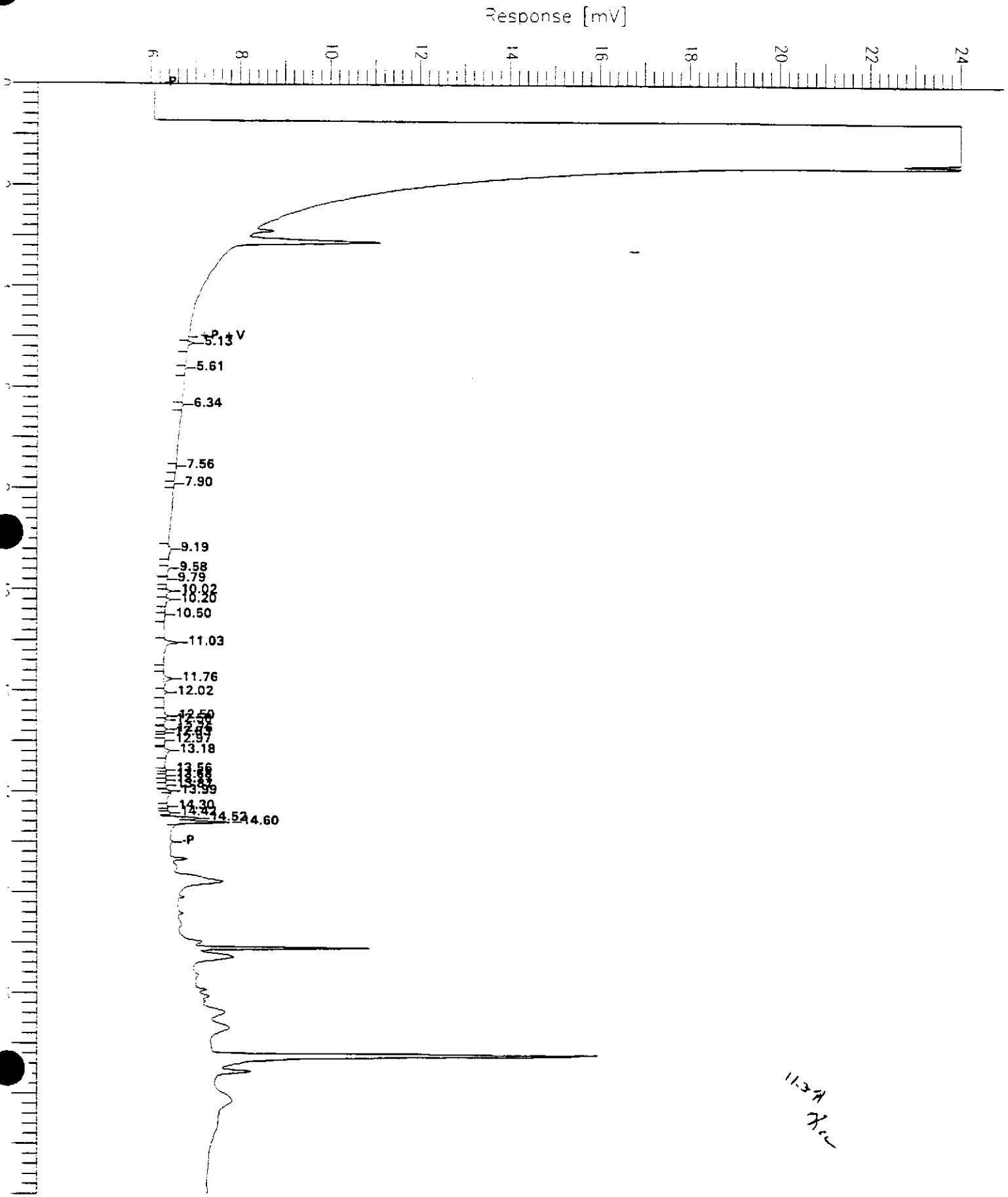

11-3-94

# Chromatogram

B2-W

le Name : 379-6W
Name : D:\HP_DATA\NO2A020.raw
od : NO2TPHD
t Time : 0.00 min End Time : 22.00 min
e Factor: 0.0 Plot Offset: 6 mV

Sample #: Page 1 of 1
Date : 11/3/94 09:35 AM
Time of Injection: 11/3/94 02:26 AM
Low Point : 6.00 mV High Point : 24.00 mV
Plot Scale: 18.0 mV




11-3-94

# Chromatogram

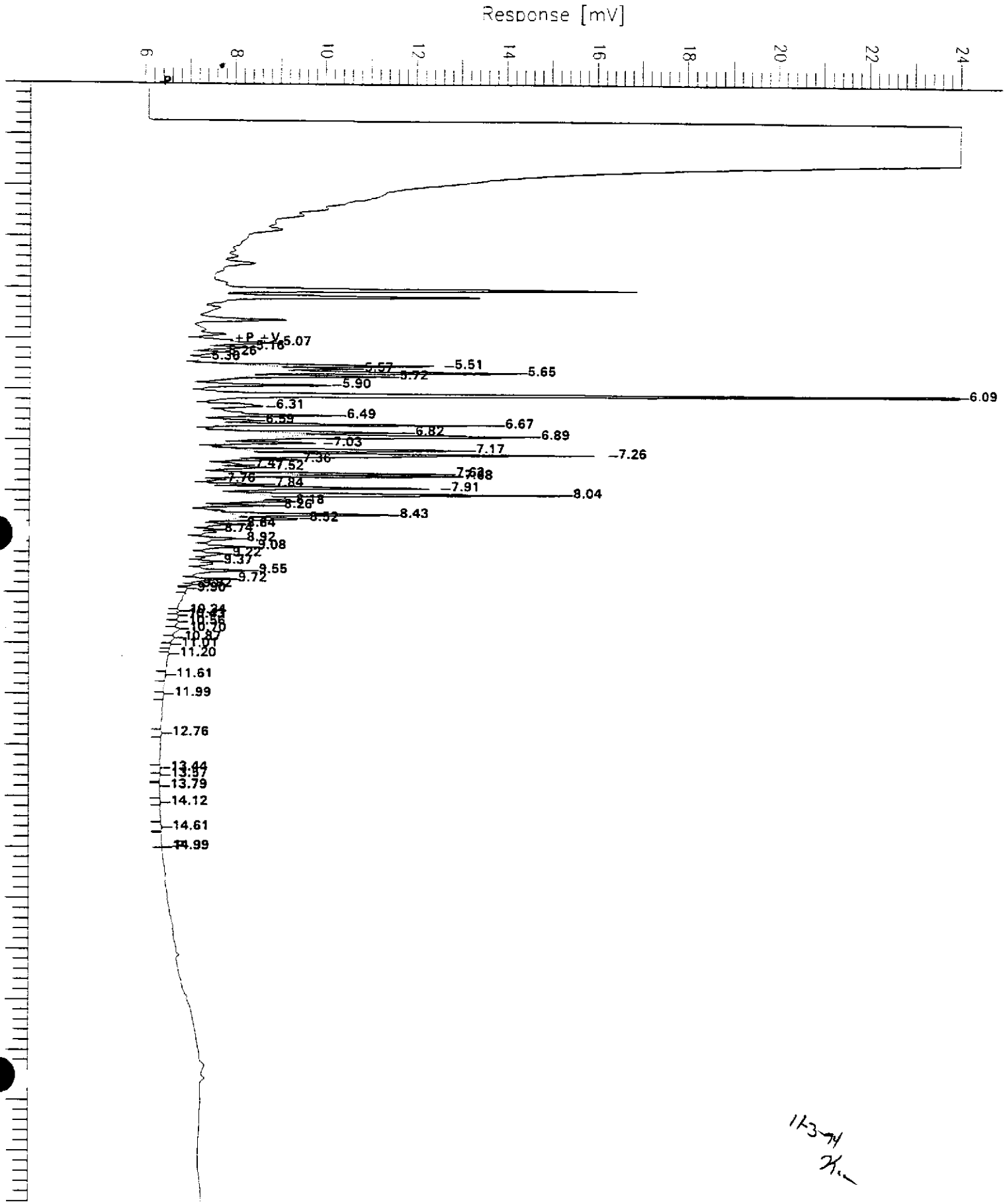
B3-W

e Name : 379-7W 50DF
ame : D:\HP_DATA\NO2A019.raw
d : NO2TPHD
Time : 0.00 min
Factor: 0.0

End Time : 22.00 min
Plot Offset: 6 mV

Sample #:
Date : 11/3/94 09:34 AM
Time of Injection: 11/3/94 01:57 AM
Low Point : 6.00 mV
Plot Scale: 18.0 mV






B3-W

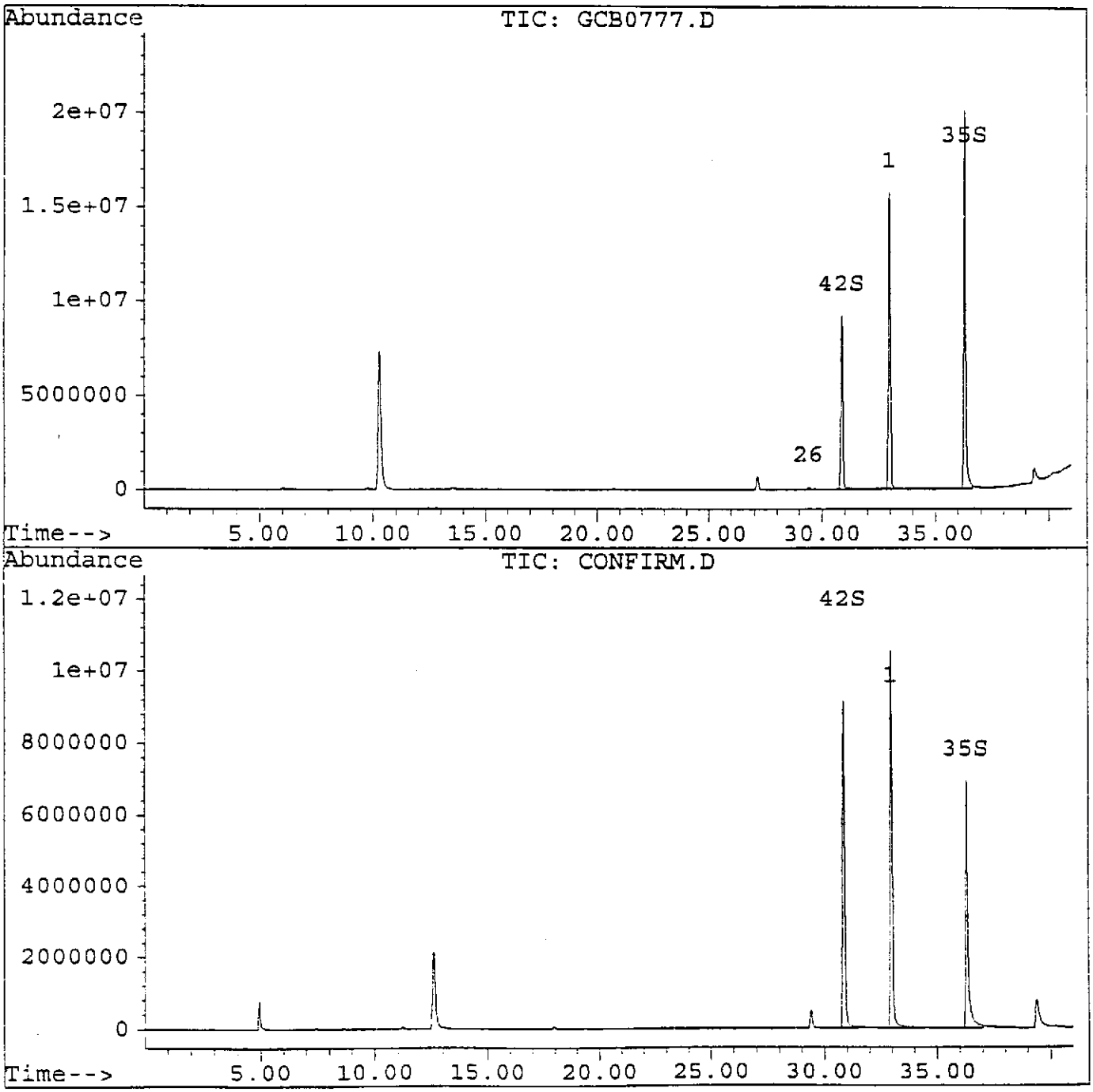
Quantitation Report

Signal #1 : D:\HPCHEM\5\DATA\GCB0777.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0777.D\CONFIRM.D
Acq On : 06 Nov 94 12:12 PM
Sample : 219-9411-464
Misc : B1-20, (1.0gm)
Quant Time: Nov 6 14:11 1994

Vial: 1
Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :



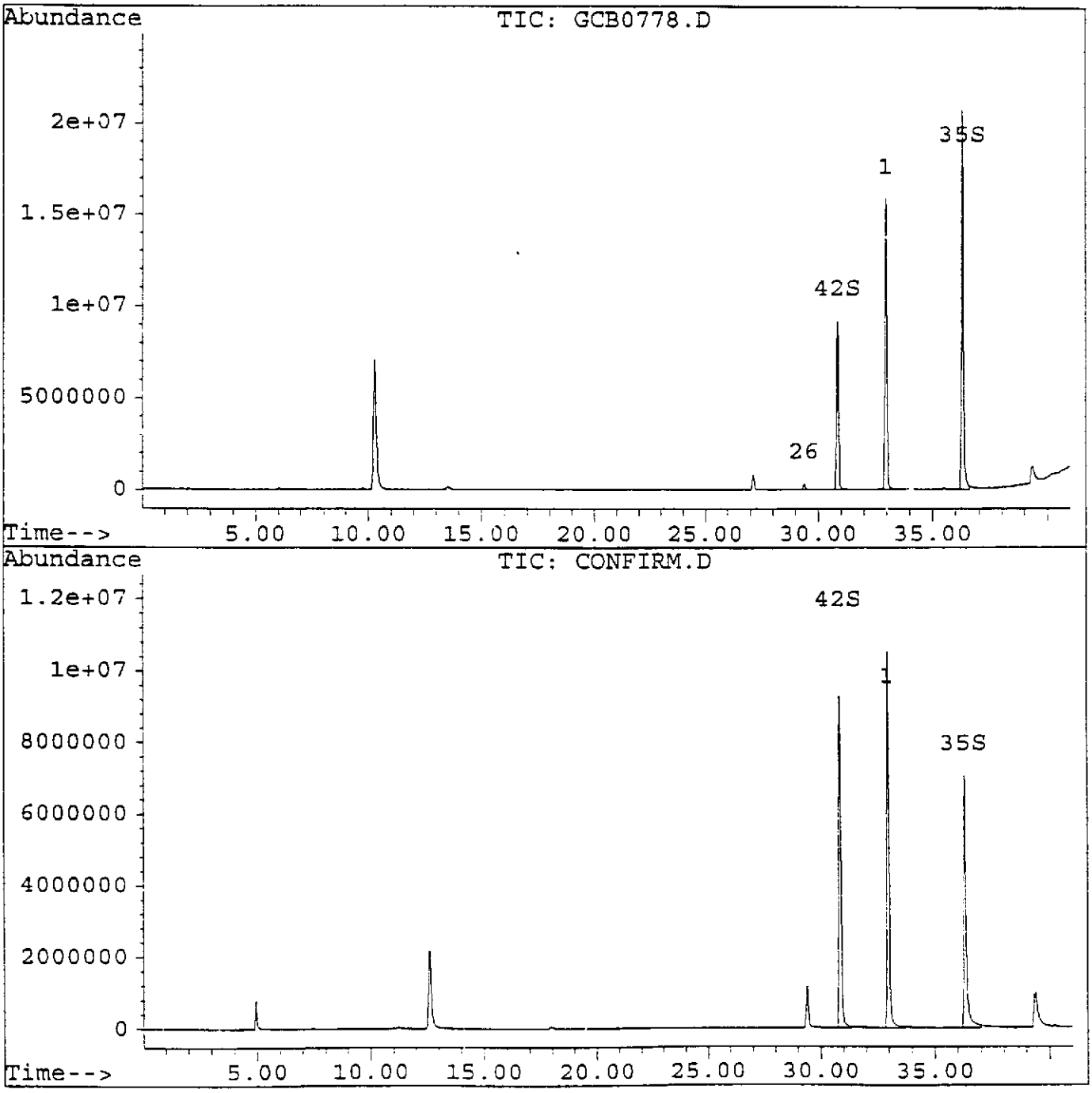
Quantitation Report

Signal #1 : D:\HPCHEM\5\DATA\GCB0778.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0778.D\CONFIRM.D
Acq On : 06 Nov 94 01:03 PM
Sample : 219-9411-465
Misc : B2-20, (1.0gm)
Quant Time: Nov 6 14:13 1994

Vial: 2
Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :



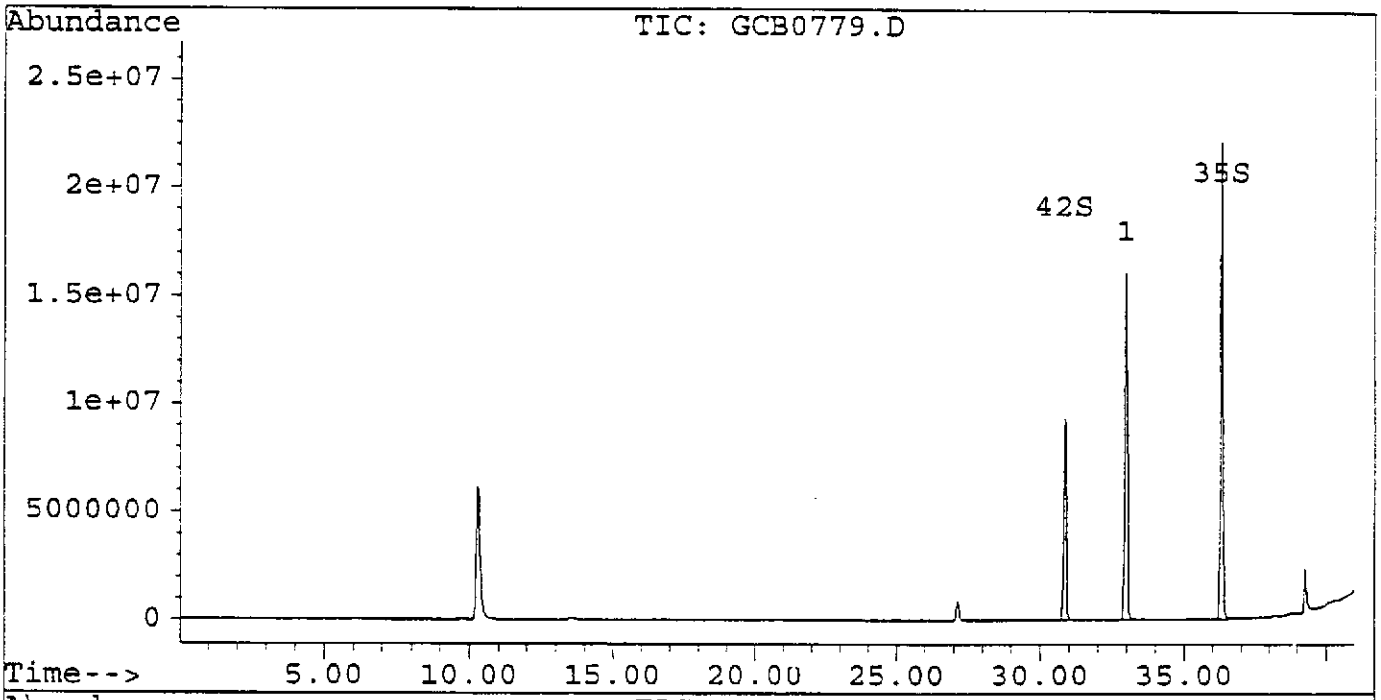
Quantitation Report

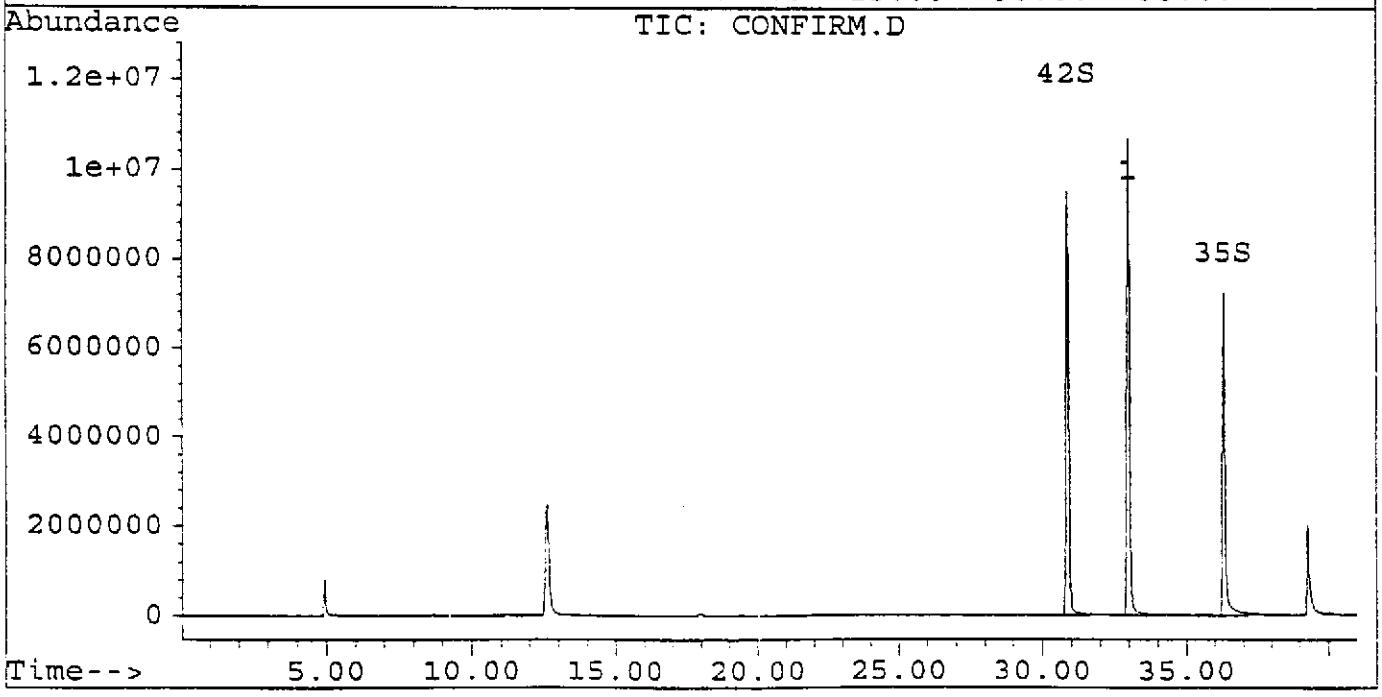
Signal #1 : D:\HPCHEM\5\DATA\GCB0779.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0779.D\CONFIRM.D
Acq On : 06 Nov 94 01:54 PM
Sample : 219-9411-466
Misc : B3-20, (1.0gm)
Quant Time: Nov 6 14:42 1994

Vial: 1
Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :



Quantitation Report

Signal #1 : D:\HPCHEM\5\DATA\GCB0780.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0780.D\CONFIRM.D
Acq On : 06 Nov 94 02:51 PM
Sample : 219-9411-467
Misc : HA1-5, (1.0gm)
Quant Time: Nov 6 15:42 1994

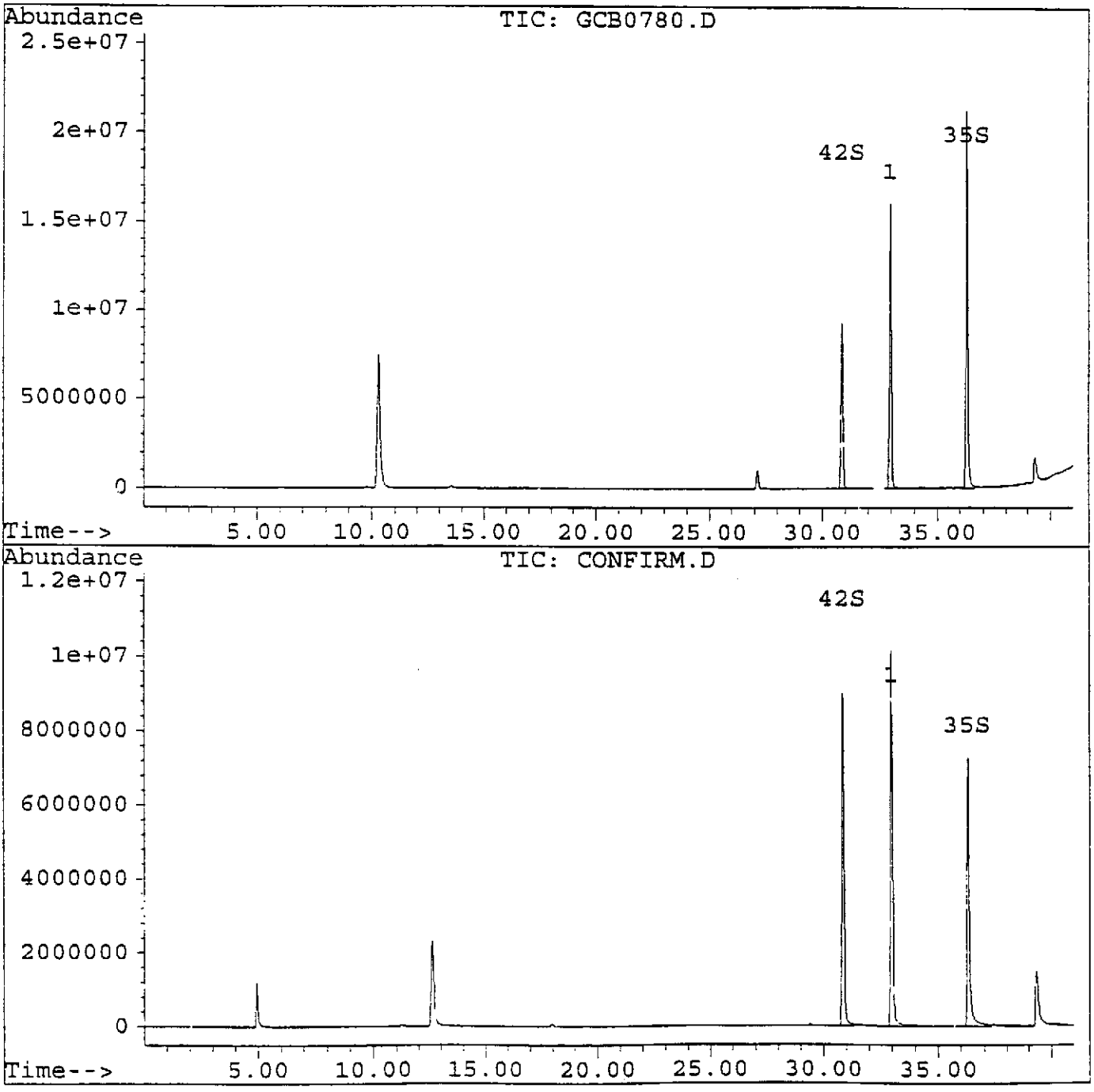
Vial: 1

Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



Quantitation Report

Signal #1 : D:\HPCHEM\5\DATA\GCB0794.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0794.D\CONFIRM.D
Acq On : 07 Nov 94 02:44 PM
Sample : 219-9411-468
Misc : B1-W
Quant Time: Nov 8 8:44 1994

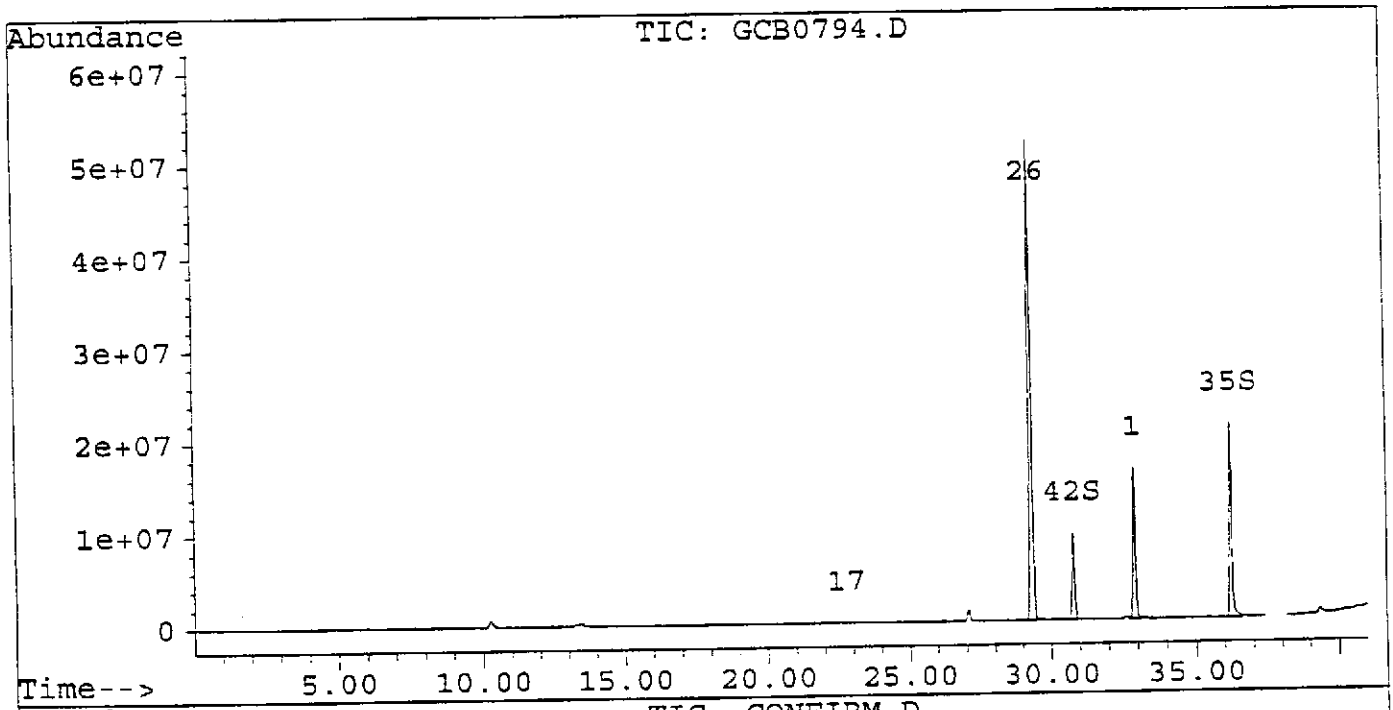
Vial: 1

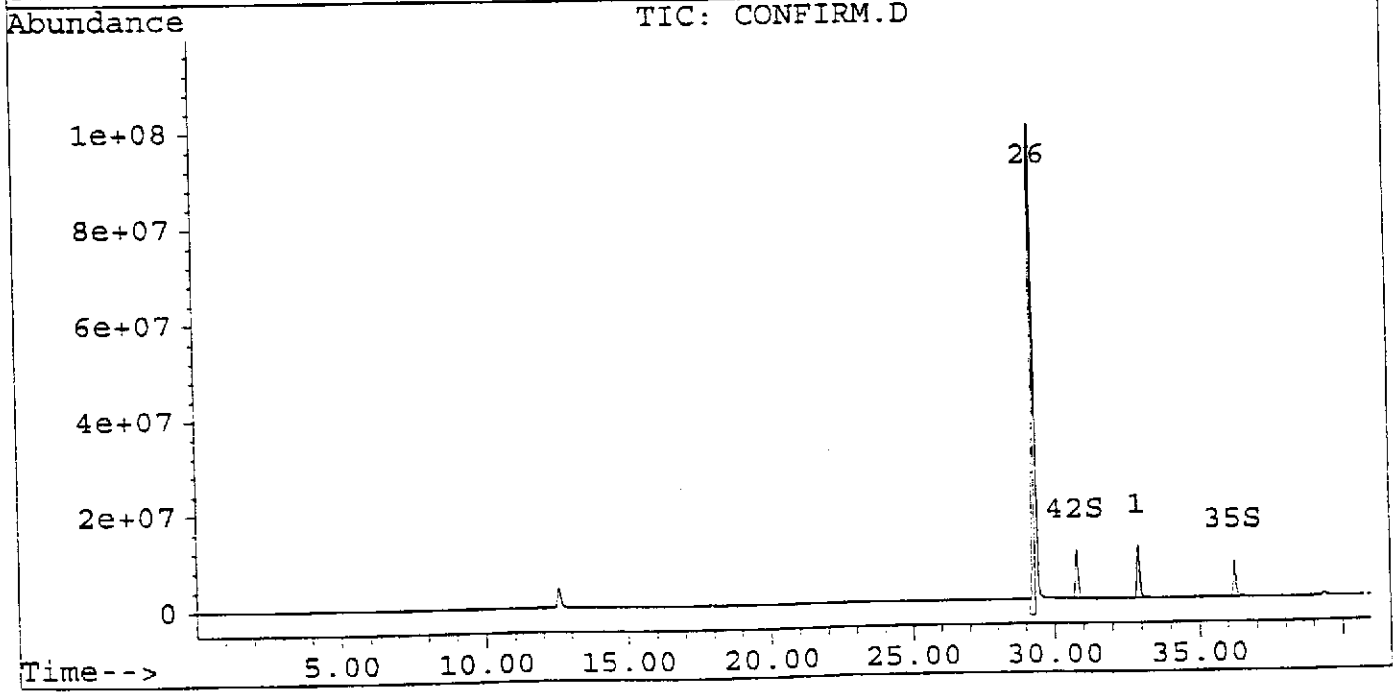
Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



Quantitation Report

Signal #1 : D:\HPCHEM\5\DATA\GCB0763.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0763.D\CONFIRM.D
Acq On : 05 Nov 94 01:20 PM
Sample : 219-9411-469
Misc : B2-W
Quant Time: Nov 6 10:34 1994

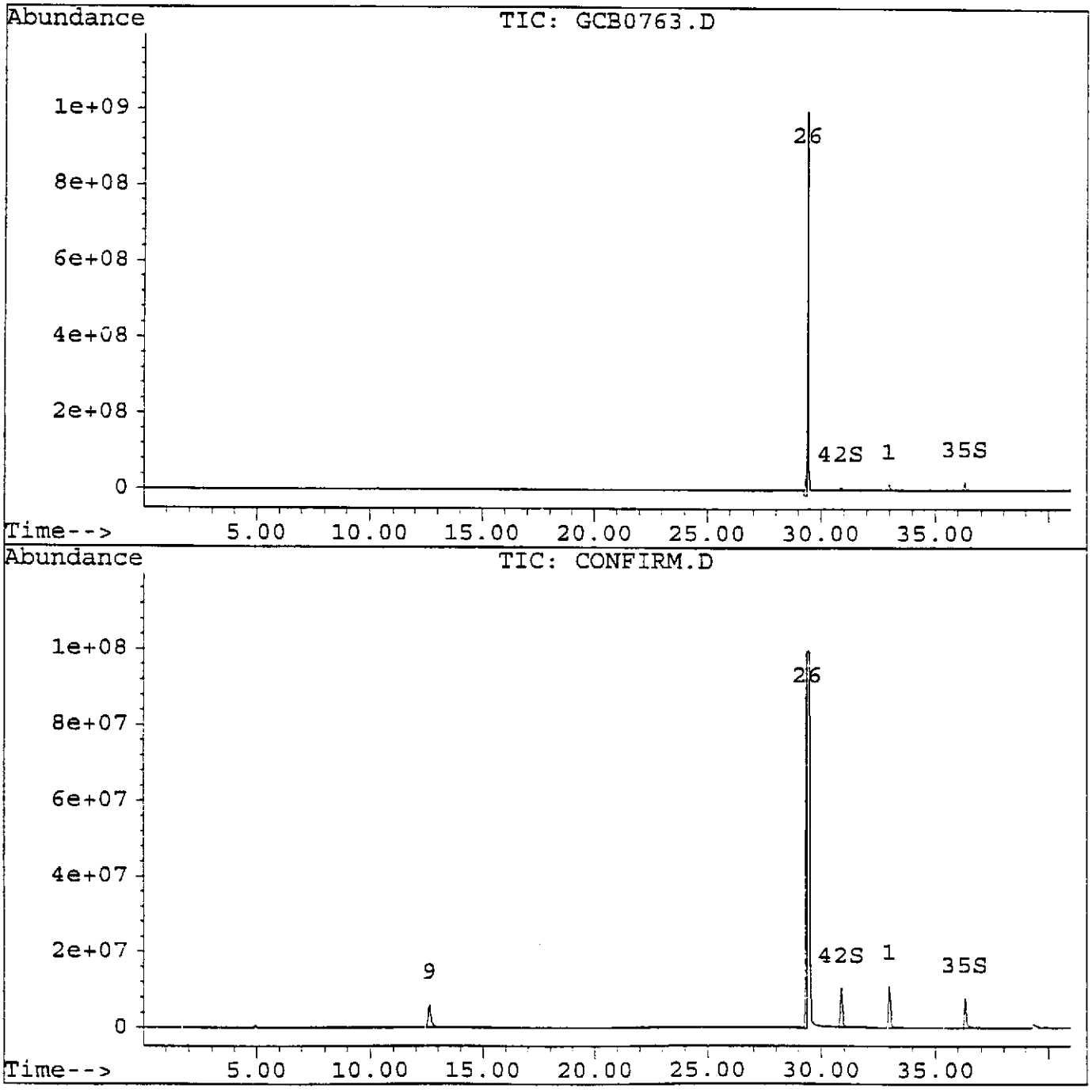
Vial: 4

Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



Quantitation Report

Signal #1 : D:\HPCHEM\5\DATA\GCB0764.D
Signal #2 : D:\HPCHEM\5\DATA\GCB0764.D\CONFIRM.D
Acq On : 05 Nov 94 02:11 PM
Sample : 219-9411-470
Misc : B3-W
Quant Time: Nov 5 15:11 1994

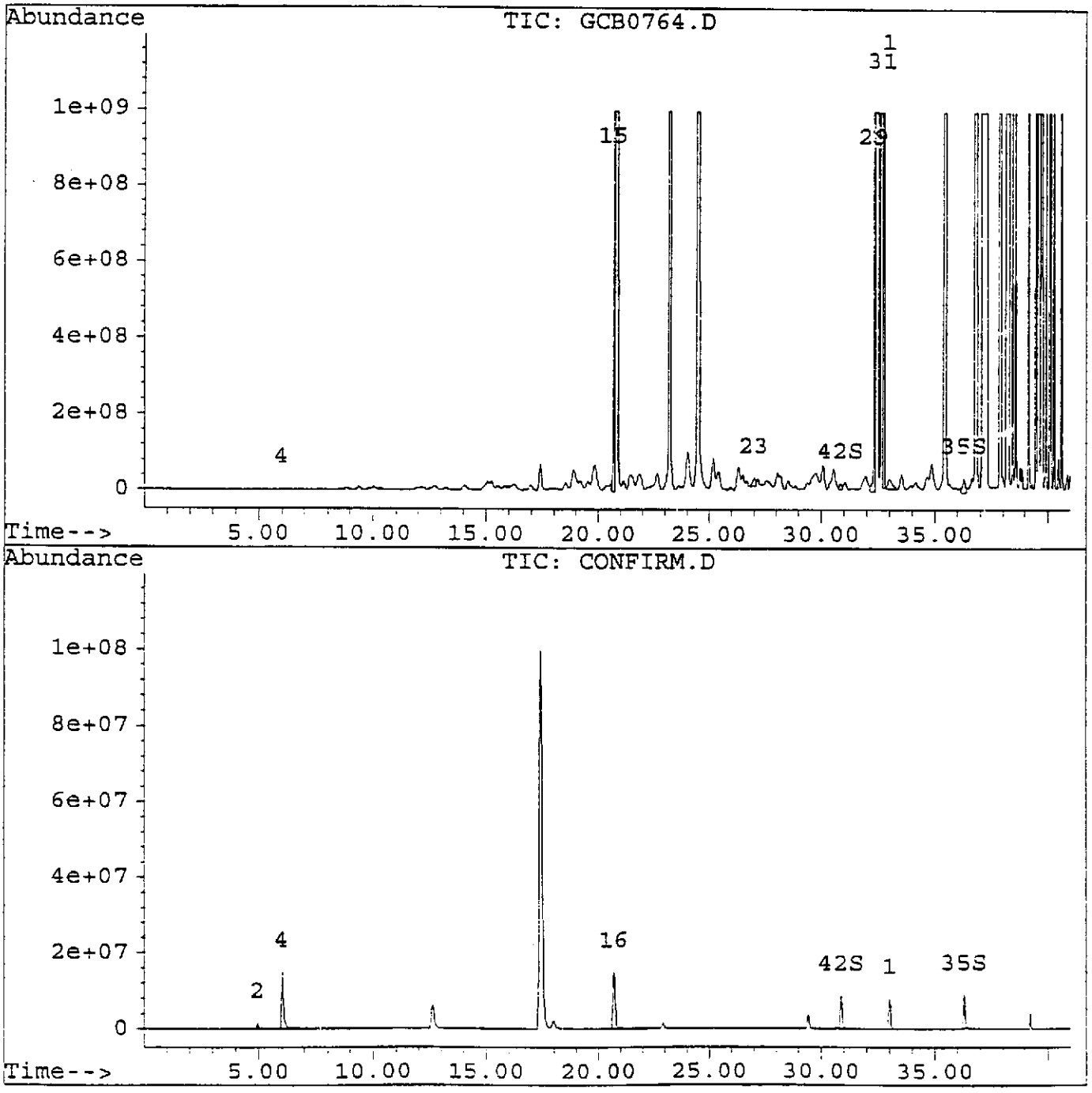
Vial: 5

Operator: SDW
Inst : ELCD
Multiplr: 1.00

Method : C:\HPCHEM\5\METHODS\8010_20X.M
Title : Method 8010/8020
Last Update : Fri Nov 04 13:02:35 1994
Response via : Multiple Level Calibration

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :

Signal #2 Phase:
Signal #2 Info :



# ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600 FAX (510) 462-3914

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Proposed Taco Bell NE Corner of Hesperian Blvd and W. Winton Ave. (Behind Exxon Sta.)

CLIENT
Name TACO BELL CORPORATION
Address 4960 Black Ave. Ste K Voice 510-462-6580
City Pleasanton, CA Zip 94566

APPLICANT
Name Krazan + Associates
Dave Mathis Fax 916-564-2222
Address 123 Commerce Circle Voice 916-564-2200
City SACRAMENTO, CA Zip 95815

TYPE OF PROJECT
Well Construction
Cathodic Protection ___
Water Supply ___
Monitoring X (Temporary Only)
Geotechnical Investigation
General ___
Contamination ___
Well Destruction ___

PROPOSED WATER SUPPLY WELL USE N/A
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

DRILLER'S LICENSE NO. C-57 478708

WELL PROJECTS (TEMP)
Drill Hole Diameter 8 in. Maximum Depth 40 ft.
Casing Diameter 2 in. Number 3
Surface Seal Depth N/A ft.

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum Depth ___ ft.
Hole Diameter ___ in.

ESTIMATED STARTING DATE 10/13/94
ESTIMATED COMPLETION DATE 10/14/94

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Dave Mathis Date 10/6/94

FOR OFFICE USE

PERMIT NUMBER 94647
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 12 Oct 94
Wyman Hong

10-06-1994 02:09PM 5104623914
10-12-1994 01:20PM 5104623914

**APPENDIX F**
**Project No. 34-94-319**

## METHODOLOGY

1. All necessary drilling permits were obtained from the Zone 7 Water Agency prior to the commencement of the investigation at the project site. Please refer to Appendix E for copies of the drilling permits.

2. Prior to the commencement of drilling activities, Underground Services Alert (USA) was contacted to located utilities on the site. Also prior to drilling, each boring location was hand-probed to a depth of five feet.

3. Three soil borings were advanced to a maximum depth of 28 feet below grade. Three temporary wells were installed to a maximum depth of 28 feet below grade approximately 5 feet below the groundwater table. The soil borings were advanced by means of a truck-mounted drill rig utilizing hollow stem auger. One hand auger boring was also advanced to a maximum depth of 10 feet below grade. Drilling fluids were not used while advancing any of the borings. Please see Figure 2 for the approximate location of the borings.

4. Soil samples were obtained for logging purposes while advancing each boring at five foot intervals, beginning at five feet below grade. Soils were logged in accordance with the Unified Soil Classification System. Selected soil samples were submitted for chemical analysis in an attempt to further characterize the conditions present beneath the site.

5. Sampling was conducted by means of a split spoon "Modified California Sampler" containing three 6" long by 2.5" diameter brass sleeves.

6. During the drilling process the soil was examined for visual evidence of hydrocarbon contamination. Additionally, the soil was field-screened with a portable photoionization detector (PID). The PID readings were used to aid in choosing samples for chemical analysis and were noted on the drill logs. The PID is a direct reading real time analyzer that is capable of detecting most of the volatile hydrocarbon constituents present in the vapor phase of petroleum-affected soils. The PID that was used for this investigation uses a 10.6 electron volt lamp and is calibrated using an iso-butylene calibration gas. Iso-butylene is a relatively safe calibration gas similar in ionization potential to benzene (the carcinogen of primary concern present in gasoline).

7. Following sample retrieval, Teflon® Film was placed over both ends of the sleeve. Each sleeve was then capped with tight fitting plastic caps and secured with non-adhesive tape.

8. Samples were labeled with the project number, sampler's initials, boring number, and the date, time, and depth at which the sample was obtained.

9. Following sample labeling, each sample was placed in a cooler chest with synthetic ice to limit the volatilization of any hydrocarbons present. The temperature of the cooler chest was maintained between 0°-4° Celsius.

10. The temporary monitoring wells consist of 2-inch diameter Schedule 40 PVC threaded joint pipe with 0.020 inch slotted openings. The wells were installed approximately 5 feet below the piezometric surface.

11. Following installation, each temporary well was sounded, then developed by bailing approximately three well volumes. Waters generated from the development of each well were barrelled and stored on-site.

12. Groundwater samples were collected for chemical analysis by means of a disposable Teflon bailer. Water from the bailer was transferred to volatile organic analysis (VOA) vials and other appropriate containers. All containers were laboratory clean. The lids of the VOA vials have Teflon lines septa to ensure a tight fit. Each container was then placed in a cooler chest with synthetic ice. After sampling groundwater from each temporary well was completed, the well casing from each well was removed and discarded.

13. Excess soil returns were drummed and stored on-site. Rinsate and purge water was barrelled pending chemical analysis and waste characterization. All drums were labeled as to content and who to contact for additional information. Any excess material will be properly disposed of by the property owner. Krazan & Associates is not the generator of said material and therefore, is not responsible for its proper disposal.

14. All samples were collected, maintained at 4°C, and transported under chain-of-custody protocol to a State-approved laboratory for chemical analysis. Selected soil and groundwater samples were analyzed for the presence and concentration of benzene, toluene, ethylbenzene, xylenes (BTEX) and total petroleum hydrocarbons as gasoline (TPH-G) by EPA Method 8020/8015, TPH-diesel by LUFT Method, and Halogenated Volatile Organics by EPA Method 8010/601.

15. Equipment used for the advancing of soil borings and the sampling of soils was decontaminated (steam-cleaned, TSP, lab-grade detergents, etc.) before arriving on-site, between each boring and/or sampling, before leaving the site each day, or as necessary to minimize the chances of cross-contamination. The rinsates from the cleaning were contained and barrelled. The water was stored on-site pending the results of the chemical analysis and proper disposal by the property owner.

16. All soil borings and temporary well borings were backfilled with a six-sack sand cement slurry to near grade and capped with approximately six-inches of asphalt patch where appropriate.

17. All of Krazan & Associates' field work was conducted by individuals meeting the Occupational Safety and Health Administration requirements of hazardous waste work including 40-hour health and safety training and medical monitoring. The work was completed under standards set forth by industry and deemed acceptable by various regulatory agencies. Hard hats, protective eye wear, steel-toe boots, protective clothing, and respiratory devices were worn by field personnel when deemed appropriate by the field engineer or geologist present.

# H M M P

1427

RECEIVED BY
HAZARDOUS MATERIALS OFFICE
SEP 01 1994
HAYWARD FIRE DEPARTMENT

## (HAZARDOUS MATERIALS MANAGEMENT PLAN)

Prepared and submitted to the Hayward Fire Department in fulfillment of the requirements contained in the following laws, codes, and ordinance:

(a) Federal Superfund Amendments and Reauthorization Act of 1986 (SARA Title III);

(b) Chapter 6.95 of the California Health and Safety Code;

(c) Title 19 of the California Code of Regulations;

(d) Chapter 3, Article 8 of the Hayward Municipal Code; and

(e) Article 80 of the Uniform Fire Code as adopted by the State of California and the City of Hayward.

**REPORTING YEAR 1994**
for

**FACILITY ADDRESS:** 23958 HESPERIAN Blvd.

Hayward, CA **ZIP:** 94541

**FACILITY NAME:** NORGE CLEANERS

## Section I - CERTIFICATION

I hereby certify under penalty of perjury that the information contained in this Hazardous Materials Management Plan is, to the best of my knowledge, true, accurate, and correct. I understand that I may be required to show proof of compliance with all City, County, State, and federal laws and regulations during any facility inspection conducted by City, County, State, or Federal authorities.

I further certify that I am duly authorized to execute this certification on behalf of the business or facility named above.

Authorized Signature: Jack Hom Jr.

Printed Name and Title: JACK HOM JR. (MGR)

Date Signed: 07/20/94

## Section XV - ACKNOWLEDGEMENT

*I have read Section XIV and hereby agree to keep this HMMP current and accurate by submitting to the Hayward Fire Department any amendment within 30 days of a change requiring such an amendment.*

Signature: Jack Hom Jr.

Printed Name and Title: JACK HOM JR. (MGR)

Date Signed: 07/20/94

| | |
|---|---|
| 3. *Enter Standard Industrial Classification (SIC) code number for the primary process/activity done in this facility - A copy of the 1987 SIC Manual is available in the Hayward Library.* | 3. SIC Code<br>N/A |
| 4. *Enter the Dun and Bradstreet number for this business. If not known, call Dun and Bradstreet in Pennsylvania at (215) 391-1886* | 4. Dun and Bradstreet Number<br>N/A |
| 5. *Enter Business License number issued by the City of Hayward to this business.* | 5. Hayward Business License Number<br>57-2 034155 |
| 6. *List all other permits issued to this business facility by other regulatory agencies and the Hayward Fire Department. Examples of these agencies are: County Health Department; Water Pollution Control Facility; Environmental Protection Agency; Regional Water Quality Control Board; and Bay Area Air Quality Management District.* | 6. Permits relating to generation, storage, handling, treatment, transport, and disposal of hazardous materials and/or hazardous wastes:<br>Agency / Permit No.<br>SAFTEY-KLEEN / CAD981580087<br>BAY ~~AREA AIR~~ QUALITY / 4386 |
| 7. *If you have underground storage tanks, the Hazardous Materials Office has assigned you a Facility ID Number. Call (510) 293-8695 to confirm your Facility ID Number or obtain it from your underground storage tank registration forms.* | 7. Facility I.D. Number<br>N/A |

## Section IV - FACILITY CONTACTS AND PLANNING INFORMATION

1. Emergency Contacts:

*List names, titles, and contact telephone numbers of at least two individuals to notify in case of an emergency involving hazardous materials on this facility. The Primary Contact will be contacted first; and if he or she can not be reached, the Secondary Contact will be contacted instead.*

(a) Primary Contact

Name JACK Hom JR.

Title MGR

Telephone No. (510) 783-8022
(During business hours)

Telephone No. (510) 785-1612
(After business hours)

(b) Secondary Contact

Name JACK Hom SR.

Title OWNER

Telephone No. (415) 364-5575
(During business hours)

Telephone No. (510) 783-9481
(After business hours)

2e. Emergency Contact Persons

*The persons listed in this Hazardous Materials Management Plan as "Emergency Contact Persons" possess the following:*

| | | |
|---|---|---|
| * Technical knowledge concerning the facility and its operations | ☑ Yes | ☐ No |
| * Familiarity with the site | ☑ Yes | ☐ No |
| * Full access to the facility (locks, keys, codes, and security clearance) | ☑ Yes | ☐ No |
| * Authority to make decisions for the facility in case of an emergency | ☑ Yes | ☐ No |

## Section XIII - EMERGENCY RESPONSE TRAINING PLAN

*State regulations also require that business plans include a training program which is reasonable and appropriate for the size of the business and the nature of the hazardous materials handled. The training program shall take into account the responsibility of the employees to be trained. It shall also include provisions for ensuring that all appropriate personnel receive initial and refresher training.*

1. Does this facility have a <u>written</u> emergency response training plan? ☑ Yes ☐ No

2. If you answered "Yes" to (1) above, review the following list of training requirements and training records that need to be maintained. For each item, check "yes" if your written plan contains the element listed. Check "No" if it does not. (Consider amending the training program to include all elements in the list.)

   If you do not have a written training program, it would be advisable for you to prepare one that will contain, at least, all the elements listed below. Presently, however, without a written program, assess your current practices on the training of employees who handle hazardous materials. Check "Yes" if your employees have some degree of training in the elements listed.

2a. Training Requirements

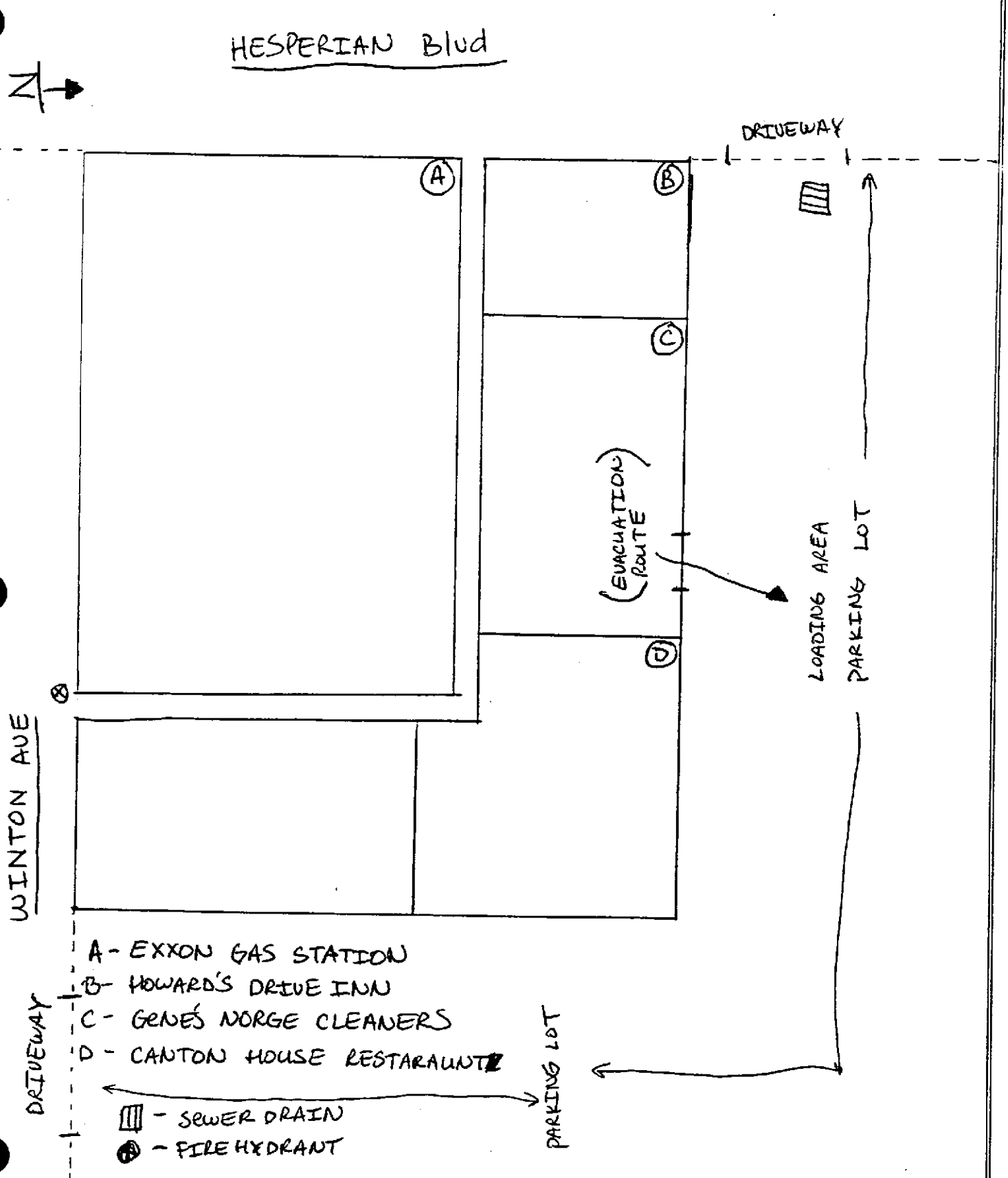
<u>For all employees</u>:

| | | |
|---|---|---|
| * Procedures for internal alarms | ☑ Yes | ☐ No |
| * Procedures for notification of proper agencies | ☑ Yes | ☐ No |
| * Procedures for notification of on-site emergency responders | ☑ Yes | ☐ No |
| * Procedures for notification of external emergency responders | ☑ Yes | ☐ No |
| * Location and content of emergency response plan | ☐ Yes | ☑ No |

<u>For chemical handlers</u>:

| | | |
|---|---|---|
| * Safe methods for handling and storage of hazardous materials | ☑ Yes | ☐ No |
| * Proper use of personal protective equipment | ☑ Yes | ☐ No |
| * Locations and proper use of fire and spill control equipment | ☑ Yes | ☐ No |
| * Specific hazards of each chemical to which employee may be exposed, including routes of exposure; i.e., skin absorption, inhalation, ingestion. | ☑ Yes | ☐ No |

## Section VI - GENERAL SITE PLAN




Address: 23958 HESPERIAN Blvd. Hay, CA Date Prepared: 08/20/94

Facility Name: GENE'S NORGE CLEANERS

## Section XI - RECORD KEEPING

*Check the applicable boxes to indicate record-keeping practices and records maintenance done in the monitoring of hazardous materials storage in this facility. These records should be made available to Hazardous Materials Investigators upon request.*

- ☐ Inspection logs
- ☐ Recordable discharge logs
- ☐ Spill reports
- ☐ Cleanup reports
- ☐ Instrument printouts
- ☐ Test reports
- ☒ Hazardous waste manifests
- ☐ Waste shipping documents
- ☐ Wastewater discharge monitoring reports
- ☐ Inventory reconciliation
- ☐ Other: _____

**ADDITIONAL COMMENTS, IF ANY:** _____

VIII HAZARDOUS MATERIALS INVENTORY STATEMENT

PAGE ___ OF ___

Facility Address: 23950 HESPERIAN Blvd. Facility Name: GENE'S NORGE CLEANERS

| ITEM NO. | Common, Generic, or Trade Name | Physical State | DOT UN/NA Number | NFPA / UFC Hazard Class(es) | SARA Hazard Class | NFPA 704 Numbers H | F | R | S |
|---|---|---|---|---|---|---|---|---|---|
| 1 | PERK | L | 1897 | 4A | R, A, C | | | | |

| Pure / Mixture | Chemical Name or Main Hazardous Components and % Concentrations | Chemical Abstract Service Numbers |
|---|---|---|
| ☒ Pure ☐ Mixture | [redacted] perchloroethylene | |
| | (OR) TETRACHLOROETHYLENE | |
| | | |

| Location Code | Average Quantity Stored | Average Quantity Used | Maximum Quantity Stored | Maximum Quantity Used | Units | # days on site | Cont. System |
|---|---|---|---|---|---|---|---|
| C-2A | 100GAL | 100 GAL | 100 | 100 | GAL | 365 | C |
| | | | | | | | |
| | | | | | | | |

| Container Type(s) | Capacity of Largest Container | Storage Pressure | Storage Temperature | Secondary Containment? | Proper Label? | Product or Waste? |
|---|---|---|---|---|---|---|
| C | 200 GAL TANK | ATM | ATM | NO | NO | product |

| If Waste: Waste No. | Quantity Generated Yearly | Units |
|---|---|---|
| | | |

| ITEM NO. | Common, Generic, or Trade Name | Physical State | DOT UN/NA Number | NFPA / UFC Hazard Class(es) | SARA Hazard Class | NFPA 704 Numbers H | F | R | S |
|---|---|---|---|---|---|---|---|---|---|
| 2 | STATICOL | L | | | | | | | |

| Pure / Mixture | Chemical Name or Main Hazardous Components and % Concentrations | Chemical Abstract Service Numbers |
|---|---|---|
| ☒ Pure ☐ Mixture | STATICOL | |
| | | |
| | | |

| Location Code | Average Quantity Stored | Average Quantity Used | Maximum Quantity Stored | Maximum Quantity Used | Units | # days on site | Cont. System |
|---|---|---|---|---|---|---|---|
| C-2A | 35gal | 35gal | 35 | 35 | GAL | 365 | C |
| | | | | | | | |
| | | | | | | | |

| Container Type(s) | Capacity of Largest Container | Storage Pressure | Storage Temperature | Secondary Containment? | Proper Label? | Product or Waste? |
|---|---|---|---|---|---|---|
| C | 35 GAL | ATM | ATM | NO | yes | P |

| If Waste: Waste No. | Quantity Generated Yearly | Units |
|---|---|---|
| | | |

| ITEM NO. | Common, Generic, or Trade Name | Physical State | DOT UN/NA Number | NFPA / UFC Hazard Class(es) | SARA Hazard Class | NFPA 704 Numbers H | F | R | S |
|---|---|---|---|---|---|---|---|---|---|
| 3 | STREETAN | L | | | | | | | |

| Pure / Mixture | Chemical Name or Main Hazardous Components and % Concentrations | Chemical Abstract Service Numbers |
|---|---|---|
| ☐ Pure ☐ Mixture | TRADE SECRET | N/A |
| | | |
| | | |

| Location Code | Average Quantity Stored | Average Quantity Used | Maximum Quantity Stored | Maximum Quantity Used | Units | # days on site | Cont. System |
|---|---|---|---|---|---|---|---|
| C2A | 4 | 4 | 4 | 4 | gal | 365 | C |
| | | | | | | | |
| | | | | | | | |

| Container Type(s) | Capacity of Largest Container | Storage Pressure | Storage Temperature | Secondary Containment? | Proper Label? | Product or Waste? |
|---|---|---|---|---|---|---|
| C | 1 gal | ATM | ATM | NO | yes | product |

| If Waste: Waste No. | Quantity Generated Yearly | Units |
|---|---|---|
| | | |

## Section IX - SEPARATION, SECONDARY CONTAINMENT, AND MONITORING OF STORAGE AREAS

### Part B - Underground Storage Tanks

*Make copies of this page and complete one for each underground storage tank area defined in the facility storage map. Supply all information required in the boxes below. If you do not have underground storage tanks, write "NONE" after "Underground tank area location code."*

Page _____ of _____

Underground tank area location code: _____
*(as shown on facility map)*

Storage area description or name: _____

1. Main monitoring method for tanks

- ☐ Groundwater monitoring wells
- ☐ Backfill vapor wells
- ☐ Precision test (☐ Monthly; ☐ Annually)
- ☐ Annular space
- ☐ Manual/mechanical
- ☐ Electronic
- ☐ Inventory Reconciliation
- ☐ Secondary containment vault
- ☐ Continuous
- ☐ Daily
- ☐ Other: _____

2. Main monitoring methods for piping

- ☐ Suction type system
- ☐ In-line leak detector for piping
- ☐ Tightness test (☐ Monthly; ☐ Annually)
- ☐ Pressurized piping
- ☐ Double-wall piping
- ☐ Electronic leak-detection mode for complete tank and piping system.

3. Additional comments on the monitoring program, if necessary:

_____

_____

_____

_____

_____

_____

_____

_____

## VIII HAZARDOUS MATERIALS INVENTORY STATEMENT

PAGE ____ OF ____

**Facility Address:** _____ **Facility Name :** _____

| ITEM NO. | Common, Generic, or Trade Name | Physical State | DOT UN/NA Number | NFPA / UFC Hazard Class(es) | SARA Hazard Class | NFPA 704 Numbers H | F | R | S |
|---|---|---|---|---|---|---|---|---|---|
| 7 | PICRIN | L | | | | | | | |

| ☐ Pure ☒ Mixture | Chemical Name or Main Hazardous Components and % Concentrations | Chemical Abstract Service Numbers |
|---|---|---|
| | Chlorinated hydrocarbons 95 | |
| | 1, 4 Diethylene dioxide 45 | |
| | | |

| Location Code | Average Quantity Stored | Average Quantity Used | Maximum Quantity Stored | Maximum Quantity Used | Units | # days on site | Cont. System |
|---|---|---|---|---|---|---|---|
| C-2A | 5 | 5 | 5 | 5 | gal | 365 | C |
| C-2A | | | | | | | |
| | | | | | | | |

| Container Type(s) | Capacity of Largest Container | Storage Pressure | Storage Temperature | Secondary Containment? | Proper Label? | Product or Waste? |
|---|---|---|---|---|---|---|
| C | 1gal | ATM | ATM | NO | yes | product |

| If Waste: Waste No. | Quantity Generated Yearly | Units |
|---|---|---|
| | | |

| ITEM NO. | Common, Generic, or Trade Name | Physical State | DOT UN/NA Number | NFPA / UFC Hazard Class(es) | SARA Hazard Class | NFPA 704 Numbers H | F | R | S |
|---|---|---|---|---|---|---|---|---|---|
| 8 | ERUSTICATOR | L | 1790 | | | | | | |

| ☐ Pure ☒ Mixture | Chemical Name or Main Hazardous Components and % Concentrations | Chemical Abstract Service Numbers |
|---|---|---|
| | Hydrofluoric Acid (10) | (7664-39-3) |
| | Ammonium Fluorides (25) | 1341-49-7 |
| | 2-(2-Butoxyethoxy) Ethanol (1) | 112-34-5 |

| Location Code | Average Quantity Stored | Average Quantity Used | Maximum Quantity Stored | Maximum Quantity Used | Units | # days on site | Cont. System |
|---|---|---|---|---|---|---|---|
| C-2A | 1QT | 1QT | 1QT | 1QT | QT | 365 | C |
| " " | | | | | | | |
| " " | | | | | | | |

| Container Type(s) | Capacity of Largest Container | Storage Pressure | Storage Temperature | Secondary Containment? | Proper Label? | Product or Waste? |
|---|---|---|---|---|---|---|
| C | 1QT | ATM | ATM | NO | yes | product |

| If Waste: Waste No. | Quantity Generated Yearly | Units |
|---|---|---|
| | | |

| ITEM NO. | Common, Generic, or Trade Name | Physical State | DOT UN/NA Number | NFPA / UFC Hazard Class(es) | SARA Hazard Class | NFPA 704 Numbers H | F | R | S |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

| ☐ Pure ☐ Mixture | Chemical Name or Main Hazardous Components and % Concentrations | Chemical Abstract Service Numbers |
|---|---|---|
| | | |
| | | |
| | | |

| Location Code | Average Quantity Stored | Average Quantity Used | Maximum Quantity Stored | Maximum Quantity Used | Units | # days on site | Cont. System |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| Container Type(s) | Capacity of Largest Container | Storage Pressure | Storage Temperature | Secondary Containment? | Proper Label? | Product or Waste? |
|---|---|---|---|---|---|---|
| | | | | | | |

| If Waste: Waste No. | Quantity Generated Yearly | Units |
|---|---|---|
| | | |

## Section IX - SEPARATION, SECONDARY CONTAINMENT, AND MONITORING OF STORAGE AREAS

### Part A - Aboveground Storage Areas

*Make copies of this page and complete one for each storage area defined in the facility storage maps. Check all applicable information given in the boxes below:*

Page _____ of _____

Storage area location code: _____
*(as shown on facility map)*

Storage area description or name: _____

1. Type of storage containers found in this area

- ☐ Original containers
- ☒ Inside machinery
- ☐ 55-gallon drums
- ☐ Pressurized vessels
- ☒ Safety cans
- ☐ Bulk tanks, storage
- ☐ Process tanks
- ☐ Other: _____

2. Describe storage area/location

- ☒ Inside building
- ☐ Outside building
- ☐ Other: _____
- ☐ Secured
- ☒ Not secured
- ☐ Storage shed
- ☐ Cabinets

3. Separation of incompatible materials

- ☐ 20-ft. separation
- ☐ Approved cabinets
- ☐ One-hour separation wall/partition
- ☐ All materials compatible
- ☐ Other: _____

4. Secondary containment

- ☒ None
- ☐ Approved cabinet
- ☐ Tray/trough
- ☐ Vaulted tank
- ☐ Secondary drums
- ☐ Bermed, coated floor
- ☐ Double-wall tank
- ☐ Other: _____

5. Monitoring

- ☐ None
- ☒ Visual
- ☐ Mechanical/electronic
- ☒ Periodic/regular
- ☐ Continuous monitoring device
- ☐ Other: _____

6. Monitoring frequency

- ☒ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Other: _____

VIII HAZARDOUS MATERIALS INVENTORY STATEMENT PAGE ____ OF ____

Facility Address: _____ Facility Name : _____

| ITEM NO. | Common, Generic, or Trade Name | Physical State | DOT UN/NA Number | NFPA / UFC Hazard Class(es) | SARA Hazard Class | NFPA 704 Numbers H | F | R | S |
|---|---|---|---|---|---|---|---|---|---|
| 4 | SILK PRE-SPOTTER | L | | | | | | | |

| ☐ Pure ☒ Mixture | Chemical Name or Main Hazardous Components and % Concentrations | Chemical Abstract Service Numbers |
|---|---|---|
| | SAME | N/A |
| | | |
| | | |

| Location Code | Average Quantity Stored | Average Quantity Used | Maximum Quantity Stored | Maximum Quantity Used | Units | # days on site | Cont. System |
|---|---|---|---|---|---|---|---|
| C-2A | 2GAL | 2GAL | 2 | 2 | GAL | 365 | C |
| | | | | | | | |
| | | | | | | | |

| Container Type(s) | Capacity of Largest Container | Storage Pressure | Storage Temperature | Secondary Containment? | Proper Label? | Product or Waste? |
|---|---|---|---|---|---|---|
| C | 1GAL | ATM | ATM | NO | YES | P |

| If Waste: Waste No. | Quantity Generated Yearly | Units |
|---|---|---|
| | | |

| ITEM NO. | Common, Generic, or Trade Name | Physical State | DOT UN/NA Number | NFPA / UFC Hazard Class(es) | SARA Hazard Class | NFPA 704 Numbers H | F | R | S |
|---|---|---|---|---|---|---|---|---|---|
| 5 | JINX INK | L | | | | | | | |

| ☐ Pure ☒ Mixture | Chemical Name or Main Hazardous Components and % Concentrations | Chemical Abstract Service Numbers |
|---|---|---|
| | ISOPROPYL ESTER | |
| | | |
| | | |

| Location Code | Average Quantity Stored | Average Quantity Used | Maximum Quantity Stored | Maximum Quantity Used | Units | # days on site | Cont. System |
|---|---|---|---|---|---|---|---|
| C2-A | 1PINT | 1PINT | 1PINT | 1PINT | PINT | 365 | C |
| | | | | | | | |
| | | | | | | | |

| Container Type(s) | Capacity of Largest Container | Storage Pressure | Storage Temperature | Secondary Containment? | Proper Label? | Product or Waste? |
|---|---|---|---|---|---|---|
| C | 16 OZ. | ATM | ATM | NO | YES | PRODUCT |

| If Waste: Waste No. | Quantity Generated Yearly | Units |
|---|---|---|
| | | |

| ITEM NO. | Common, Generic, or Trade Name | Physical State | DOT UN/NA Number | NFPA / UFC Hazard Class(es) | SARA Hazard Class | NFPA 704 Numbers H | F | R | S |
|---|---|---|---|---|---|---|---|---|---|
| 6 | DEVOUR | L | | | | | | | |

| ☐ Pure ☒ Mixture | Chemical Name or Main Hazardous Components and % Concentrations | Chemical Abstract Service Numbers |
|---|---|---|
| | SAME | |
| | | |
| | | |

| Location Code | Average Quantity Stored | Average Quantity Used | Maximum Quantity Stored | Maximum Quantity Used | Units | # days on site | Cont. System |
|---|---|---|---|---|---|---|---|
| C2-A | 1QT | 1QT | 1QT | 1QT | QT | 365 | C |
| | | | | | | | |
| | | | | | | | |

| Container Type(s) | Capacity of Largest Container | Storage Pressure | Storage Temperature | Secondary Containment? | Proper Label? | Product or Waste? |
|---|---|---|---|---|---|---|
| C | 1QT | ATM | ATM | NO | YES | PRODUCT |

| If Waste: Waste No. | Quantity Generated Yearly | Units |
|---|---|---|
| | | |

## Section X - WASTE DISPOSAL

*List the types of wastes generated from this facility under each category. Enter 3-digit waste identification numbers from **Appendix C - List of Common Wastes Regulated in California**. Briefly describe the nature of the waste, and estimate quantity generated in one year.*

A. Waste discharged directly to the sanitary sewer without pretreatment:

| California Waste ID No. | Description | Generated Per Year Quantity | Units |
|---|---|---|---|
| | | | |
| | | | |

B. Waste discharged to the sanitary sewer after being processed through a facility treatment system:

| California Waste ID No. | Description | Generated Per Year Quantity | Units |
|---|---|---|---|
| | | | |
| | | | |

C. Waste hauled off-site with Uniform Hazardous Waste Manifest, for treatment and/or disposal:

| California Waste ID No. | Description | Generated Per Year Quantity | Units |
|---|---|---|---|
| | | | |
| | | | |

D. Waste recycled on-site or off-site:

| California Waste ID No. | Description | Generated Per Year Quantity | Units |
|---|---|---|---|
| CAD981580087 | WASTE PERC / Filters | 24 Filters | |
| | | | |

E. Other waste generated/disposal method:

| California Waste ID No. | Description | Generated Per Year Quantity | Units |
|---|---|---|---|
| | | | |
| | | | |

Disposal Method: (Describe)_____

F. No waste generated:

☐ This facility does not generate hazardous waste, or other regulated wastes other than domestic sanitary waste.

## Section XII - EMERGENCY RESPONSE PLAN AND PROCEDURES

*State regulations (Title 19, CCR, Chapter 2, Subchapter 3, Article 4, Section 2731) require that business plans include emergency response procedures for a release or threatened release of hazardous materials, "scaled appropriately for the size and nature of the business, the nature of damage potential of the hazardous materials handled, and the proximity of the business to residential areas and other populations."*

*For this section, check the box that indicates your answer to each of the following questions:*

1. Does this facility have a written emergency response or contingency plan? ☐ Yes ☒ No

2. If you answered "yes" to (1) above, review the following list. For each item, check "Yes" if your written plan contains the element listed. Check "No" if it does not. (Consider amending the plan to include all elements in the list.)

   If you do not have a written plan, it would be advisable for you to prepare one that will contain at least all the elements listed below. A written plan is required if you generate hazardous waste (at least 55-gal per year) or if you handle acutely hazardous materials. This written plan should be made available to inspectors upon request. Presently, however, without a written plan, assess the knowledge of all of your employees who handle hazardous materials, regarding emergency response. Check "Yes" if your employees know the emergency response plan elements listed.

2a. Notification

| | | |
|---|---|---|
| * Call 911 - Hayward Fire Department | ☑ Yes | ☐ No |
| * Call 911 - Medical Emergency | ☑ Yes | ☐ No |
| * Notify on-site responders | ☑ Yes | ☐ No |
| * Call designated local emergency medical facility | ☑ Yes | ☐ No |
| * Notify State Office of Emergency Services (1-800-852-7550) | ☐ Yes | ☑ No |

2b. Evacuation

| | | |
|---|---|---|
| * Activate local alarm system for evacuation | ☑ Yes | ☐ No |
| * Assembly areas designated | ☑ Yes | ☐ No |
| * Evacuation route maps posted | ☑ Yes | ☐ No |
| * Reentry procedures defined | ☑ Yes | ☐ No |

2c. Equipment

| | | |
|---|---|---|
| * Location and description of on-site emergency response equipment | ☑ Yes | ☐ No |
| * Use and operation of on-site emergency response equipment | ☑ Yes | ☐ No |
| * Location and description of monitoring devices such as toxic gas detectors | ☐ Yes | ☑ No |
| * Use and operation of monitoring devices | ☐ Yes | ☑ No |

2d. Emergency Response Procedures

| | | |
|---|---|---|
| * Procedures for the handling of a release or a threatened release of any hazardous material listed in the inventory | ☑ Yes | ☐ No |

| | |
|---|---|
| 2. *Check the appropriate box to answer the question. The materials referred to are listed in the attached **Appendix A - List of Extremely Hazardous Substances** and their threshold quantities as published and amended by the Federal EPA. This is the same list referred to as **"Acutely Hazardous Materials"** by the State of California in Section 25533, Chapter 6.95 of the Health and Safety Code.* | 2. Do you handle or store Federally-listed Extremely Hazardous Substances or State-listed Acutely Hazardous Materials in quantities greater than the Threshold Planning Quantities (TPQ) given in Appendix A?<br>☐ Yes ☒ No |
| 3. *Check the appropriate box to answer the question.* | 3. Is there any school, hospital, or extended-care facility within 1,000 feet (straight line distance) of your facility?<br>☐ Yes ☒ No |
| 4. *Check the appropriate box to answer the question. (Comparable installations refer to halon systems, foam systems, etc. Portable fire extinguishers are **NOT** considered comparable to sprinkler systems.)* | 4. Is your building equipped with a sprinkler system, or other comparable fire protection installation?<br>☐ Yes ☒ No |

## Section V - PROPERTY AND LAND USE INFORMATION

| | |
|---|---|
| 1. *Enter property owner's name.* | 1. Property Owner's Name<br>FREMONT BANK |
| 2. *Enter property owner's mailing address.* | 2. Property Owner's Mailing Address<br>1801 HANOVER DR. Suite A<br>DAVIS, CA 95616 |
| 3. *Enter property owner's telephone number* | 3. Property Owner's Telephone Number<br>([redacted]) (916) 753-5910 |

4. Adjacent Properties
*Enter names of businesses, contacts, and telephone numbers on adjacent properties.*

(a) **NORTH**
Business: N/A
Contact:
Phone:

(b) **EAST**
Business: CANTON HOUSE RESTAURANT
Contact: ANDY KWONG
Phone: (510) 782-2335

(c) **SOUTH**
Business: EXXON GAS STATION
Contact:
Phone: (510) 670-2818

(d) **WEST**
Business: HOWARDS DRIVE IN
Contact: Howard Chew
Phone: (510) 783-1934

For members of the Emergency Response Team:

| | | |
|---|---|---|
| * Procedures for shutdown of operations | ☑ Yes | ☐ No |
| * Procedures for using, maintaining, and replacing facility's emergency and monitoring equipment | ☑ Yes | ☐ No |
| * All employees are trained in emergency response procedures within 6 months of hiring | ☑ Yes | ☐ No |
| * Refresher training is provided at least annually | ☑ Yes | ☐ No |

2b. Training records

Training records should be maintained for all employees:

| | | |
|---|---|---|
| * Verification that training was completed by employee | ☐ Yes | ☑ No |
| * Description of type and amount of introductory and continuing training | ☐ Yes | ☑ No |
| * Training records of current and former employees, retained for at least three years. | ☐ Yes | ☑ No |
| * Documentation on facility emergency response drills conducted during the year | ☐ Yes | ☑ No |
| * All training documentation and records are maintained and are available for review | ☐ Yes | ☑ No |

2c. Person responsible for training of employees on emergency response:

Name: JACK Hom JR. Title: MGR

Contact Telephone: (510) 783-8022

## Section XIV - MAINTENANCE, REVISION, AND UPDATE OF HMMP

*At least once a year, the entire Hazardous Materials Management Plan must be reviewed by a responsible company officer to determine if a revision is needed. He or she must then certify in writing to the administrating agency that a review was made and that any necessary changes were made to the HMMP. A copy of the revised plan and certification must be sent to the Hayward Fire Department, Hazardous Materials Office. If the review determines that no changes are necessary, a certification to that effect must be sent instead.*

The HMMP must also be amended as a whole or in sections if any of the following occurs:

a) any change in the nature of chemicals or other hazardous materials stored at the facility;
b) substantial change in the quantities of chemicals or other hazardous materials stored at the facility;
c) change in ownership of business or facility;
d) change in business name and/or nature of operations conducted in the facility;
e) change in building occupancy classification;
f) change in structure and/or layout of facility and buildings; or
g) any other substantial change in any piece of information contained in the HMMP.

# HAZARDOUS MATERIALS MANAGEMENT PLAN

## Section II FACILITY IDENTIFICATION

| | |
|---|---|
| 1. *Enter the full name of the business, as registered.* | 1. Name of Facility<br>GENE'S NORGE CLEANERS |
| 2. *Enter actual location of facility including suite number(s) and zip code. Do not give P.O. Box address.* | 2. Facility Address<br>23958 HESPERIAN Blvd.<br>94541 HAYWARD, CA |
| 3. *Complete only if different from "Facility Address."* | 3. Mailing Address |
| 4. *Enter telephone number for the facility, at the actual address given in #2 above.* | 4. Facility Telephone Numbers<br>(510) 783-8022 |
| 5. *Enter name of business owner, general manager, or chief executive officer, and his/her telephone numbers.* | 5. Executive/Administrative Contact<br>JACK Hom SR.<br>Telephone No. (510) 783-8022<br>(During business hours)<br>Telephone No. (510) 785-1612<br>(After business hours) |

## Section III BUSINESS INFORMATION

| | |
|---|---|
| 1. *Give a brief description of products, processes and other business/industrial activities done in this facility.* | 1. Nature of Business<br>Dry Cleanning |

2. Operating Hours:

*Circle the days and enter the hours the facility is open for business and the total number of employees in the facility during those hours.*

| | Day Shift | Swing Shift | Night Shift |
|---|---|---|---|
| Days Open | (M T W T F S) S | M T W T F S S | M T W T F S S |
| Shift Hours | 7AM to 6PM | ____ to ____ | ____ to ____ |
| Number of Employees | 2½ | | |

CITY OF HAYWARD • FIRE DEPARTMENT

25151 Clawiter Road, Hayward, CA 94545-2731

TEL (510) 293-8695 • FAX (510) 293-5017 • TDD (510) 537-7593

POSTED

# HAZARDOUS MATERIALS STORAGE PERMIT

(For Fiscal Year Ending June 30, 1995)

Facility Address: 23958 (Number) HESPERIAN Blvd. (Street) (Unit Number)

Hayward, CA 94541 (ZIP Code)

(510) 783-6022 (Telephone Number)

Business Name: GENE'S NORGE CLEANERS

Mailing Address (*if different from above*):

Brief Description of Business at this Facility: Dry Cleaning

*If you had a Hazardous Materials Storage Permit for the last fiscal year, and there have been no changes in the quantity of hazardous materials stored at your facility, enter the same quantity range in the space below, as was indicated in your last permit. Otherwise, if this is the first time you are applying for a Hazardous Materials Storage Permit or if there have been substantial changes in the quantities of hazardous materials stored at your facility, refer to the attached schedule to determine the Quantity Range and Permit Fee and enter them below. Your declaration will be verified in a subsequent inspection.*

Quantity Range Applied for: 2A

Amount Enclosed: $ 270.00

there underground storage tanks at this facility? ☐ YES ☒ NO If "YES", how many?

## CERTIFICATION

I certify that the above information is correct and hereby authorize representatives of the City to enter the facility for inspection purposes. I certify further that I have read and I hereby accept the terms and conditions printed on the other side of this Hazardous Materials Storage Permit. I agree to comply with all permit conditions and all City, State, and Federal ordinances, laws, statutes, codes, rules, and regulations relating to the storage and handling of hazardous materials.

Jack Hom Jr. (Signature of Applicant)

JACK HOM JR (MGR) (Printed Name and Title)

07/20/94 (Date Signed)

## FOR OFFICE USE ONLY

PERMIT NUMBER: 95/ 1427

QUANTITY RANGE: 2A

EFFECTIVE DATE: July 1, 1994

EXPIRATION DATE: June 30, 1995

☐ Full Term Permit

☐ Temporary Permit

☑ Provisional Permit

1373/65 2Sep94 1/6 $270.00 Fire

APPROVED BY: Laura Davis

City of Hayward Fire Department

Date Paid 9/2/94

R.V. Number 1373

Record Number 1427

Account Number 100-1922-4440

*Machine Validation/Official Receipt*

# HAYWARD FIRE DE ARTMENT
## HAZARDOUS MATERIALS OFFICE
## 'NSPECTION REPORT

Rec. 1427 ← 12:50 AM.



Street Address: 23958 HESPERIAN BLVD
Name of Facility: JACK'S NORGE CLEANERS
Contact Person: JACK HOM Phone Number: 783-8022

1x Dry cleaning machine - manuel transfer unit ~120 gal max.
1x Dry drying machine - no lint strainer - gone removed after each cycle
drained into 5gal

1x55 gal perchloroethylene
1x100# Cloth in case finish
1x55gal Stoddard

Carbon absorption unit all exhausts from equipment routed through it
1x waste Filters
Spotting chems

GAS Fired H2O Heater installed 4-5 years ago
Pressing Room w/extension cords

(1) Complete an Application for Range 2A Hazardous materials storage permit on the Forms provided (Submit the application and fees on or before July 29, 1994)

(2) Complete a Hazardous materials management plan & submit it w/ your permit Application (July 29, 1994)

(3) Eliminate Gravity dispensing of perchloroethylene and provide secondary containment for the Existing 55gal drum.

FAILURE TO COMPLY WITH THE REQUIREMENTS ESTABLISHED IN THIS FIELD INSPECTION REPORT OR IN SUBSEQUENT CORRESPONDENCE MAY RESULT IN THE ISSUANCE OF A NOTICE OF NONCOMPLIANCE AS PROVIDED IN SECTION 3-8.55 OF THE HAYWARD MUNICIPAL CODE. NONCOMPLIANCE IS PUNISHABLE BY CRIMINAL AND/OR CIVIL PENALTIES UNDER SECTIONS 3-8.64 AND 3-8.65 OF THE HAYWARD MUNICIPAL CODE, OR OTHER APPLICABLE FEDERAL AND STATE LAWS AND REGULATIONS.

| 6/29/94 | JAY SWARTZENSKI | Jack Hom |
|---|---|---|
| Date of Inspection | Hazardous Materials Investigator | Signature of Facility Representative |

CITY OF HAYWARD

Fire Department

Heart of the Bay

# NOTICE OF NONCOMPLIANCE

ISSUED PURSUANT TO SECTION 3-8.55 OF THE HAYWARD MUNICIPAL CODE TO:

JACK'S NORGE CLEANERS
23958 HESPERIAN BLVD
HAYWARD, CA 94541

Range: 2A
Permit Fee: $270.00

On June 29, 1994, the Hazardous Materials Office notified you to obtain a Hazardous Materials Storage Permit for FY 1994-95 for the facility named above. To date, we have not received an application from you. The continued use and storage of hazardous materials at your facility without the required permit is a violation of Section 3-8.34 of the Hayward Municipal Code.

You are hereby required to obtain a Hazardous Materials Storage Permit or to file a statement with the Hazardous Materials Office that hazardous materials are no longer stored or used at your facility. The completed application, along with the appropriate fee, or the statement of non-use should be received at this office on or before September 2, 1994. Note that no penalties are being assessed at this time for delinquent applications.

Failure to comply with the provisions of Chapter 3, Article 8 of the Hayward Municipal Code, including the requirements contained in inspection reports and notices of noncompliance issued by the Hazardous Materials Office, may be subject to criminal and/or civil penalties. No other notices will be issued after this one. Your account, if left unpaid by the date specified above, shall be referred to the Revenue Department for collection.

NOTICE ISSUED BY:

JOHN BOYKIN, BATTALION CHIEF
HAZARDOUS MATERIALS COORDINATOR

NOTICE POSTED ON AUGUST 19, 1994 TO:

JACK HOM
23958 HESPERIAN BLVD
HAYWARD, CA 94541

Fire Department

August 8, 1994

Jack Hom
Jack's Norge Cleaners
23958 Hesperian Blvd.
Hayward, CA 94541

Dear Mr. Hom:

On June 29, 1994, the hazardous materials office inspected your facility and determined that the following actions were necessary by the dates indicated:

1) Submit your application and fees for a 1993-94 hazardous materials storage permit, Range 2A; July 29, 1994;

2) Submit a completed hazardous materials management plan (HMMP); July 29, 1994;

3) Eliminate the gravity dispensing of perchloroethylene and provide secondary containment for the existing drums.

This letter is a reminder that these items are overdue and that failure to comply with either local or State hazardous materials regulations can result in the imposition of civil or administrative penalties.

Please submit the required documentation on or before August 25, 1994. A reinspection will be scheduled pending receipt of your HMMP and storage permit application.

I can be reached at 293-8695, should you wish to discuss these issues further.

Sincerely,

Jay Swardenski
Hazardous Materials Investigator

CITY OF HAYWARD

Fire Department

Heart of the Bay

May 10, 1994

Jack's Norge Cleaners
23958 Hesperian Blvd.
Hayward, CA 94541

Dear Jack's Norge Cleaners:

To protect health, life, resources, and property through prevention and control of unauthorized releases of hazardous materials, the Hayward Municipal Code provides that "any person, firm, or corporation which stores any hazardous material shall obtain and keep current a Hazardous Materials Storage Permit."

Attachment 1 defines "hazardous materials" under the Ordinance. Attachment 2 describes various classes of hazardous materials and gives examples of each. To help you determine if you have hazardous materials in your facility, refer also to Attachment 3.
To obtain a Hazardous Materials Storage Permit, complete the enclosed form and submit it to the Fire Department with the appropriate fee. Attachment 4 will help you determine the permit range you need and the fee required. A full-term Permit is valid for one year and is renewable on July 1, of each year.

If your facility does not require a Hazardous Materials Storage Permit, complete and submit Attachment 5 (Certification Statement). A Hazardous Materials Investigator will verify your declarations.

The continued operation of your business without a required permit is a violation of the Hayward Municipal Code and is subject to legal enforcement action. Civil and/or criminal penalties may be imposed for operating without a permit.

Thank you for your cooperation. If you have any questions, call the Hazardous Materials Office at 293-8695.

Sincerely,

JOHN BOYKIN
HAZARDOUS MATERIALS COORDINATOR

25151 Clawiter Road, Hayward, CA 94545-2731 • (510) 293-8690 • FAX (510) 293-8691 • TDD (510) 537-7504

A Report Prepared for

Texaco Refining and Marketing Inc.
100 Cutting Boulevard
Richmond, California 94804

# ENVIRONMENTAL ASSESSMENT REPORT
# FORMER TEXACO STATION NO. 62488000055
# 23990 HESPERIAN BOULEVARD
# HAYWARD, CALIFORNIA

HLA Job No. 2251,078.03

by

Vincent Del Greco
Senior Geologist

Randolph Stone
Associate Hydrogeologist


Harding Lawson Associates
1355 Willow Way, Suite 109
Concord, California 94520
415/687-9660

October 13, 1989

Texaco Refining
and Marketing Inc.

January 13, 1994

ENV - SERVICE STATIONS
Quarterly Status Report
23990 Hesperian Boulevard
Hayward, California

Mr. Hugh Murphy
City of Hayward Hazmat Office
25151 Clawiter Road
Hayward, CA 94545-2731

Dear Mr. Murphy:

Enclosed is a copy of the Quarterly Groundwater Monitoring Letter Report dated December 29, 1993, for the above former Texaco service station site. Exxon has not responded to our letter of January 27, 1993. As you know, Texaco's installation of its remediation plan for the removal of gasoline constituents, attributed to Texaco's past service station operation, will soon be under construction and it is extremely important that Exxon resolve the tetrachloroethene (PCE), trichloroethene (TCE) and cis,1,2-dichloroethene; and vinyl chloride in groundwater issue.

If you have any questions or wish to discuss this report, please call me at (818) 505-2476.

Very truly yours,
Texaco Refining and Marketing Inc.

Bob Robles
Environmental Protection Coordinator
TEXACO ENVIRONMENTAL SERVICES

RR:rr
w:\rr\23990hes.reg

Enclosure

Mr. Paul Smith-Alameda County Environmental Health
Mr. Edy So-RWQCB San Francisco Bay Region
Ms. Marla D. Guensler-Exxon, Concord
Mr. E. E. Villasenor-Exxon, Houston
Mr. Jim Perkins-Terra Vac
DBHill-MJAsplund-RACoughlin-RRZielinski

PR: RAC

Texaco

January 27, 1993

Ms. Marla Guensler
Exxon Company, U.S.A.
PO Box 4032
Concord, CA 94524-2932

Dear Ms. Guensler:

This letter is intended to notify Exxon that the currently operating Exxon service station facility located at 23990 Hesperian Boulevard, Hayword, California, is being effected by groundwater contamination from an offsite source.

Water samples taken confirm the presence of tetrachloroethene (PCE), trichloroethene (TCE) and cis,1,2-dichloroethene; and vinyl chloride. Please refer to my letter dated January 26, 1993, copy enclosed. Texaco feels that Exxon has a responsibility to assist in its investigation to confirm that the source is indeed from offsite, and that the responsibility for its cleanup is neither Texaco's nor Exxon's.

Please call me at (818) 505-2476 if you have any questions or wish to discuss the this matter further.

Very truly yours,

Bob Robles
Texaco Refining and Marketing Inc.

RR:rr

MJAsplund RACoughlin DBHill
RRZielinski-Richmond

RESNA
Working To Restore Nature

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
FAX: (408) 264-2435

# LETTER REPORT
# QUARTERLY GROUNDWATER MONITORING
Fourth Quarter 1993
at
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

62080.01

Robin A. Adair
Geologic Technician

Philip J. Mayberry
Project Geologist

REGISTERED GEOLOGIST
JAMES LEWIS NELSON
No. 1463
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

James L. Nelson
Certified Engineering
Geologist No. 1463

December 29, 1993

RESNA
Working To Restore Nature

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
FAX: (408) 264-2435

December 29, 1993
62080.01

Mr. Robert Robles
Texaco Environmental Services
10 Universal City Plaza, 7th Floor
Universal City, California 91608

Subject: Letter Report, Quarterly Groundwater Monitoring, Fourth Quarter 1993, Former Texaco Station, 23990 Hesperian Boulevard, Hayward, California.

Mr. Robles:

As requested by Texaco Environmental Services (TES), RESNA Industries Inc. (RESNA) has prepared this letter report which summarizes the results of quarterly groundwater monitoring at the former Texaco Service Station located at 23990 Hesperian Boulevard in Hayward, California (Plate 1, Site Vicinity Map) for the fourth quarter 1993 (October through December 1993). On December 2, 1993, quarterly groundwater monitoring and sampling was conducted to evaluate groundwater elevations, gradient and flow direction, the presence and thickness of any petroleum hydrocarbon sheen or floating product, and the distribution of dissolved hydrocarbons in the seven monitoring wells (MW-3A, and MW-3C through MW-3H) associated with this site. Hydrocarbon sheen was observed in well MW-3C, therefore, this well was not sampled for laboratory analysis. Well MW-3B was not monitored or sampled because an automobile was parked over it. RESNA's groundwater sampling protocol is in Appendix A.

## GROUNDWATER MONITORING

Based on depth to groundwater measurements, groundwater elevations at the site have decreased an average of about 0.53 feet from the elevations reported last quarter (September 30, 1993). The groundwater beneath the site appears to be flowing towards the west-northwest with a hydraulic gradient of approximately 0.003 (Plate 2, Groundwater Gradient Map). Historical and recent monitoring data are summarized in Table 1, Cumulative Groundwater Monitoring Data.

## GROUNDWATER SAMPLING

Groundwater samples were submitted to Mobile Chem Laboratories (California Hazardous Materials Testing Laboratory Certification No. 1223) in Martinez, California under chain of custody protocol. The samples were analyzed for the gasoline constituents benzene, toluene, ethylbenzene, and total xylenes and total petroleum hydrocarbons as gasoline (TPHg) using modified Environmental Protection Agency (EPA) method 8020 and TPH LUFT with method 602. Laboratory Analysis Reports and Chain of Custody Documentation are in Appendix B.

## GROUNDWATER ANALYTICAL RESULTS

Concentrations of TPHg in groundwater samples collected ranged from less than method detection limit (MDL) of 50 parts per billion (ppb) to 620 ppb (well MW-3F). Dissolved benzene concentrations in groundwater samples collected ranged from less than the MDL of 0.5 ppb to 38 ppb (well MW-3F). TPHg and benzene concentrations are shown on Plate 3, TPHg/Benzene Concentrations in Groundwater. Historical and recent analytical data are summarized in Tables 2 and 3, Cumulative Results of Laboratory Analyses of Groundwater Samples.

## PURGE WATER RECYCLING

On December 6, 1993, approximately 90 gallons of water generated during purging and sampling of the monitoring wells were transported to Gibson Environmental in Redwood City, California for recycling. The Non-Hazardous Waste Data Form is in Appendix C.

If you have any questions or comments regarding this report, please call (408) 264-7723.

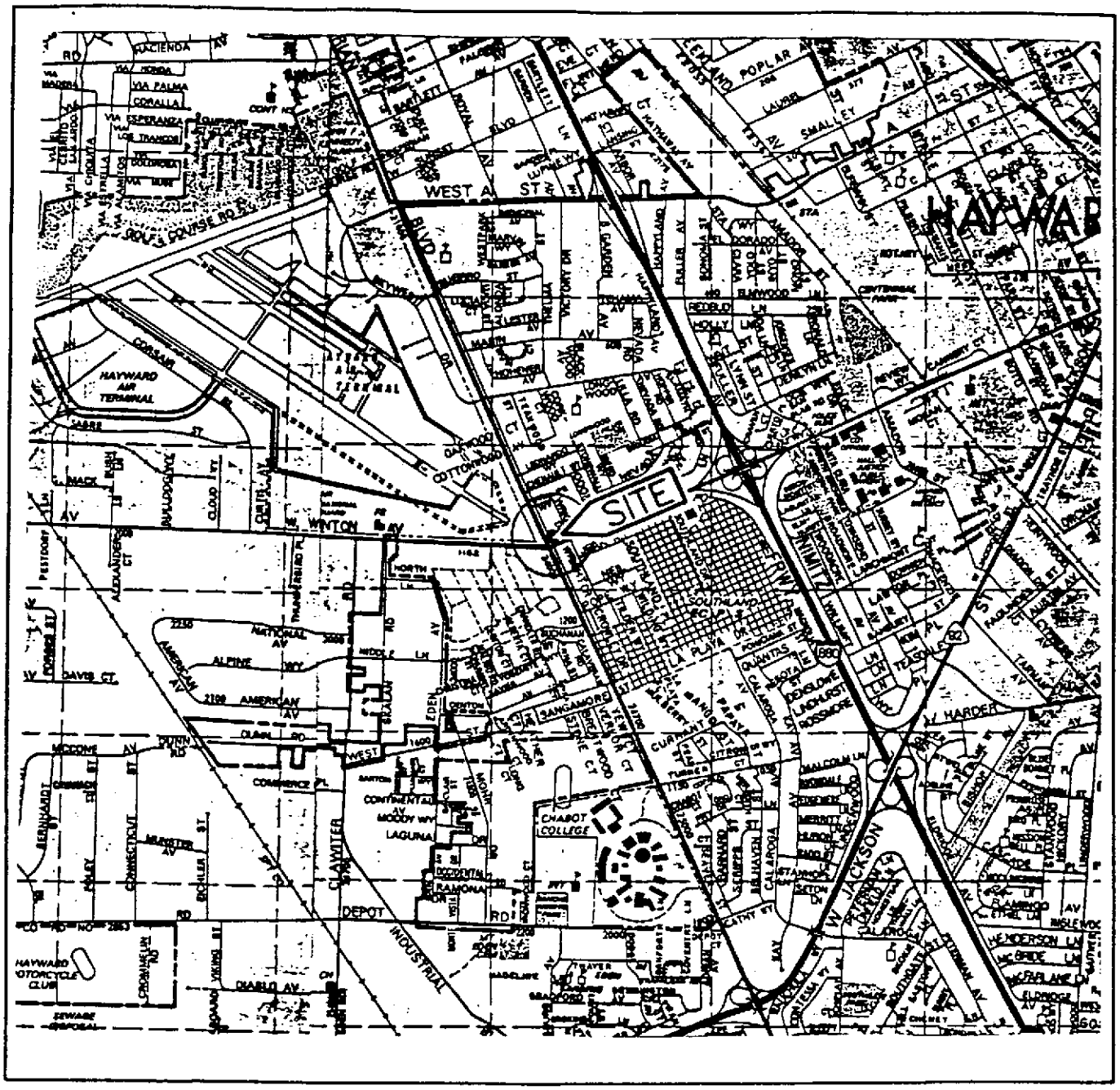
TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Service Station
23990 Hesperian Boulevard
Hayward, California
(Page 1 of 4)

| Well | Date | Elevation of Wellhead* | Depth to Water | Elevation of Groundwater | Floating Product |
|---|---|---|---|---|---|
| MW-3A | | | | | |
| HLA | 02/02/89 | 99.88 | 21.90 | 77.98 | None |
| | 10/30/89 | | 22.51 | 77.37 | None |
| | 01/24/90 | | 22.75 | 77.13 | None |
| | 07/19/90 | | 22.99 | 76.89 | None |
| | 11/19/90 | 99.89** | 23.75 | 76.14 | None |
| | 04/29/91 | | 22.20 | 77.69 | None |
| | 11/07/91 | | 23.72 | 76.17 | None |
| | 05/07/92 | | 21.71 | 78.18 | None |
| RESNA | 09/30/92 | | 23.17 | 76.72 | None |
| | 03/25/93 | | 19.32 | 80.57 | None |
| | 06/29/93 | | 19.81 | 80.08 | None |
| | 09/30/93 | | 20.97 | 78.90 | None |
| | 12/02/93 | | 21.53 | 78.36 | None |
| MW-3B | | | | | |
| HLA | 02/02/89 | 99.05 | 21.22 | 77.83 | None |
| | 10/30/89 | | 21.89 | 77.16 | None |
| | 01/24/90 | | 22.08 | 76.97 | None |
| | 07/19/90 | | 22.30 | 76.75 | None |
| | 11/19/90 | | 23.05 | 76.00 | None |
| | 04/29/91 | | 21.48 | 77.57 | None |
| | 11/07/91 | | 23.00 | 76.05 | None |
| | 05/07/92 | | 21.05 | 78.00 | None |
| RESNA | 09/30/92 | | 22.52 | 76.53 | None |
| | 03/25/93 | | 18.63 | 80.42 | Sheen |
| | 06/29/93 | | 19.20 | 79.85 | Sheen |
| | 09/30/93 | | 20.34 | 78.71 | Sheen |
| | 12/02/93 | | Not Accessible | | |

See notes on page 4 of 4.

Attachments:

| | |
|---|---|
| Plate 1: | Site Vicinity Map |
| Plate 2: | Groundwater Gradient Map |
| Plate 3: | TPHg/Benzene Concentrations in Groundwater |
| Table 1: | Cumulative Groundwater Monitoring Data |
| Table 2: | Cumulative Results of Laboratory Analyses of Groundwater Samples, TPHg, TPHd, and BTEX |
| Table 3: | Cumulative Results of Laboratory Analyses of Groundwater Samples, Selected Organic Compounds |
| Appendix A: | Groundwater Sampling Protocol and Well Purge Data Sheets |
| Appendix B: | Laboratory Analysis Reports and Chain of Custody Documentation |
| Appendix C: | Non-Hazardous Waste Data Form |




Source: The Thomas Bros. Guide
Alameda and Contra Costa Counties
Hayward, California
Photorevised 1988

N

Approximate Scale
2200 1100 0 2200
feet

RESNA
Working to Restore Nature

PROJECT 62080.01

SITE VICINITY MAP
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE
1

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Service Station
23990 Hesperian Boulevard
Hayward, California
(Page 2 of 4)

| Well | Date | Elevation of Wellhead* | Depth to Water | Elevation of Groundwater | Floating Product |
|---|---|---|---|---|---|
| MW-3C | | | | | |
| HLA | 02/02/89 | 99.46 | 21.72 | 77.74 | None |
| | 10/30/89 | | 22.42 | 77.04 | None |
| | 01/24/90 | | 22.59 | 76.87 | None |
| | 07/19/90 | | 22.82 | 76.64 | None |
| | 11/19/90 | 99.47** | 23.55 | 75.92 | None |
| | 04/29/91 | | 21.98 | 77.49 | None |
| | 11/07/91 | | 23.53 | 75.94 | None |
| | 05/07/92 | | 21.53 | 77.94 | None |
| RESNA | 09/30/92 | Not Accessible | | | |
| | 03/25/93 | | 19.70 | 79.77 | Sheen |
| | 06/29/93 | | 19.47 | 80.00 | Sheen |
| | 09/30/93 | | 20.43 | 79.04 | Sheen |
| | 12/02/93 | | 20.94 | 78.53 | Sheen |
| MW-3D | | | | | |
| HLA | 02/02/89 | 99.33 | 21.26 | 78.07 | None |
| | 10/30/89 | | 21.93 | 77.40 | None |
| | 01/24/90 | | 22.13 | 77.20 | None |
| | 07/19/90 | | 22.39 | 76.94 | None |
| | 11/19/90 | 99.32** | 23.60 | 75.72 | None |
| | 04/29/91 | | 21.61 | 77.71 | None |
| | 11/07/91 | | 23.46 | 75.86 | None |
| | 05/07/92 | | 21.11 | 78.21 | None |
| RESNA | 09/30/92 | | 22.55 | 76.77 | None |
| | 03/25/93 | | 18.68 | 80.64 | None |
| | 06/29/93 | | 19.15 | 80.17 | None |
| | 09/30/93 | | 20.32 | 79.00 | None |
| | 12/02/93 | | 20.88 | 78.44 | None |

See notes on page 4 of 4.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Service Station
23990 Hesperian Boulevard
Hayward, California
(Page 3 of 4)

| Well | Date | Elevation of Wellhead* | Depth to Water | Elevation of Groundwater | Floating Product |
|---|---|---|---|---|---|
| MW-3E | | | | | |
| HLA | 02/02/89 | 99.80 | 21.88 | 77.92 | None |
| | 10/30/89 | | 22.57 | 77.23 | None |
| | 01/24/90 | | 22.98 | 76.82 | None |
| | 07/19/90 | | 23.29 | 76.51 | None |
| | 11/19/90 | | DRY | | |
| | 04/29/91 | | 22.19 | 77.61 | None |
| | 11/07/91 | | 23.40 | 76.40 | None |
| | 05/07/92 | | 21.68 | 78.12 | None |
| RESNA | 09/30/92 | | 23.15 | 76.65 | None |
| | 03/25/93 | | 19.28 | 80.52 | None |
| | 06/29/93 | Not Monitored - Inaccessible | | | |
| | 09/30/93 | Not Monitored - Inaccessible, car parked on well | | | |
| | 12/02/93 | | 21.49 | 78.31 | None |
| MW-3F | | | | | |
| HLA | 02/02/89 | 99.09 | 21.66 | 77.43 | None |
| | 10/30/89 | | 22.36 | 76.73 | None |
| | 01/24/90 | | 22.52 | 76.57 | None |
| | 07/19/90 | | 22.77 | 76.32 | None |
| | 11/19/90 | | 23.50 | 75.57 | None |
| | 04/29/91 | | 21.88 | 77.19 | None |
| | 11/07/91 | 99.07** | 23.46 | 75.61 | None |
| | 05/07/92 | | 21.40 | 77.67 | None |
| RESNA | 09/30/92 | | 22.90 | 76.17 | None |
| | 03/25/93 | | 18.98 | 80.09 | None |
| | 06/29/93 | | 19.67 | 79.40 | None |
| | 09/30/93 | | 20.83 | 78.24 | None |
| | 12/02/93 | | 21.33 | 77.74 | None |

See notes on page 4 of 4.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
Former Texaco Service Station
23990 Hesperian Boulevard
Hayward, California
(Page 4 of 4)

| Well | Date | Elevation of Wellhead* | Depth to Water | Elevation of Groundwater | Floating Product |
|---|---|---|---|---|---|
| MW-3G | | | | | |
| HLA | 02/02/89 | 99.68 | 22.25 | 77.43 | None |
| | 10/30/89 | | 22.96 | 76.73 | None |
| | 01/24/90 | | 23.12 | 76.56 | None |
| | 07/19/90 | | 23.37 | 76.31 | None |
| | 11/19/90 | | 24.10 | 75.58 | None |
| | 04/29/91 | | 22.50 | 77.18 | None |
| | 11/07/91 | | 24.60 | 75.08 | None |
| | 05/07/92 | | 22.03 | 77.65 | None |
| RESNA | 09/30/92 | | 23.50 | 76.18 | None |
| | 03/25/93 | | 19.57 | 80.11 | None |
| | 06/29/93 | | 20.28 | 79.40 | None |
| | 09/30/93 | | 21.42 | 78.26 | None |
| | 12/02/93 | | 21.92 | 77.76 | None |
| MW-3H | | | | | |
| HLA | 02/02/89 | 99.04 | 22.49 | 76.55 | None |
| | 11/19/90 | 99.03** | 23.22 | 75.81 | None |
| | 04/29/91 | | 21.63 | 77.40 | None |
| | 11/07/91 | | 23.20 | 75.83 | None |
| | 05/07/92 | | 21.08 | 77.95 | None |
| RESNA | 09/30/92 | | 22.62 | 76.41 | None |
| | 03/25/93 | | 18.77 | 80.26 | None |
| | 06/29/93 | | 19.30 | 79.73 | None |
| | 09/30/93 | | 20.48 | 78.55 | None |
| | 12/02/93 | | 21.03 | 78.00 | None |

Depth to water measured in feet below top of casing.

* : Elevation relative to datum arbitrarily set at 100.00 feet.

** : Resurveyed on November 19, 1990.

HLA : Monitoring by Harding Lawson Associates

RESNA : RESNA Industries Inc. began monitoring

RESNA assumes all wells are screened in the same hydrostratagraphic unit as identified by previous environmental consultant(s).

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES, TPHg, TPHd AND BTEX
Former Texaco Service Station
23990 Hesperian Boulevard
Hayward, California
(Page 1 of 4)

| Well | Date | TPHg | Benzene | Toluene | Ethyl-benzene | Total Xylenes | TPHd |
|---|---|---|---|---|---|---|---|
| MW-3A | | | | | | | |
| HLA | 10/19/88 | NA | ND | ND | ND | 2.0 | NS |
| | 02/02/89 | NA | 8.0 | ND | 9.0 | 11.0 | NS |
| | 10/30/89 | 480 | 9.0 | <0.5 | 14.0 | 15.0 | <100 |
| | 07/19/90 | 430 | 4.3 | <0.5 | 4.5 | 4.0 | <100 |
| | 04/29/91 | 690 | 5.7 | <0.5 | 10.0 | 2.0 | 280 |
| | 11/07/91 | 970 | 11.0 | <0.5 | 12.0 | 3.4 | NA |
| | 05/07/92 | 760 | 3.0 | <0.5 | 7.6 | 3.0 | 430# |
| RESNA | 09/30/92 | 670 | 6.0 | <0.5 | 0.67 | 12.0 | NA |
| | 03/25/93 | 4,200 | 5.5 | <0.5 | 33 | <0.5 | NA |
| | 06/29/93 | 1,000 | 0.6 | <0.5 | <0.5 | <0.5 | NA |
| | 09/30/93 | 1,300 | <0.5 | <0.5 | 1.8 | <0.5 | NA |
| | 12/02/93 | 90 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| MW-3B | | | | | | | |
| HLA | 10/19/88 | NA | 11,000 | 3,500 | 3,000 | 5,600 | NA |
| | 02/02/89 | NA | 9,000 | 2,400 | 1,800 | 8,400 | NA |
| | 10/30/89 | 140,000 | 8,100 | 1,800 | 2,700 | 19,000 | <1,000 |
| | 07/19/90 | 130,000 | 8,200 | 1,400 | 4,100 | 16,000 | 11,000 |
| | 04/29/91 | 200,000 | 8,300 | 630 | 3,400 | 12,000 | 21,000 |
| | 11/07/91 | 50,000 | 10,000 | 530 | 4,900 | 18,000 | 370,000 |
| | 05/07/92 | 110,000 | 3,900 | 530 | 1,400 | 5,800 | 72,000@ |
| RESNA | 09/30/92 | 100 | 22 | 0.99 | 9.2 | 29 | NA |
| | 03/25/93 | | Not Sampled - Sheen Present | | | | |
| | 06/29/93 | | Not Sampled - Sheen Present | | | | |
| | 09/30/93 | | Not Sampled - Sheen Present | | | | |
| | 12/02/93 | | Not Sampled - Not Accessible | | | | |
| MW-3C | | | | | | | |
| HLA | 10/19/88 | NA | 2,700 | 49 | ND | 2,200 | NA |
| | 02/02/89 | NA | 2,100 | 65 | 660 | 1,400 | NA |
| | 10/30/89 | 46,000 | 2,800 | 59 | 1,100 | 2,300 | <1,000 |
| | 07/19/90 | 35,000 | 2,700 | 560 | 1,800 | 3,300 | ND |
| | 04/29/91 | 370,000 | 4,500 | 2,100 | 4,700 | 11,000 | 10,000 |
| | 11/07/91 | 39,000 | 3,600 | 980 | 3,100 | 6,800 | NA |
| | 05/07/92 | 57,000 | 3,500 | 810 | 3,500 | 7,200 | 18,000# |
| RESNA | 09/30/92 | | Not Sampled | | | | |
| | 03/25/93 | | Not Sampled - Sheen Present | | | | |
| | 06/29/93 | | Not Sampled - Sheen Present | | | | |
| | 09/30/93 | | Not Sampled - Sheen Present | | | | |

See notes on page 4 of 4.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES, TPHg, TPHd AND BTEX
Former Texaco Service Station
23990 Hesperian Boulevard
Hayward, California
(Page 2 of 4)

| Well | Date | TPHg | Benzene | Toluene | Ethyl-benzene | Total Xylenes | TPHd |
|---|---|---|---|---|---|---|---|
| MW-3C cont | 12/02/93 | | Not Sampled - Sheen Present | | | | |
| MW-3D | | | | | | | |
| HLA | 10/13/88 | NA | ND | ND | ND | ND | NA |
| | 02/02/89 | NA | ND | ND | ND | ND | NA |
| | 10/30/89 | <100 | <25 | <0.5 | <0.5 | <0.5 | <100 |
| | 07/19/90 | <100 | ND | <0.5 | 1.3 | 1.5 | ND |
| | 04/29/91 | 120 | ND | <0.5 | 1.9 | 0.8 | 150 |
| | 11/07/91 | <100 | ND | <0.5 | <0.5 | <0.5 | NA |
| | 05/07/92 | <100 | ND | <0.5 | <0.5 | <0.5 | ND |
| RESNA | 09/30/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| | 03/25/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| | 06/29/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| | 09/30/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| | 12/02/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| MW-3E | | | | | | | |
| HLA | 10/19/88 | NA | ND | ND | ND | ND | NA |
| | 02/02/89 | NA | ND | ND | ND | ND | NA |
| | 10/30/89 | <100 | ND | <0.5 | <0.5 | <0.5 | <100 |
| | 07/19/90 | <100 | ND | <0.5 | <0.5 | <0.5 | ND |
| | 04/29/91 | <100 | ND | <0.5 | <0.5 | <0.5 | ND |
| | 11/07/91 | <100 | ND | <0.5 | <0.5 | <0.5 | ND |
| | 05/07/92 | <100 | ND | <0.5 | <0.5 | <0.5 | ND |
| RESNA | 09/30/92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| | 03/25/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| | 06/29/93 | | Not Sampled - Well Inaccessible | | | | |
| | 09/30/93 | | Not Sampled - Well Inaccessible | | | | |
| | 12/02/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| MW-3F | | | | | | | |
| HLA | 02/02/89 | NA | ND | 4.0 | 3.0 | 3.0 | NA |
| | 10/30/89 | 1,200 | <25 | 6.7 | 2.2 | <0.5 | <100 |
| | 07/19/90 | 66 | 5.7 | <0.5 | 1.2 | <0.5 | ND |
| | 04/29/91 | 2,000 | 19.0 | 8.2 | 6.6 | <0.5 | 200 |
| | 11/07/91 | 1,200 | 14.0 | <0.5 | 1.0 | <0.5 | 230 |
| | 05/07/92 | 1,400 | 12.0 | 10.0 | 2.3 | 3.7 | 430# |
| RESNA | 09/30/92 | 550 | 11.0 | 0.58 | <0.5 | 0.83 | NA |
| | 03/25/93 | 1,900 | 40 | <0.5 | 1.4 | 1.5 | NA |
| | 06/29/93 | 240 | 6.1 | <0.5 | <0.5 | 1.2 | NA |

See notes on page 4 of 4.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES, TPHg, TPHd AND BTEX
Former Texaco Service Station
23990 Hesperian Boulevard
Hayward, California
(Page 3 of 4)

| Well | Date | TPHg | Benzene | Toluene | Ethyl-benzene | Total Xylenes | TPHd |
|---|---|---|---|---|---|---|---|
| MW-3F cont | 09/30/93 | 740 | 5.0 | <0.5 | <0.5 | <0.5 | NA |
| | 12/02/93 | 620 | 38 | <0.5 | 1.0 | <0.5 | NA |
| MW-3G | | | | | | | |
| HLA | 02/02/89 | NA | ND | ND | ND | ND | NA |
| | 10/30/89 | <100 | ND | <0.5 | <0.5 | <0.5 | ND |
| | 07/19/90 | <100 | ND | <0.5 | <0.5 | <0.5 | ND |
| | 04/29/91 | 90* | ND | <0.5 | <0.5 | <0.5 | ND |
| | 11/07/91 | <100 | ND | <0.5 | <0.5 | <0.5 | ND |
| | 05/07/92 | <100 | ND | <0.5 | <0.5 | <0.5 | ND |
| RESNA | 09/30/92 | 78 | 7.6 | <0.5 | <0.5 | <0.5 | NA |
| | 03/25/93 | 130 | 6.0 | <0.5 | <0.5 | <0.5 | NA |
| | 06/29/93 | 120 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| | 09/30/93 | 250 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| | 12/02/93 | 280 | 14 | <0.5 | <0.5 | <0.5 | NA |
| MW-3H | | | | | | | |
| HLA | 07/19/90 | <100 | ND | <0.5 | <0.5 | <0.5 | ND |
| | 04/29/91 | 60* | ND | <0.5 | <0.5 | <0.5 | ND |
| | 11/07/91 | 100 | ND | <0.5 | <0.5 | <0.5 | ND |
| | 05/07/92 | 330* | ND | <0.5 | <0.5 | <0.5 | ND |
| RESNA | 09/30/92 | 380 | 85 | <0.5 | <0.5 | <0.5 | NA |
| | 03/25/93 | 500 | 15 | <0.5 | 0.7 | 2.3 | NA |
| | 06/29/93 | 110 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| | 09/30/93 | 430 | <0.5 | <0.5 | <0.5 | <0.5 | NA |
| | 12/02/93 | 260 | 31 | <0.5 | <0.5 | <0.5 | NA |
| | MCLs: | - | 1.0 | - | 680 | 1,750 | - |
| | DWAL: | - | - | 100 | - | - | - |

See notes on page 4 of 4.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES, TPHg, TPHd AND BTEX
Former Texaco Service Station
23990 Hesperian Boulevard
Hayward, California
(Page 4 of 4)

| Well | Date | TPHg | Benzene | Toluene | Ethyl-benzene | Total Xylenes | TPHd |
|---|---|---|---|---|---|---|---|

Results in parts per billion (ppb).

| | | |
|---|---|---|
| NA | : | Not Analyzed |
| ND | : | Nondetectable |
| TPHg | : | Total petroleum hydrocarbons as gasoline analyzed by EPA method 5030/602. |
| TPHd | : | Total petroleum hydrocarbons as diesel analyzed by EPA method 5030/602. |
| BTEX | : | Analyzed by EPA method 5030/602. |
| < | : | Less than the detection limit for the specified method of analysis. |
| MCLs | : | Adopted Maximum Contaminant Levels in Drinking Water, DHS (October 1990) |
| DWAL | : | Recommended Drinking Water Action Level, DHS (October 1990) |
| HLA | : | Harding Lawson Associates |
| RESNA | : | Sampling by RESNA Industries Inc. |
| * | : | The laboratory reported that TPHg concentration is the result of several large peaks on gas chromatograph, or a chromatograph pattern uncommon to gasoline. |
| # | : | The positive result for TPHd appears to be a lighter hydrocarbon than diesel. |
| @ | : | The positive result for TPHd appears to be a combination of lighter hydrocarbons and diesel rather than diesel. |

TABLE 3
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES, SELECTED ORGANIC COMPOUNDS
Former Texaco Service Station
23990 Hesperian Boulevard
Hayward, California

| Well / Date | Analysis Method | trans-1,2-Dichloroethene | Tetrachloroethene | Trichloroethene | Vinyl Chloride | Cis-1,2-Dichloroethene |
|---|---|---|---|---|---|---|
| MW-3A | | | | | | |
| 03/25/93 | 601 | <1.0 | <1.0 | <1.0 | <1.0 | NA |
| 06/29/93 | 601 | <1.0 | <1.0 | <1.0 | <1.0 | NA |
| MW-3D | | | | | | |
| 03/25/93 | 601 | <1.0 | <1.0 | <1.0 | <1.0 | NA |
| 06/29/93 | 601 | <1.0 | <1.0 | <1.0 | <1.0 | NA |
| MW-3E | | | | | | |
| 03/25/93 | 601 | <1.0 | <1.0 | <1.0 | <1.0 | NA |
| 06/29/93 | | | Not Sampled: Well Inaccessible | | | |
| MW-3F | | | | | | |
| 09/30/92 | 8240 | <1.0 | 5.1 | 2.2 | 32 | <1.0 |
| 03/25/93 | 601 | <1.0 | 2.3 | 2.6 | 230 | NA |
| 03/25/93 | 8240 | <5.0 | <5.0 | <5.0 | 220 | <5.0 |
| 06/29/93 | 8240 | <5.0 | 6.8 | 3.6 | 220 | 14 |
| MW-3G | | | | | | |
| 03/25/93 | 601 | 12 | 110 | 16 | <1.0 | NA |
| 03/25/93 | 8240 | <5.0 | 150 | 18 | <10.0 | 14 |
| 06/29/93 | 8240 | <5.0 | 200 | 23 | <5.0 | 20 |
| MW-3H | | | | | | |
| 09/30/92 | 8240 | <1.0 | 560 | 120 | <2.0 | 140 |
| 03/25/93 | 601 | 29 | 110 | 40 | <1.0 | NA |
| 03/25/92 | 8240 | <5.0 | 170 | 39 | <10.0 | 34 |
| 06/29/93 | 8240 | <5.0 | 220 | 72 | <5.0 | 56 |

Results in parts per billion (ppb).
NA : Not Analyzed
< : Less than the detection limit for the specified method of analysis.
Volatile or Purgeable Organic Compounds are analyzed by EPA Method 5030/601 or 5030/8240.

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# APPENDIX A

# GROUNDWATER SAMPLING PROTOCOL AND WELL PURGE DATA SHEETS

## GROUNDWATER SAMPLING PROTOCOL

The static water level and floating product level, if present, in each well that contained water was measured with an ORS Interphase Probe Model No. 1068018; this instrument is accurate to the nearest 0.01 foot. These groundwater depths were subtracted from wellhead elevations, including corrections for product thickness, when necessary, for gradient evaluation by multiplying product thickness (PT) by a correction factor 0.8 and subtracting from the DTW (Adjusted DTW = DTW - [PT x 0.8]).

Water samples collected for subjective evaluation were collected by gently lowering approximately half the length of a new disposable bailer past the air-water interface (if possible) and collecting a sample from near the surface of the water in the well. The samples were checked for measurable floating hydrocarbon product.

Before water samples were collected from the groundwater monitoring wells, the wells were purged until stabilization of the temperature, pH, and conductivity were obtained. Approximately four well casing volumes were purged before those characteristics stabilized. The quantity of water purged from each well was calculated as follows:

1 well casing volume = $\pi r^2 h(7.48)$ where:

| | | |
|---|---|---|
| r | = | radius of the well casing in feet. |
| h | = | column of water in the well in feet (depth to bottom - depth to water). |
| 7.48 | = | conversion constant from cubic feet to gallons |

Gallons of water purged/gallons in 1 well casing volume = well casing volumes removed.

After purging, each well was allowed to recharge to at least 80% of the initial water level. Water samples were collected with a new disposable bailer, and carefully poured into 40-milliliter (ml) glass vials, which were filled so as to produce a positive meniscus. Each vial was preserved with hydrochloric acid, sealed with a cap containing a Teflon® septum, and subsequently examined for air bubbles to avoid headspace which would allow volatilization to occur. The samples were promptly transported in iced storage in a thermally-insulated ice chest, accompanied by a Chain of Custody Record, to a California-certified laboratory.

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# WELL PURGE DATA SHEET

Project Name: Texaco--23990 Hesperian  Job No. 62080.01

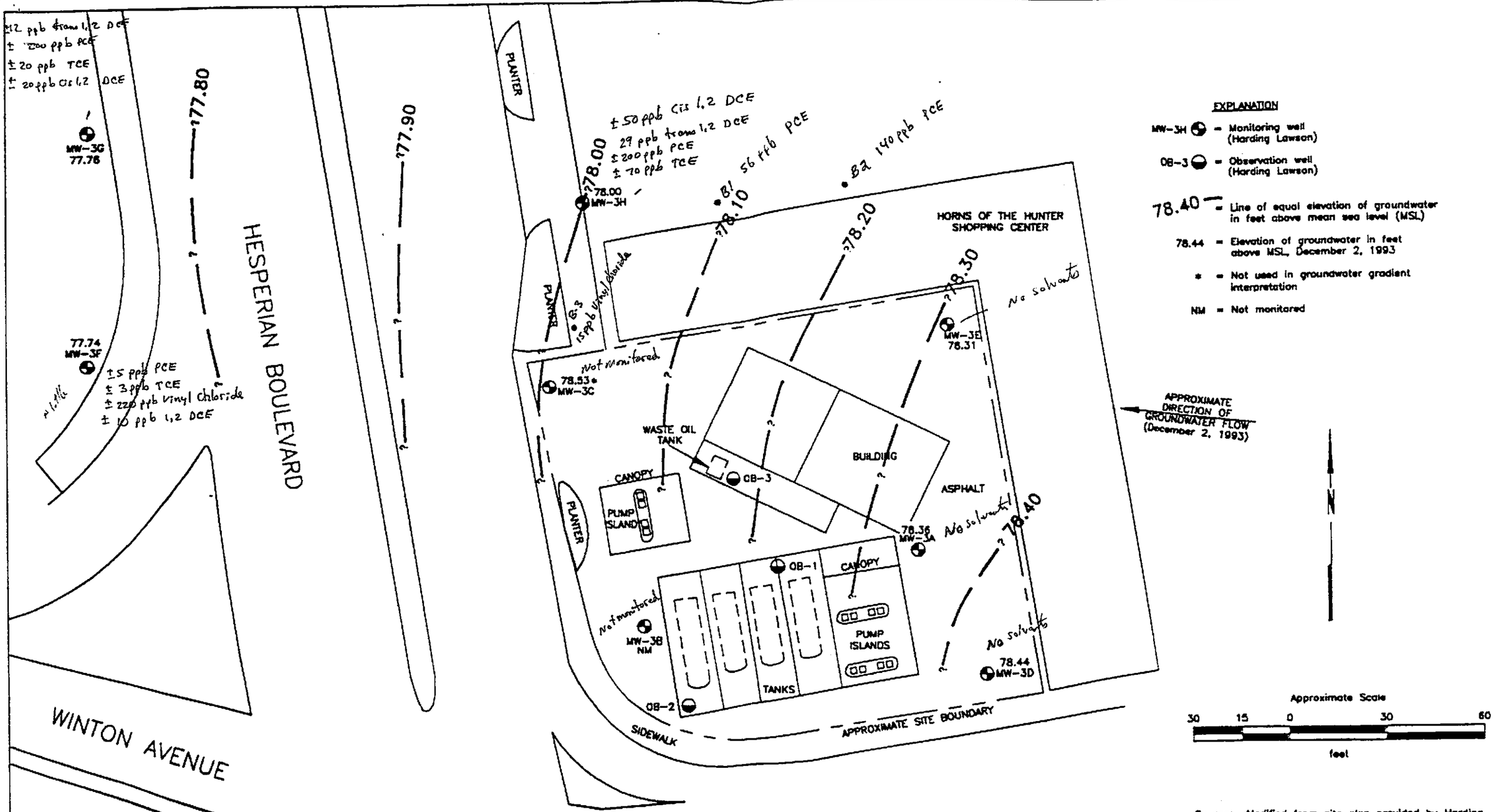
Date: December 2, 1993  Page 1 of 1

Well No. MW-3A  Time Started 11:10

| TIME (hr) | GALLONS (cum.) | TEMP. (F) | pH | CONDUCT. (micromho) | TURBIDITY (NTU) |
|---|---|---|---|---|---|
| 11:10 | Start purging MW-3A | | | | |
| 11:10 | 0 | 63.9 | 7.41 | 1160 | --- |
| 11:11 | 0.56 | 64.8 | 7.32 | 1170 | --- |
| 11:12 | 1.12 | 64.4 | 7.43 | 1150 | --- |
| 11:23 | 1.68 | 65.1 | 7.35 | 1170 | --- |
| 11:24 | 2.24 | 64.5 | 7.48 | 1150 | --- |
| 11:24 | Stop purging MW-3A | | | | |

Notes:

| | |
|---|---|
| Well Diameter (inches) : | 2 |
| Depth to Bottom (feet) : | 25.00 |
| Depth to Water - initial (feet) : | 21.53 |
| Depth to Water - final (feet) : | 21.53 |
| % recovery : | 100 |
| Time Sampled : | 12:00 |
| Gallons per Well Casing Volume : | 0.56 |
| Gallons Purged : | 2.24 |
| Well Casing Volume Purged : | 4.0 |
| Approximate Pumping Rate (gpm) : | 0.5 |




Source: Modified from site plan provided by Harding Lawson Associates, dated July 29, 1992.

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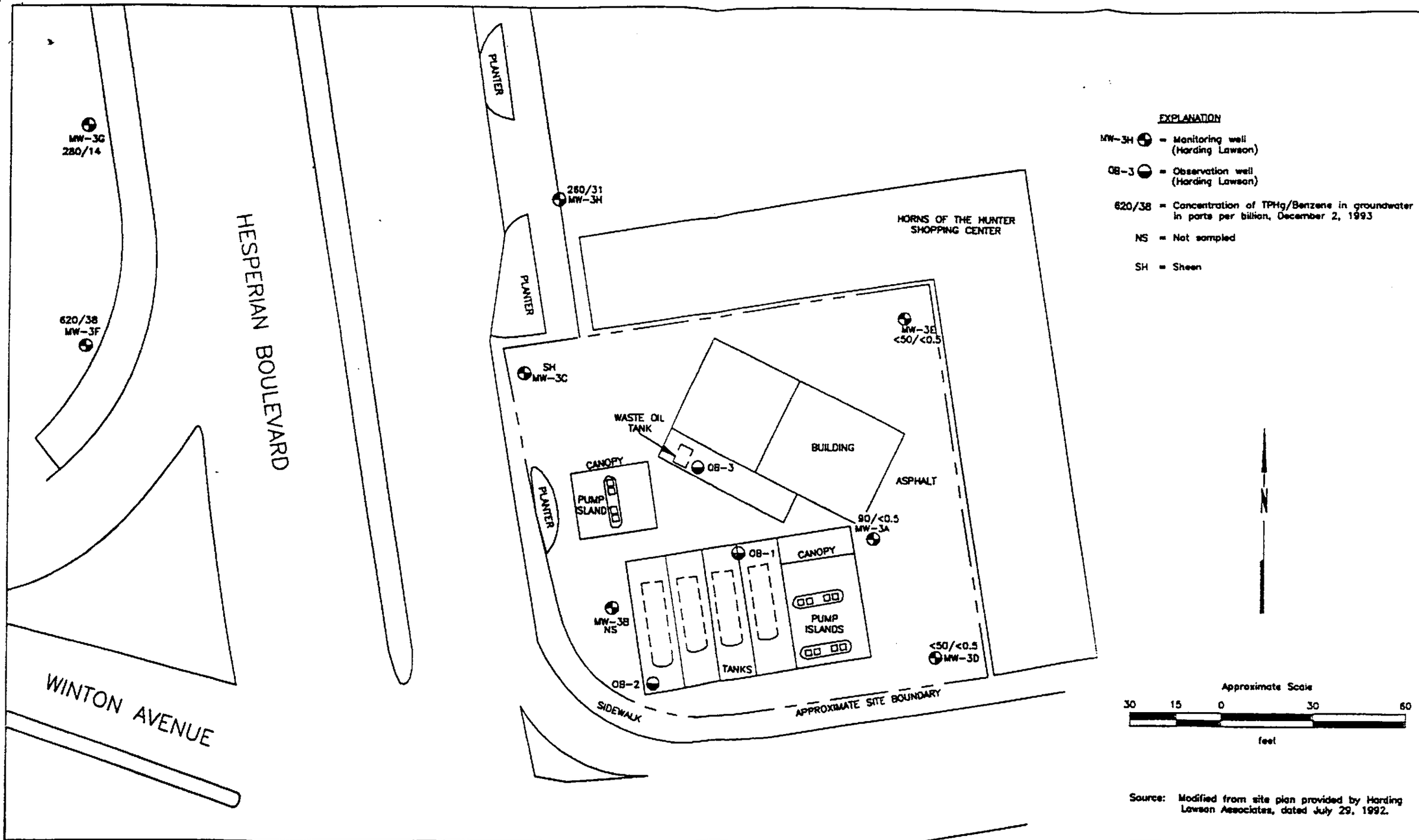
PROJECT 62080.01

# GROUNDWATER GRADIENT MAP
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE 2




Source: Modified from site plan provided by Harding Lawson Associates, dated July 29, 1992.

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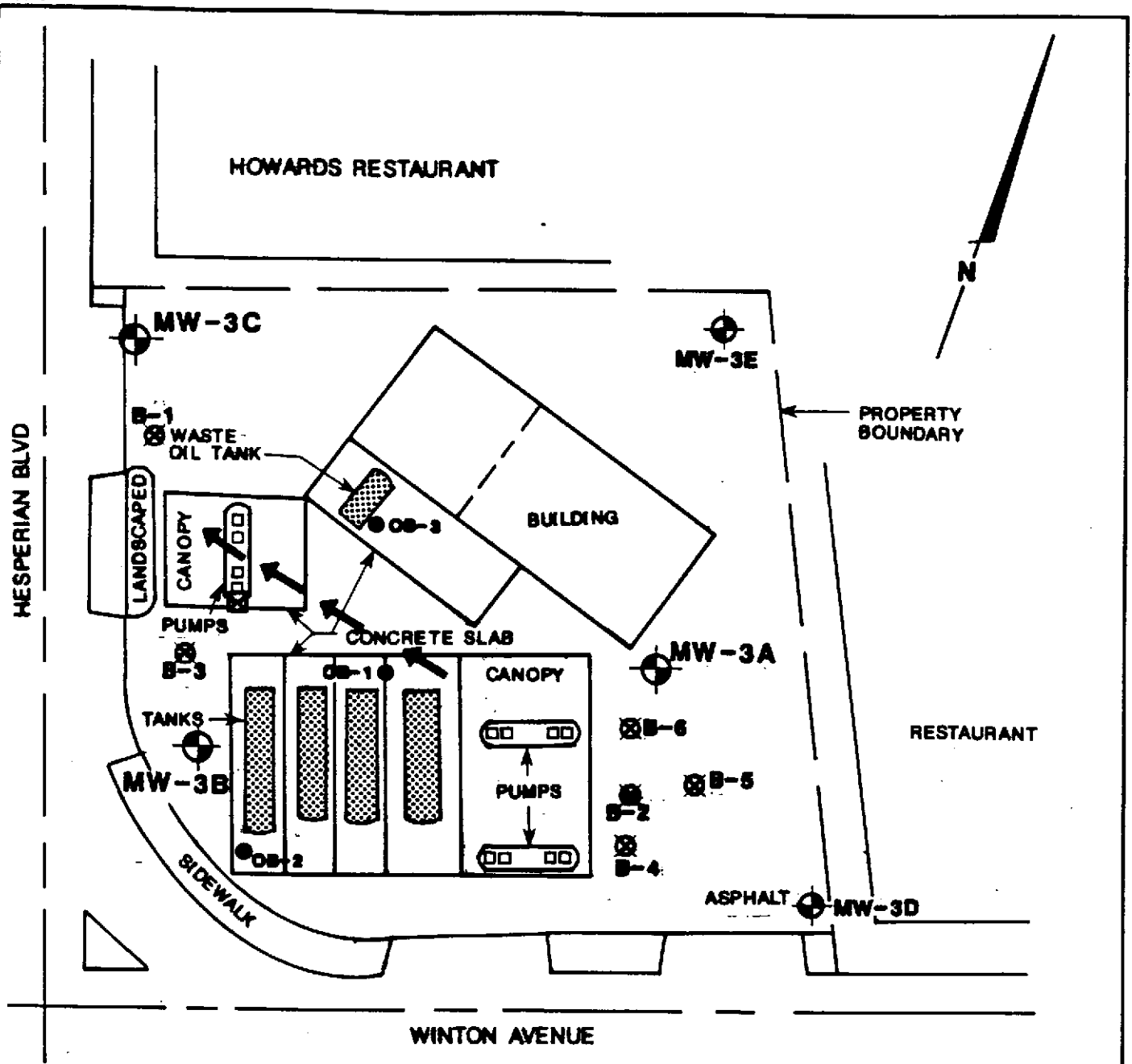
PROJECT 62080.01

**TPHg/BENZENE CONCENTRATIONS IN GROUNDWATER**
**Former Texaco Station**
**23990 Hesperian Boulevard**
**Hayward, California**

PLATE
3




## EXPLANATION

MW-3A — Monitoring Well Location and Number

OB-1 — Observation Well and Number

Ground-water Flow Direction

Bench Mark (HLA Datum El. = 100 feet)

B-1 — Boring Location and Number

0 30
Scale in feet

**Harding Lawson Associates**
Engineers and Geoscientists

**Site Plan**
Former Texaco Service Station
23990 Hesperian Boulevard
Hayward, California

PLATE **4**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| AG | 2251,078.03 | [illegible] | 5/89 | | |

Equipment 8" Hollow Stem Auger

Elevation _____ Date 09/28/88

| Blows/ foot | Photo-Ionization Detector (ppm) | Well Screen Interval | Depth (ft) | Sample | |
|---|---|---|---|---|---|
| | | | 0 | | Asphalt and baserock |
| | | | | | SANDY SILT (ML), moist, loose |
| 14 | ND | | 5 | | BROWN LEAN CLAY (CL), moist, stiff |
| 13 | ND | | 10 | | |
| 23 | 65 | | 15 | | Becomes very stiff |
| | | | | | BROWN MOTTLED FAT CLAY (CH), moist, stiff |
| 9 | 285 | | 20 | | Bottom of boring at 21 feet |
| | | | 25 | | |
| | | | 30 | | |
| | | | 35 | | |
| | | | 40 | | |

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**Log of Boring B-1**
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE **5**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| YC | 2251,078.03 | VDA | 3/89 | | |

Equipment 8" Hollow Stem Auger

Elevation _____ Date 09/28/88

| Blows/foot | Photo-Ionization Detector (ppm) | Well Screen Interval | Depth (ft) | Sample | |
|---|---|---|---|---|---|
| | | | 0 | | Asphalt and baserock |
| 14 | ND | | 5 | | DARK BROWN LEAN CLAY (CL), dry, stiff |
| 11 | ND | | 10 | | |
| 25 | ND | | 15 | | BLUE FAT CLAY (CH), moist, soft |
| | | | | | BLUE SANDY LEAN CLAY (CL), moist, medium stiff |
| 10 | 50 | | 20 | | BLUE LEAN CLAY (CL), moist, stiff |
| | | | | | Bottom of boring at 21.5 feet |
| | | | 25 | | |
| | | | 30 | | |
| | | | 35 | | |
| | | | 40 | | |

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**Log of Boring B-2**
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE **6**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| YC | 2251,078.03 | | 3/89 | | |

Equipment 8" Hollow Stem Auger

Elevation _____ Date 09/28/88

| Depth (ft) | Sample | Blows/foot | Photo-Ionization Detector (ppm) | Well Screen Interval | |
|---|---|---|---|---|---|
| 0 | | | | | DARK BROWN LEAN CLAY (CL), moist, soft |
| | | | | | YELLOWISH BROWN CLAYEY SAND (SC), moist, loose |
| 5 | | 13 | ND | | |
| | | | | | DARK BROWN LEAN CLAY (CL), moist, stiff |
| 10 | | 14 | ND | | |
| 15 | | 24 | 300 | | |
| | | | | | Some fine sand at 19.5 feet |
| 20 | | 7 | 100 | | Bottom of boring at 21.0 feet |
| 25 | | | | | |
| 30 | | | | | |
| 35 | | | | | |
| 40 | | | | | |

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**Log of Boring B-3**
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE 7

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| YC | 2251,078.03 | VDA | 3/89 | | |

Equipment 8" Hollow Stem Auger

Elevation _____ Date 01/20/89

| Blows/ foot | Photo-Ionization Detector (ppm) | Well Screen Interval | Depth (ft) | Sample | |
|---|---|---|---|---|---|
| | | | 0 | | Asphalt and baserock |
| | | | | | DARK BROWN FAT CLAY (CH) |
| 18 | ND | | 5 | | BROWN FAT CLAY WITH SILT (CH), moist, very stiff |
| 14 | ND | | 10 | | Bottom of boring at 10 feet |
| | | | 15 | | |
| | | | 20 | | |
| | | | 25 | | |
| | | | 30 | | |
| | | | 35 | | |
| | | | 40 | | |

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**Log of Boring B-4**
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE 8

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| YC | 2251,078.03 | VBA | 3/89 | | |

Equipment 8" Hollow Stem Auger

Elevation _____ Date 01/20/89

| Depth (ft) | Sample | Blows/foot | Photo-Ionization Detector (ppm) | Well Screen Interval | |
|---|---|---|---|---|---|
| 0 | | | | | Asphalt |
| | | | | | DARK BROWN FAT CLAY (CH), moist, very stiff |
| | | | | | BROWN SILTY LEAN CLAY (CL), moist, very stiff |
| 5 | | 18 | ND | | |
| 10 | | 13 | ND | | Bottom of boring at 10 feet |
| 15 | | | | | |
| 20 | | | | | |
| 25 | | | | | |
| 30 | | | | | |
| 35 | | | | | |
| 40 | | | | | |

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**Log of Boring B-5**
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE **9**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| YC | 2251,078.03 | VSA | 3/89 | | |

Equipment 8" Hollow Stem Auger

Elevation _____ Date 01/20/89

| Blows/ foot | Photo-Ionization Detector (ppm) | Well Screen Interval | Depth (ft) | Sample | |
|---|---|---|---|---|---|
| | | | 0 | | Asphalt<br>Baserock<br>DARK BROWN FAT CLAY (CH), moist, soft |
| 14 | ND | | 5 | | BROWN LEAN CLAY (CL), moist, stiff |
| 14 | ND | | 10 | | Bottom of boring at 10 feet |
| | | | 15 | | |
| | | | 20 | | |
| | | | 25 | | |
| | | | 30 | | |
| | | | 35 | | |
| | | | 40 | | |

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**Log of Boring B-6**
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE **10**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| YC | 2251,078.03 | VBF | 3/89 | | |

Equipment 12" Hollow Stem Auger

Elevation _____ Date 09/28/88

| Blows/foot | Photo-Ionization Detector (ppm) | Depth (ft) | Sample | Well Screen Interval | |
|---|---|---|---|---|---|
| | | 0 | | | Asphalt and baserock |
| | | | | | BROWN SILT WITH GRAVEL (ML), moist, stiff |
| 12 | ND | 5 | | | DARK BROWN LEAN CLAY (CL), dry, stiff |
| 12 | ND | 10 | | | DARK BROWN SILTY LEAN CLAY (CL), moist, stiff |
| | | | | | GREEN BLUE MOTTLED BROWN SILTY LEAN CLAY (CL), dry, very stiff |
| 20 | ND | 15 | | | |
| | | | | | DARK BROWN MOTTLED SANDY LEAN CLAY (CL), moist, medium stiff |
| 11 | ND | 20 | | | ▽ 09/28/88 |
| | | | | | LIGHT BROWN MOTTLED SANDY LEAN CLAY (CL), wet, stiff |
| 10 | ND | 25 | | | Bottom of boring at 26.5 feet |
| | | 30 | | | |
| | | 35 | | | |
| | | 40 | | | |

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**Log of Boring MW-3D**
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE **11**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| YC | 2251,078.03 | VBA | 3/89 | | |

Equipment 12" Hollow Stem Auger

Elevation _____ Date 09/29/88

| Blows/foot | Photo-Ionization Detector (ppm) | Depth (ft) | Sample | Well Screen Interval | |
|---|---|---|---|---|---|
| | | 0 | | | Asphalt and baserock |
| | | | | | DARK BROWN LEAN CLAY (CL), dry, stiff, some silt |
| 9 | ND | 5 | | | |
| | | | | | Lens of poorly sorted coarse angular gravel |
| 14 | ND | 10 | | | |
| | | | | | Lens of poorly sorted coarse angular gravel |
| 27 | ND | 15 | | | |
| | | | | | BROWN MOTTLED SILTY LEAN CLAY (CL), dry, very stiff |
| | | | | | BLUE MOTTLED SILTY LEAN CLAY (CL), moist to wet, soft, plastic |
| 8 | ND | 20 | | | ▽ 09/29/88 |
| | | | | | BLUE MOTTLED SILTY SANDY LEAN CLAY (CL), wet, stiff |
| 13 | ND | 25 | | | Bottom of boring at 26 feet |
| | | 30 | | | |
| | | 35 | | | |
| | | 40 | | | |

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**Log of Boring MW-3E**
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE **12**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| YC | 2251,078.03 | VDS | 3/89 | | |

Equipment 12" Hollow Stem Auger

Elevation _____ Date 01/20/89

| Blows/ foot | Photo-Ionization Detector (ppm) | Sample | Depth (ft) |
|---|---|---|---|
| | | | 0 |
| 10 | ND | | 5 |
| 15 | ND | | 10 |
| 18 | ND | | 15 |
| 7 | 5 | | 20 |
| 15 | 20 | | 25 |
| | | | 30 |
| | | | 35 |
| | | | 40 |

Well Screen Interval

DARK BROWN FAT CLAY (CH), moist, stiff, less than 5% sand and fine gravel

BROWN LEAN CLAY (CL), moist, stiff

MOTTLED LIGHT BROWN/GRAY SILTY LEAN CLAY (CL), moist, medium stiff

▽ 01/20/89

Bottom of boring at 27.0 feet

**Harding Lawson Associates**
Engineers and Geoscientists

**Log of Boring MW-3F**
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE **13**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| YC | 2251,078.03 | | 3/89 | | |

Equipment 12" Hollow Stem Auger

Elevation _____ Date 01/19/89

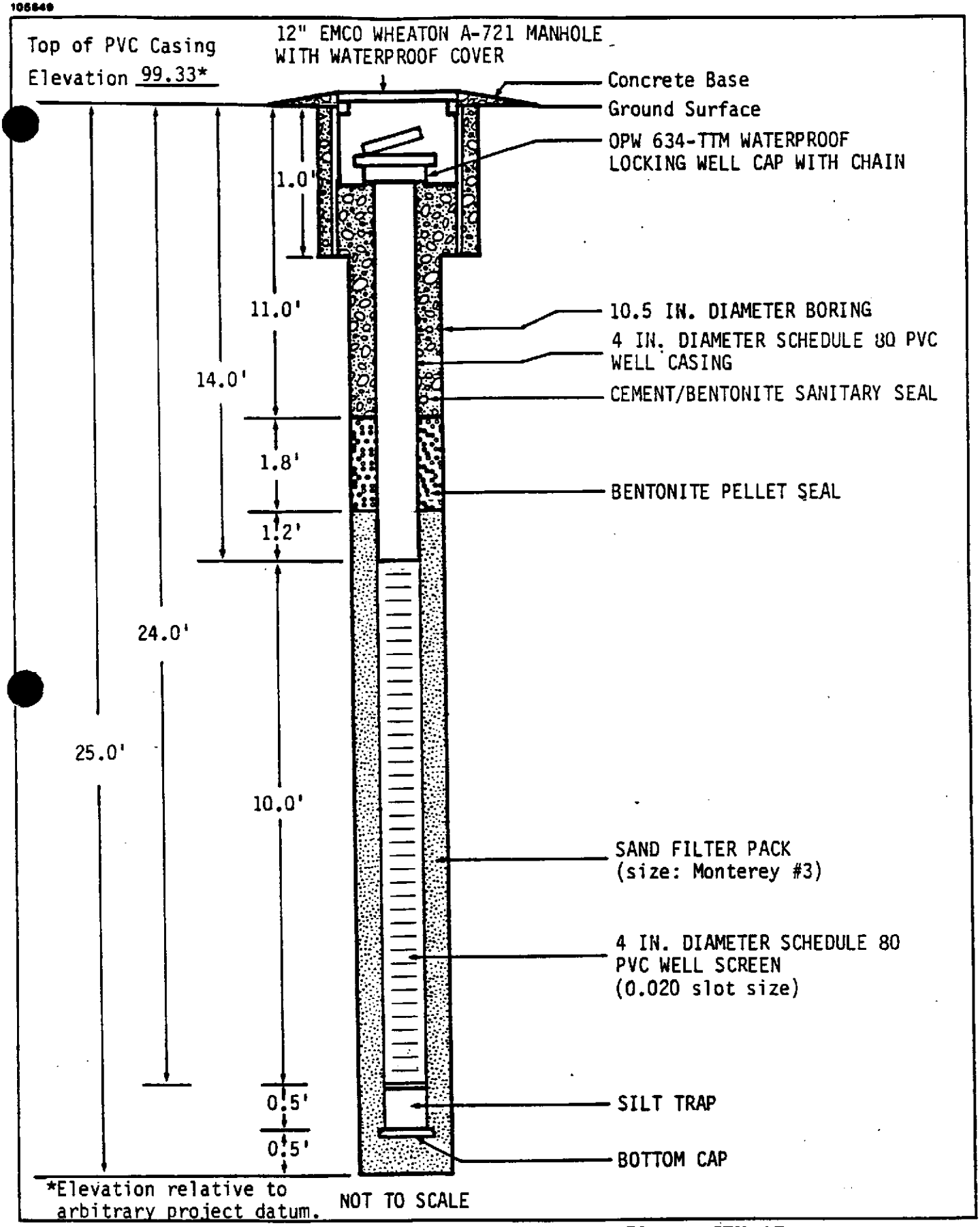
| Depth (ft) | Sample | Blows/foot | Photo-Ionization Detector (ppm) | Well Screen Interval | |
|---|---|---|---|---|---|
| 0 | | | | | Gravel fill |
| | | | | | DARK BROWN FAT CLAY (CH), moist, very stiff |
| 5 | | 22 | ND | | BROWN SILTY SAND (SM), dry to moist, medium dense, fine to medium sand with some fine gravel |
| | | | | | DARK BROWN FAT CLAY (CH), dry to moist, very stiff |
| 10 | | 24 | ND | | |
| | | | | | Less stiff |
| 15 | | 31 | ND | | |
| 20 | | 8 | ND | | BROWN SILTY LEAN CLAY (CL), moist, medium stiff |
| | | | | | ▽ 01/19/89 |
| 25 | | 16 | ND | | |
| | | | | | Bottom of boring at 28.5 feet |
| 30 | | | | | |
| 35 | | | | | |
| 40 | | | | | |

**Harding Lawson Associates**
Engineers and Geoscientists

**Log of Boring MW-3G**
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE **14**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| YC | 2251,078.03 | VDS | 3/89 | | |



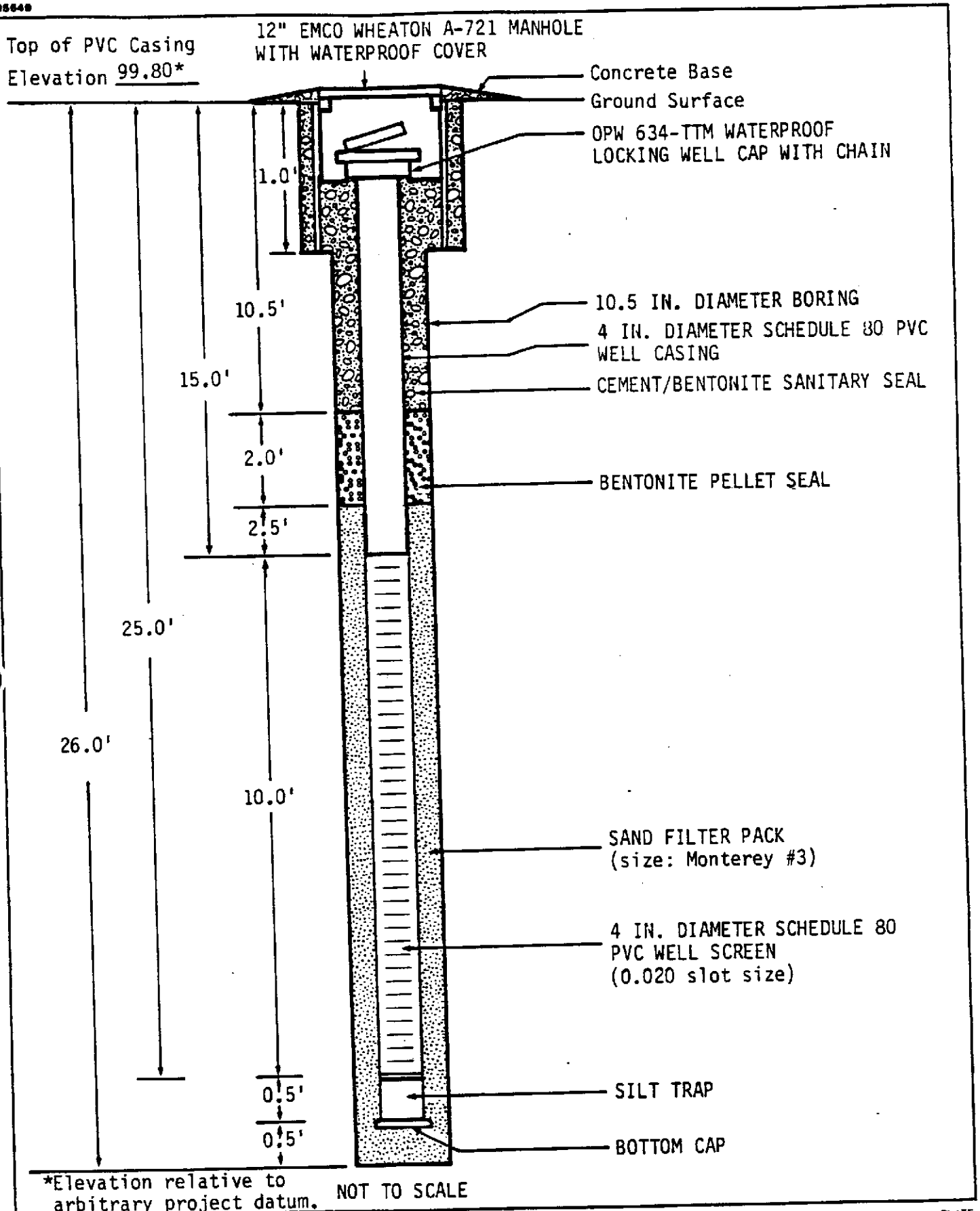

**Harding Lawson Associates**
Engineers and Geoscientists

**Well Completion Diagram MW-3D**
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE **16**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| YC | 2251,078.03 | | 3/89 | | |

105649




Harding Lawson Associates
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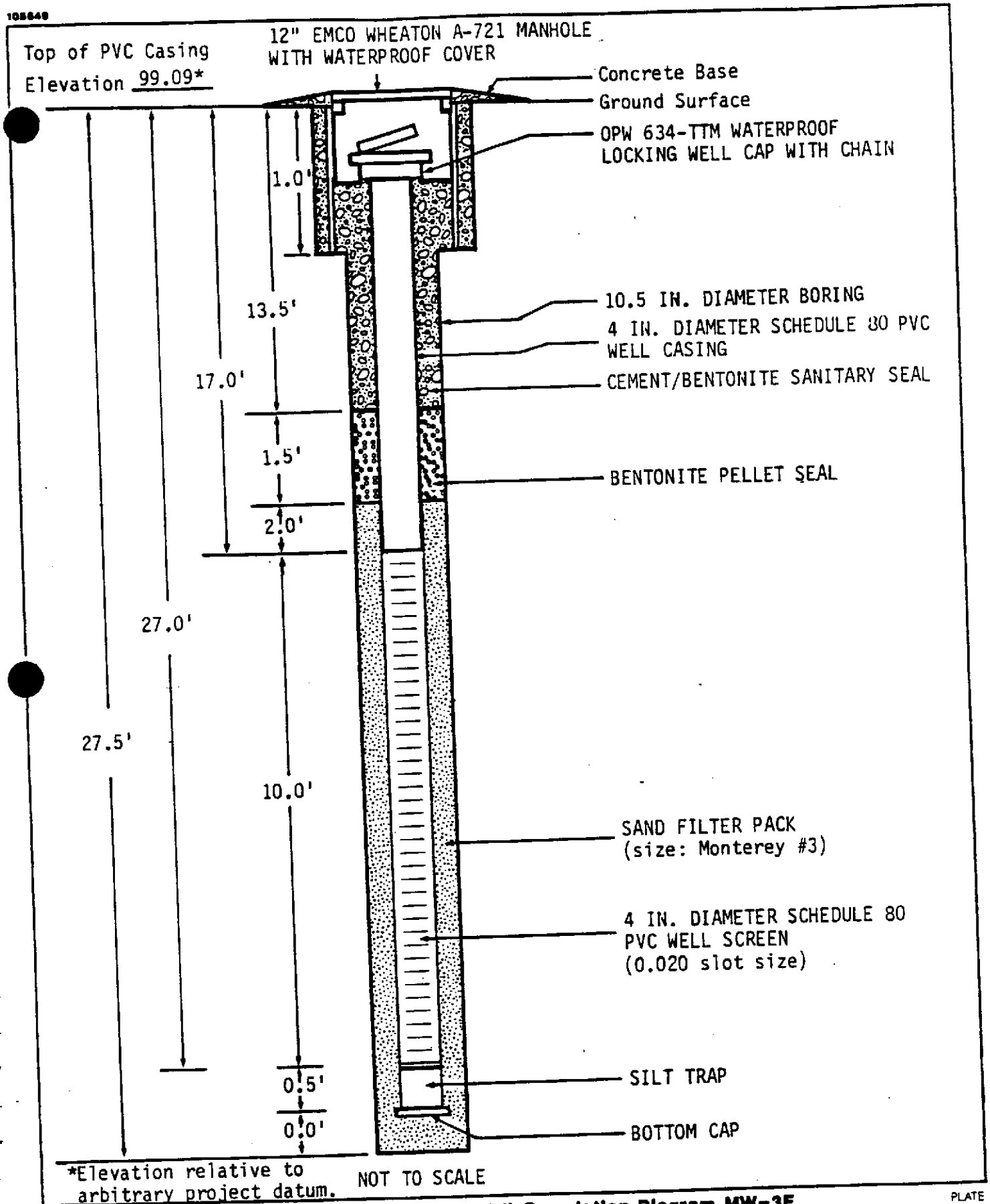
**Well Completion Diagram MW-3E**
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE
**17**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| YC | 2251,078.03 | VDA | 3/89 | | |

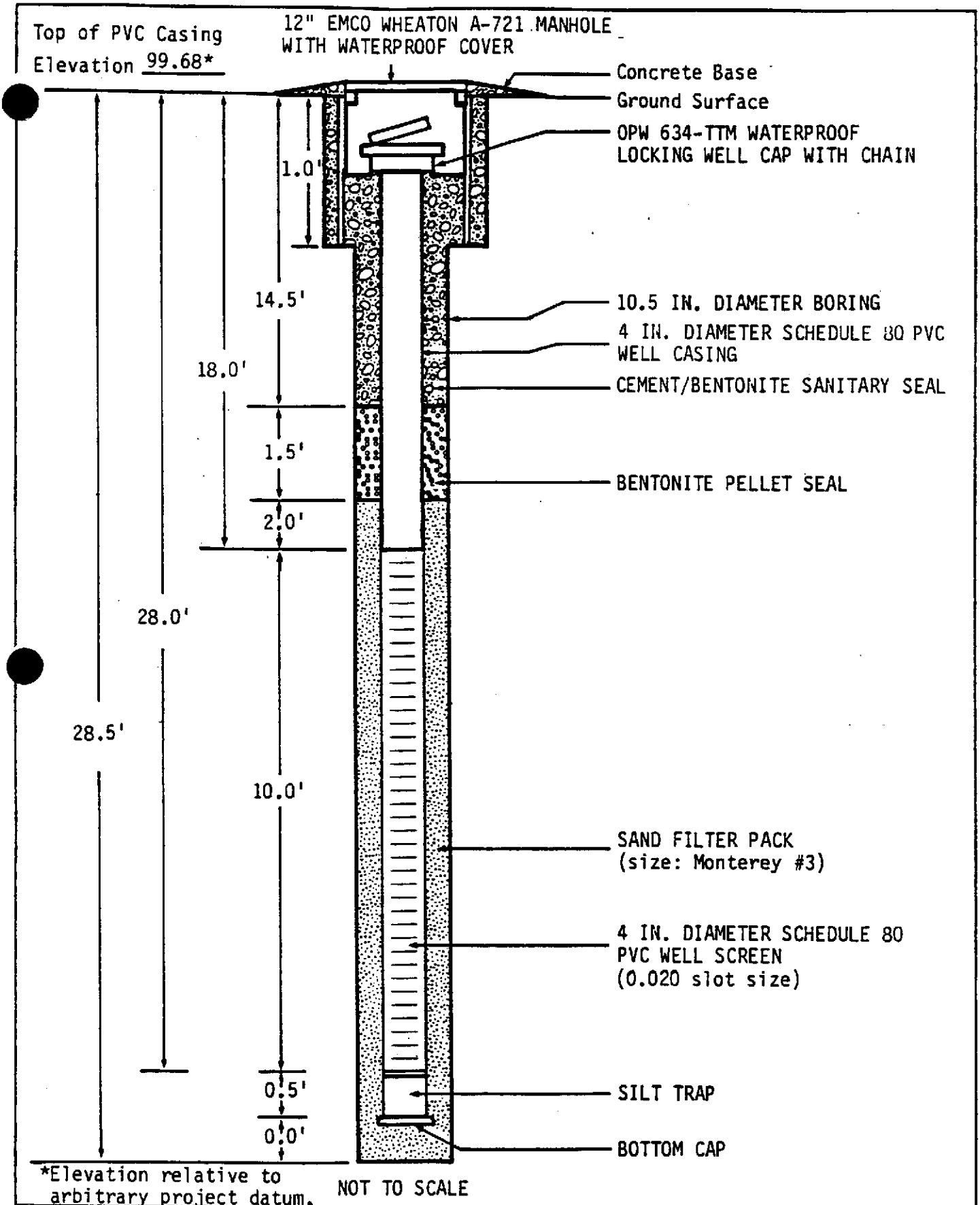



**Well Completion Diagram MW-3F**
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE **18**

Harding Lawson Associates
Engineers and Geoscientists

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| YC | 2251,078.03 | VDP | 3/89 | | |




Harding Lawson Associates
Engineers and Geoscientists

**Well Completion Diagram MW-3G**
Former Texaco Station
23990 Hesperian Boulevard
Hayward, California

PLATE **19**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| YC | 2251,078.03 | WD | 3/89 | | |

Equipment 7-inch Hollow Stem Auger

Elevation ***100 feet Date 6/14/88

| Laboratory Tests | Blows/foot ** | PID * Reading (ppm) | Depth (ft) | Sample |
|---|---|---|---|---|
| | | | 0 | |
| | | | | asphaltic concrete pavement |
| | | | | aggregate baserock |
| | | | | BROWN CLAY with sand (CL) medium stiff, moist |
| | 8 | — | 5 | |
| | 8 | 0 | 10 | |
| | | | | DARK GRAY CLAY (CL) stiff, moist, slight petroleum odor |
| | 15 | 350 | 15 | |
| | | | | DARK GREENISH GRAY CLAY (CL) soft, strong petroleum odor moist to wet |
| | 6 | 220 | 20 | |
| | | | | ▽ water level 6/21/88 |
| | | | | MOTTLED GRAY AND BROWN CLAY (CL) stiff, moist, slight petroleum odor |
| | 12 | 320 | 25 | |
| | | | | bottom of boring 25 feet |
| | | | 30 | |
| | | | 35 | |
| | | | 40 | |

*PID = photo ionization detector, Photovac TIP
ppm = parts per million

**S&H Sampler blow counts converted to SPT blow counts

*** Reference Elevations (arbitrary datum)

**Harding Lawson Associates**
Engineers, Geologists & Geophysicists

## Log of Boring MW-3A

Texaco Station - 62488000055
23990 Hesperian Boulevard
Hayward, California

PLATE 3

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| RS | 2251,049.04 | [signature] | 7/88 | | |

Equipment 7-inch Hollow stem Auger

Elevation ***99.5 feet Date 6/14/88

| Laboratory Tests | ** Blows/foot | PID * Reading (ppm) | Depth (ft) | Sample |
|---|---|---|---|---|
| | | | 0 | |
| | | | | asphaltic concrete pavement |
| | | | | aggregate baserock |
| | | | | BROWN CLAY (CL) stiff, moist |
| | 9 | 0 | 5 | |
| | 9 | 0 | 10 | |
| | | | | MOTTLED BROWN AND GRAY CLAY (CL) stiff, moist, slight petroleum odor |
| | 14 | 20 | 15 | |
| | | | | becomes wet |
| | | | | strong petroleum odor |
| | 8 | 275 | 20 | ▽ water level 6/21/88 |
| | | | 25 | bottom of boring 25 feet |
| | | | 30 | |
| | | | 35 | |
| | | | 40 | |

*PID = photo ionization detector, Photovac TIP
ppm = parts per million

**S&H Sampler blow counts converted to SPT blow counts

***Reference Elevation (arbitrary datum)

Harding Lawson Associates
Engineers, Geologists & Geophysicists

**Log of Boring MW-3B**
Texaco Station - 62488000055
23990 Hesperian Boulevard
Hayward, California

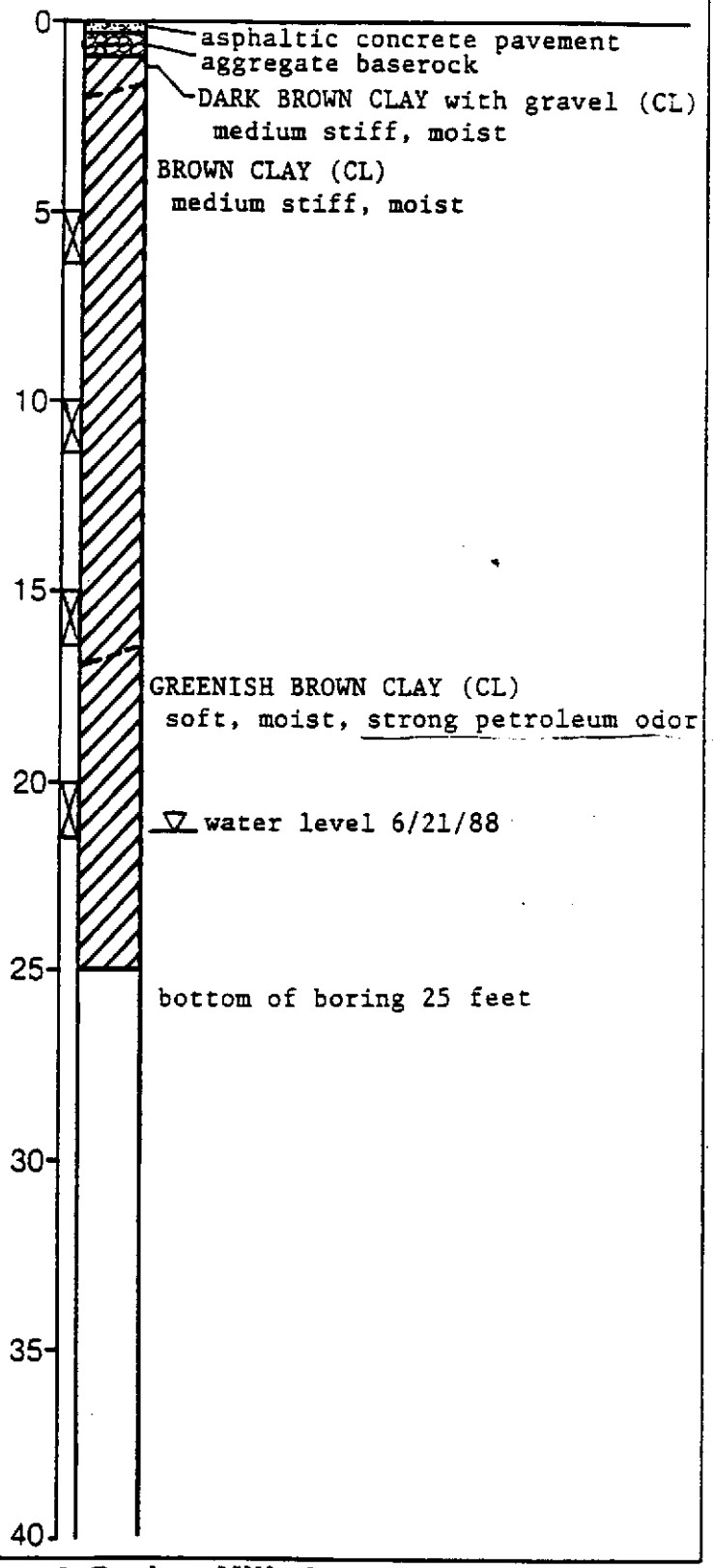
PLATE 4

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| RS | 2251.049.04 | | 7/88 | | |

Equipment 7-inch Hollow Stem Auger

Elevation ***99.7 feet Date 6/15/88

| Laboratory Tests | ** Blows/foot | * PID Reading (ppm) | Depth (ft) Sample |
|---|---|---|---|
| | | | 0 |
| | 8 | 0 | 5 |
| | 8 | 0 | 10 |
| | 8 | 0 | 15 |
| | 5 | 230 | 20 |
| | | | 25 |
| | | | 30 |
| | | | 35 |
| | | | 40 |




*PID = photo ionization detector, Photovac TIP
ppm = parts per million

**S&H Sampler blow counts converted to SPT blow counts

***Reference Elevation (arbitrary datum)

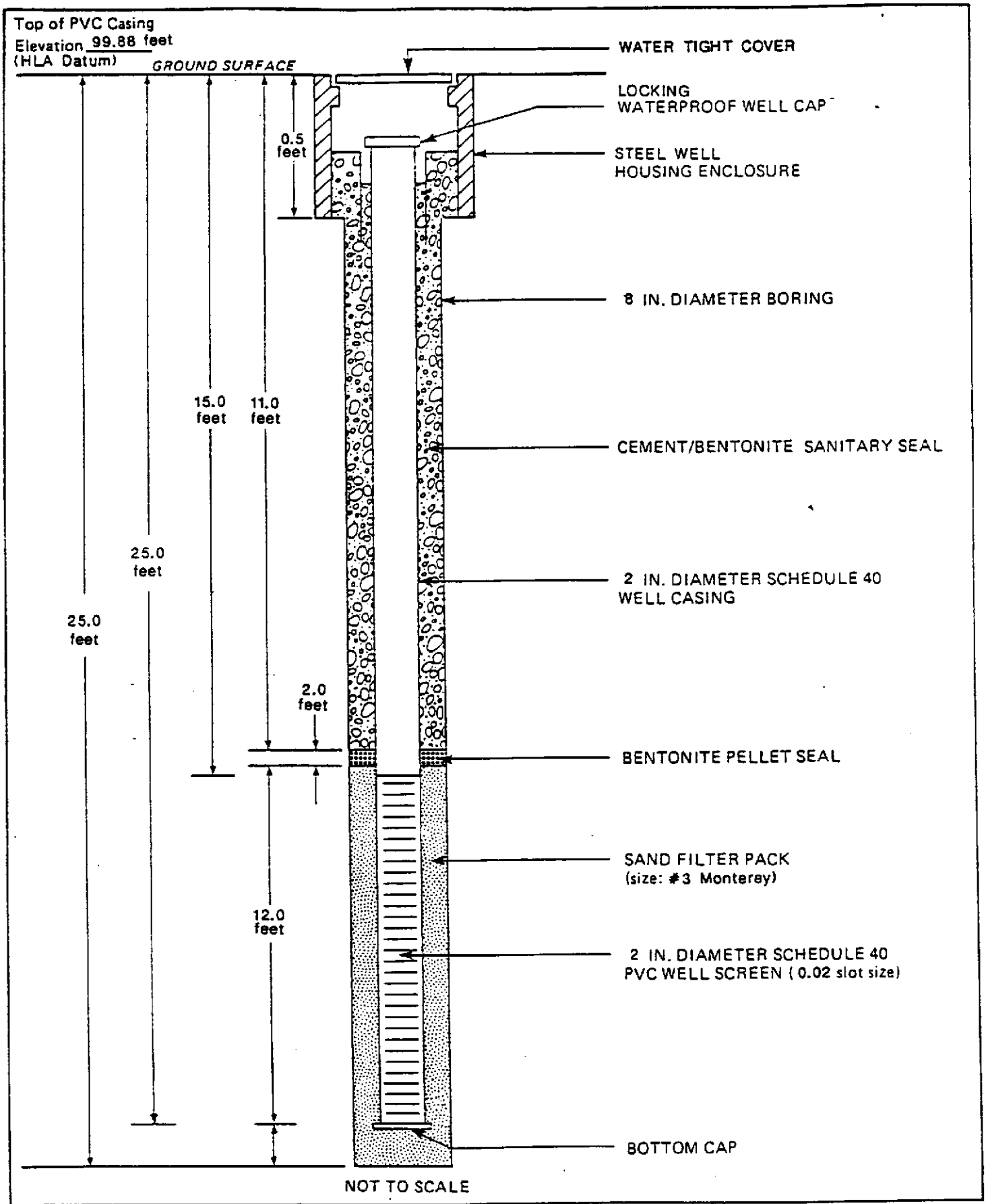
**Harding Lawson Associates**
Engineers, Geologists & Geophysicists

# Log of Boring MW-3C

Texaco Station - 62488000055
23990 Hesperian Boulevard
Hayward, California

PLATE 5

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| RS | 2251.049.04 | [illegible]O | 7/88 | | |

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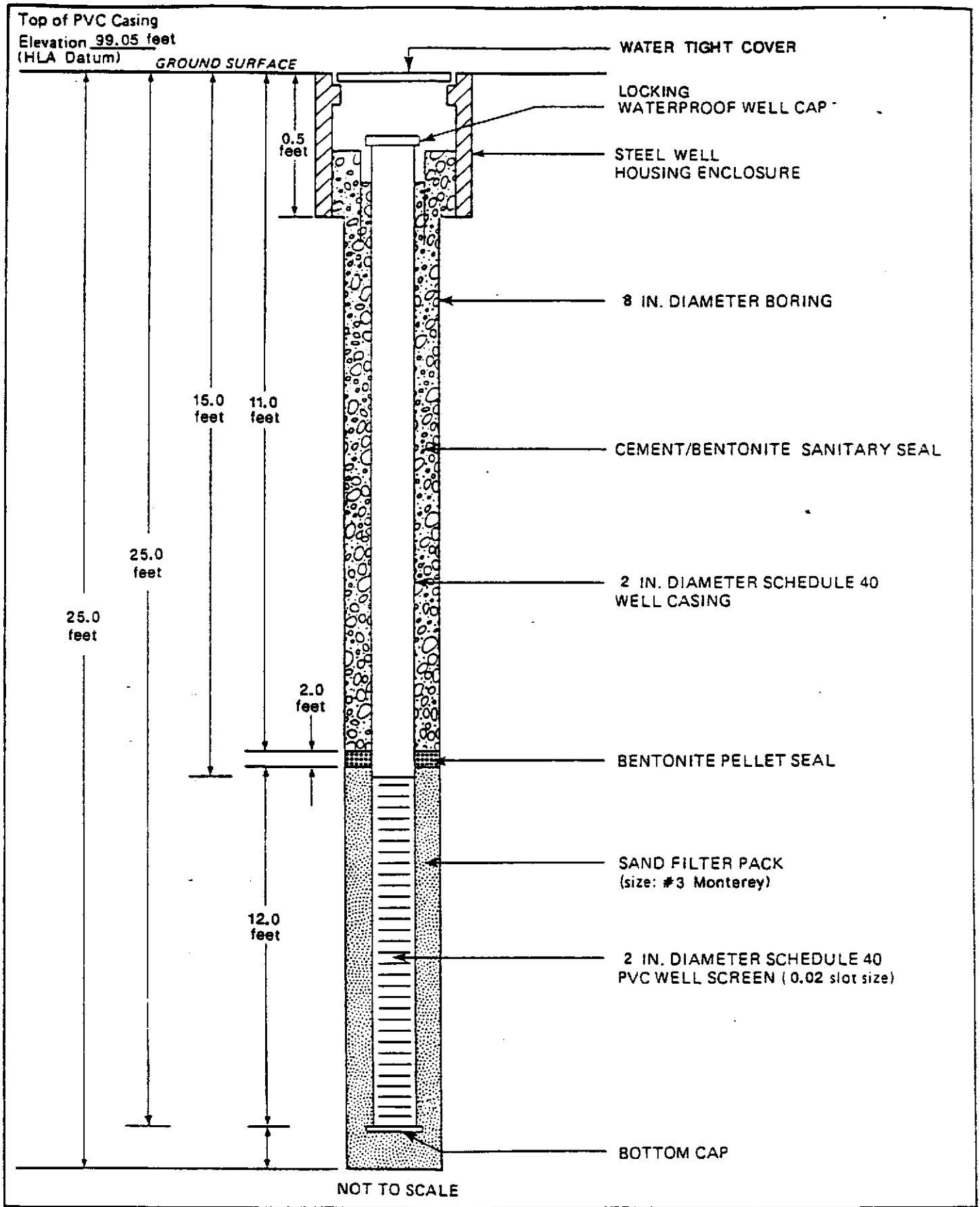
# Monitoring Well MW-3A Completion Detail

Texaco Station - 62488000055
23990 Hesperian Boulevard
Hayward, California

PLATE
**7**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| RS | 2251.049.04 | AO | 7/88 | | |

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& Geophysicists

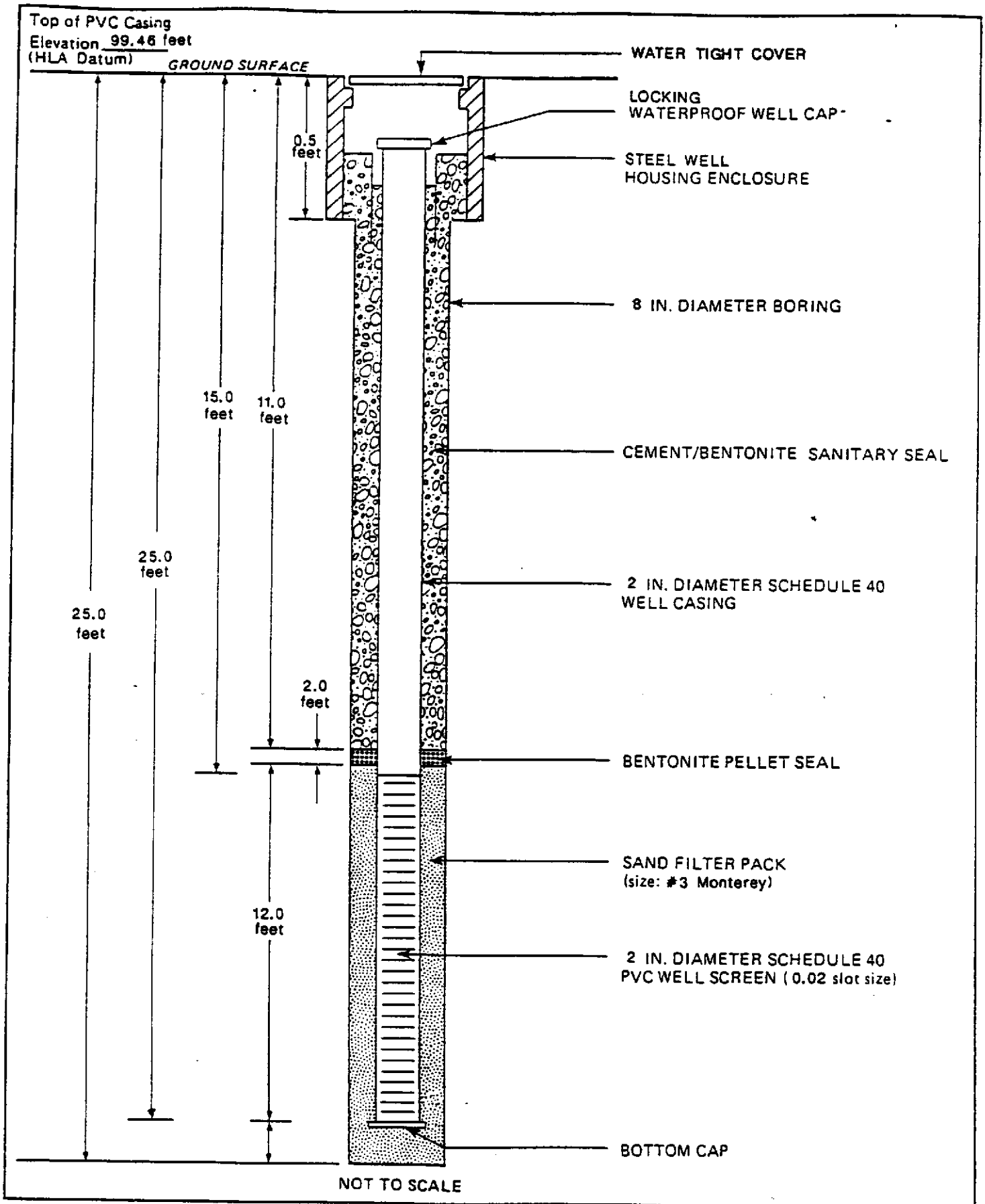
# Monitoring Well MW-3B Completion Detail

Texaco Station - 62488000055
23990 Hesperian Boulevard
Hayward, California

PLATE
8

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| RS | 2251,049.04 | JO | 7/88 | | |

FORM GW3

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# Monitoring Well MW-3C Completion Detail

Texaco Station - 62488000055
23990 Hesperian Boulevard
Hayward, California

PLATE **9**

| DRAWN | JOB NUMBER | APPROVED | DATE | REVISED | DATE |
|---|---|---|---|---|---|
| RS | 2251.049.04 | 40 | 7/88 | | |

FORM GW3

C. Water Quality Results

Using procedures described in Section IV, ground-water samples were collected on two occasions. Results of chemical analyses of water samples, summarized in Table 3, indicate that the greatest petroleum hydrocarbon concentrations are dissolved in water from MW-3B and MW-3C, both of which are downgradient of the underground fuel tanks and pump islands. Small dissolved hydrocarbon concentrations were found in water from MW-3A, very near the eastern pump island. Small dissolved hydrocarbon concentrations were also found in water from off-site well MW-3F. Water from off-site well MW-3G and on-site wells MW-3D and MW-3E had no detectable hydrocarbon content.

Table 3. Results of Ground-Water Analyses
(Concentrations are in micrograms per liter (ug/l))

| | Benzene | Toluene | Ethylbenzene | Xylenes |
|---|---|---|---|---|
| MW-3A | | | | |
| 10/19/88 | ND | ND | ND | 2 |
| 02/02/89 | 8 | ND | 9 | 11 |
| MW-3B | | | | |
| 10/19/88 | 11000 | 3500 | 3000 | 5600 |
| 02/02/89 | 9000 | 2400 | 1800 | 8400 |
| MW-3C | | | | |
| 10/19/88 | 2700 | 49 | ND | 2200 |
| 02/02/89 | 2100 | 65 | 660 | 1400 |
| MW-3D | | | | |
| 10/13/88 | ND | ND | ND | ND |
| 02/02/89 | ND | ND | ND | ND |
| MW-3E | | | | |
| 10/19/88 | ND | ND | ND | ND |
| 02/02/89 | ND | ND | ND | ND |
| MW-3F | | | | |
| 02/02/89 | ND | 4 | 3 | 3 |
| MW-3G | | | | |
| 02/02/89 | ND | ND | ND | ND |
| Reporting Limits | 0.5 | 1 | 2 | 1 |

D. Possible Sources and Migration of Hydrocarbons

The petroleum hydrocarbons found in soil from 15 to 20 feet below the surface were likely emplaced by the seasonal fluctuation of the top of the saturated zone and by capillary rise from the water table. (The ground water in the shallow saturated zone has been found to contain dissolved petroleum hydrocarbons, and the water table was about 21 feet below the surface when last

measured.) The presence of petroleum hydrocarbons in soil between 15- and 20-foot depth in boring B-3 may be related to release or overfilling of fuel from underground tanks in the past.

The petroleum hydrocarbons found in the shallow soil at the eastern end of the eastern pump island (in B-2) may have resulted from surface spillage and leakage through a cold joint between asphalt and concrete. The very small concentrations of hydrocarbons in soil sampled from B-4 through B-6 indicates that the extent of hydrocarbons in shallow soil near B-2 is very limited.

Results of analyses on ground-water samples indicate that there has been at least one on-site source of fuel hydrocarbons. This source could have been leakage from the old product lines or tanks, or it could have resulted from periodic overfilling of the old tanks. The old tanks and product lines were removed and replaced with double-wall tanks and double-contained product lines in November 1985. The new tanks and lines were found to be "tight" prior to property transfer in October 1988 and are not likely sources of fuel hydrocarbons found in the ground water. The lack of free product, together with the relatively small BTEX concentrations detected in the ground water, provide no evidence of active leaks at this site; fuel constituents detected in the soil and ground water at this site were probably introduced into the subsurface materials in the past.

Because water from upgradient well MW-3D and crossgradient well MW-3E contained no detectable hydrocarbons, an off-site

source does not seem likely. The presence of small concentrations of hydrocarbons in water from MW-3F may indicate that hydrocarbons have migrated that far from the former Texaco site. The small concentrations of hydrocarbons in ground water from MW-3F indicates that dissolved hydrocarbons may not have migrated much further downgradient.

# VII SUMMARY OF FINDINGS

Salient conclusions and observations are summarized as follows:

1. The shallow subsurface soils consist predominantly of clayey soils to a depth of 25 feet. The water-table surface is approximately 20 to 22 feet below the ground surface.

2. Ground-water flow direction is between 60° and 80° west of north. The gradient is calculated to be approximately 0.002 feet per foot.

3. BTEX and TPH were detected in some very shallow subsurface soils (less than 10-foot depth) adjacent to the eastern pump islands. The pattern of detectable concentrations of TPH in very shallow vadose zone soils suggests that contaminated soil may be localized in a pocket around B-2 and may also be of relatively limited depth.

4. The greatest petroleum hydrocarbon concentrations are dissolved in water from MW-3B and MW-3C, both of which are downgradient of the underground fuel tanks and pump islands. The source of these hydrocarbons could have been leakage from the old product lines or tanks (replaced in November 1985), or it could have resulted from periodic overfilling of the old tanks.

5. Results of analyses on the water sample collected in February from MW-3F suggest that BTEX dissolved in ground water may have migrated to that location from the former Texaco site. Water samples from MW-3G (approximately 100 feet north of MW-3F) did not contain BTEX levels above analytical detection limits. Water samples from MW-3D and MW-3E, which are upgradient or cross gradient of hydrocarbon sources on the former Texaco site, had no detectable levels of BTEX. Thus, an off-site source does not seem likely.

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# I INTRODUCTION

On behalf of Texaco Refining and Marketing Inc. Harding Lawson Associates (HLA) has performed an environmental assessment at a former Texaco service station (No. 62488000055) located at 23990 Hesperian Boulevard in Hayward, California (Plate 1). The station is now an operating Exxon service station. The purpose of this study was to evaluate the extent of suspected impacts by gasoline hydrocarbons on subsurface soils and shallow ground water at the site.

Structures at the service station include a building, three fuel pump islands, one underground waste oil storage tank (approximately 750 gallons), and four underground fuel storage tanks, with capacities of 10,000 gallons, 8,000 gallons, and two of 12,000 gallons. The station provides leaded and unleaded gasoline, diesel fuel, and automotive repair services. Old tanks and product lines were removed and double wall tanks and double contained product lines were installed in November, 1985.

## II PREVIOUS INVESTIGATION

In May 1988, Texaco Refining and Marketing Inc. retained HLA to conduct a Sensitive Receptor Survey (SRS) for the Texaco station at 23990 Hesperian Boulevard. The purpose of the survey was to obtain the following site-specific information:

- Proximity of wells for:
  - public water supply
  - private water supply
  - observation or monitoring
- Proximity of subways, basements, and schools
- Proximity of surface-water bodies
- Types of local water supply
- Local aquifer classification
- Site and area maps

The results of the SRS are summarized on a fact sheet included in Appendix A. The Hayward Water Company supplies drinking water to the residences and businesses in the area of the site. All water used by the Hayward Water Company is obtained from the San Francisco Water Company and comes from the Hetch Hetchy Reservoir. No registered water supply wells are located within 1/4-mile of the site. The nearest surface water body is more than 500 feet away. The regional ground-water flow direction is to the west, toward San Francisco Bay.

In June 1988, Texaco Refining and Marketing Inc. requested that HLA proceed with a limited subsurface investigation to

evaluate whether petroleum hydrocarbons had affected the shallow soil or ground water. Our investigation included the following tasks:

1. Drill, develop, and sample three 2-inch-diameter, shallow ground-water monitoring wells (MW-3A, MW-3B, and MW-3C), see Plates 2 and 4

2. Survey wells and gauge water levels

3. Determine the direction of ground-water flow

4. Analyze one ground-water sample from each monitoring well for benzene, toluene, ethylbenzene, and xylenes (BTEX).

The results of this investigation (documented in a report issued to Texaco on July 20, 1988) indicated that the ground water contained concentrations of petroleum hydrocarbons. A ground-water sample from MW-3A contained 13,000 parts per billion (ppb) benzene, 7,300 ppb toluene, 9,400 ppb ethylbenzene, and 31,000 ppb xylenes. A ground-water sample from MW-3B contained much lower concentrations of BTEX and a sample from MW-3C contained only detectable xylenes (26 ppb). Soil boring logs and well completion details are included in Appendix A.

## III LOCATION AND TOPOGRAPHY

The former Texaco service station is on the northeast corner of the intersection of Winton Avenue and Hesperian Boulevard. As shown on Plate 2 the surrounding area consists predominantly of commercial/retail businesses. An aerial photograph of the area is shown in Plate 3. There are several multi-unit residential buildings within 500 feet of the site.

The site and its immediate surroundings are on a relatively flat, broad plain opening toward San Francisco Bay to the southwest (United States Geological Survey, Hayward Quadrangle, Robinson, 1956). The strata beneath this bay plain are alluvial deposits, several hundred feet in thickness. The deposits are composed of irregularly stratified, poorly consolidated clay, silt, sand and gravel. Ground elevation at the site is approximately 50 feet above mean sea level (MSL).

# IV FIELD INVESTIGATION

To further investigate the presence of petroleum hydrocarbons in soil and ground water at and adjacent to the site, HLA performed a second subsurface investigation, as described below.

## A. Soil Sampling

HLA explored subsurface conditions at the site by drilling and sampling five borings on September 28 and 29, 1988 and another five on January 19 and 20, 1989. The first soil samples were collected from on-site locations near the underground storage tanks and the pump islands. The remaining five borings were installed in other zones of suspected soil or ground-water contamination. Four of the latter borings were converted to monitoring wells (MW-3D, 3E, 3F, and 3G); boring and well locations are shown on Plate 2. The other six borings are numbered B-1 through B-6. Boring locations are shown on Plate 4, Site Plan; logs are presented on Plates 5 through 14.

The borings were advanced using truck-mounted, 8-inch-diameter, hollow-stem auger drilling equipment and sampled using a 2.5-inch inside diameter (I.D.), Sprague and Henwood (S&H), split-barrel sampler lined with three 6-inch-long brass or stainless steel tubes. Drilling was performed under the direction of an HLA field geologist, who logged the borings in accordance with the Unified Soil Classification System (USCS) presented on Plate 15. Soil samples were screened in the field with a photoionization detector (PID). PID readings indicate the

presence of volatile organic compounds (VOCs) in the soil samples and are shown on the logs.

All drill cuttings were placed in Department of Transportation (DOT) approved 55-gallon drums. Sampling equipment was washed with a trisodium phosphate solution and rinsed with clean water between sampling intervals. All down-hole drilling equipment was cleaned using a high-pressure, hot-water wash (steam cleaned) before and after drilling each boring.

B. Monitoring Well Construction

Monitoring wells were constructed under permit from the Alameda County Flood Control and Water Conservation District. All four wells were constructed with steam-cleaned, four-inch-diameter, Schedule 80, flush-threaded PVC casing and screen (see Well Construction Details, Plates 16 through 19). In each well the annular space between the screened casing and the borehole wall was filled with No. 3 Monterey sand to approximately two feet above the top of the screened casing. A bentonite seal was placed above the sand pack, and the remainder of the annulus was filled with cement/bentonite grout to just below the ground surface. The top of the well was placed slightly below the ground surface. Each well was equipped with a locking, water-tight cap (OPW 634-TTM) to minimize intrusion of surface water. Over the well, a water-tight traffic rated box (EMCO Wheaton A-721) was installed, extending slightly above the surrounding grade.

C. Water Quality Sampling

On October 13, 1988, the recently installed well, MW-3D, was developed, sampled, and surveyed by an HLA technician. All other on-site wells (MW-3A, MW-3B, and MW-3C) were sampled on October 19, 1988, along with the second new well, MW-3E. Before sampling, a clear lucite bailer was lowered into each well to check for free product. The wells were developed by purging and bailing with a PVC bailer; at least seven well volumes were removed from each well. After development, HLA purged three additional well volumes while monitoring temperature, pH, and conductivity, and then sampled the ground water. Purged water was placed in drums for disposal, as requested by Texaco Refining and Marketing Inc.

Ground-water samples were collected from each well with a clean, stainless steel bailer, and a portion of the water in the bailer was decanted into laboratory-prepared, 40-milliliter volatile organic analysis (VOA) vials and one-liter amber bottles. The vials and bottles were immediately sealed, labeled, and placed in a cooler with ice for delivery to ChemWest Analytical Laboratories, Inc., a state-certified laboratory in Sacramento, California. All sampling equipment was washed with a trisodium phosphate solution and rinsed in clean water and distilled water between wells.

Appropriate quality assurance and quality control (QA/QC) measures were employed during the field investigation. HLA maintains an internal QA/QC program that includes provisions for

avoiding cross-contamination during site investigation and procedures for decontamination, sample handling and preservation, and chain-of-custody.

# V SUBSURFACE CONDITIONS

## A. Geologic Profile

As shown on Plates 5 through 14, samples collected down to 26 feet indicate that subsurface materials generally consist of medium stiff to stiff clay with varying amounts of silt and sand. Some sand lenses interrupt the clay profile. Water was initially encountered at approximately 21 feet below the ground surface.

## B. Presence of Hydrocarbon Vapors

Hydrocarbon vapors were detected in soil from Borings B-1, B-2, B-3, and MW-3F. Three soil samples from each soil boring and one soil sample from each well were submitted for chemical testing. Results of analyses are discussed in Section VII of this report.

## C. Ground-Water Flow Pattern

The tops of well casings were surveyed with reference to a temporary project datum established by a benchmark on the south end of the dispenser island nearest Hesperian Boulevard with an assumed elevation of 100.0 feet (HLA datum, see Plate 4). Water-level measurements were conducted using a steel tape accurate to 0.01 feet. Water-level measurement and survey data are presented in Table 1. Measurements of October 6, 1988, and February 2, 1989, indicate that the direction of ground-water flow, as inferred from the calculated direction of the hydraulic gradient, is west-northwest (60° to 80° west of north) with a gradient of approximately 0.002 feet per foot (see Plates 2 and 4).

Table 1. Ground-Water Level Measurement and Survey Data

| Well Number | Top-of-Casing Elevation* (feet) | Depth to Ground Water** (feet) | Ground-Water Surface Elevation+ (feet) |
|---|---|---|---|
| MW-3A | 99.88 | 21.90 | 77.98 |
| MW-3B | 99.05 | 21.22 | 77.83 |
| MW-3C | 99.46 | 21.72 | 77.74 |
| MW-3D | 99.33 | 21.26 | 78.07 |
| MW-3E | 99.80 | 21.88 | 77.92 |
| MW-3F | 99.09 | 21.66 | 77.43 |
| MW-3G | 99.68 | 22.25 | 77.43 |

Notes:

* Elevation relative to HLA temporary benchmark on the south end of the dispenser island nearest Hesperian Boulevard.

** Depth to ground water on February 2, 1989.

\+ Ground-water surface elevation = top of casing elevation - depth to water.

# VI DISCUSSION OF CHEMICAL TEST RESULTS

## A. Chemical Test Methods

Soil samples collected from each boring were analyzed for the following constituents:

- BTEX (EPA Test Method 8020)
- Total petroleum hydrocarbons (TPH) as gasoline and diesel fuel (DHS Method - LUFT Field Manual).

Ground-water samples collected from each well after development and purging were analyzed for the following constituents:

- BTEX (EPA Test Method 602)

Laboratory reports are presented in Appendices B and C.

## B. Results of Soil Sampling

Results of chemical analyses on soil samples are presented in Table 2. Petroleum hydrocarbons were found in soil at 15- or 20-foot depths (or both) in B-1, B-2, and B-3. These borings are fairly widely spaced over the site. Petroleum hydrocarbons were found at depths less than 10 feet only in B-2, B-4, B-5, and B-6 near the eastern pump island. The sample at 5 feet in B-2 contained 110 milligrams per kilogram (mg/kg) of TPH as gasoline. Samples from depths of less than 10 feet in B-4 through B-6 contained only very small concentrations of toluene.

Table 2. Results of Soil Analyses
(Concentrations are in milligrams per kilogram (mg/kg))

| Sample Number | Depth (feet) | Benzene | Toluene | Ethyl-benzene | Xylenes | TPH as Gasoline | TPH as Diesel Fuel |
|---|---|---|---|---|---|---|---|
| B-1 | 5.5- 6.0 | ND | ND | ND | ND | ND | ND |
| B-1 | 10.0-10.5 | ND | ND | ND | ND | ND | ND |
| B-1 | 15.0-15.5 | ND | ND | ND | 0.3 | 34 | ND |
| B-1 | 20.0-20.5 | 0.51 | 1.3 | 1.8 | 4.7 | 110 | ND |
| B-2 | 5.0- 5.5 | ND | ND | ND | ND | 110 | ND |
| B-2 | 10.0-10.5 | ND | ND | ND | ND | ND | ND |
| B-2 | 15.0-15.5 | ND | ND | ND | ND | ND | ND |
| B-2 | 20.0-20.5 | 0.10 | ND | ND | 0.4 | 39 | ND |
| B-3 | 5.0- 5.5 | ND | ND | ND | ND | ND | ND |
| B-3 | 10.0-10.5 | ND | ND | ND | ND | ND | ND |
| B-3 | 15.0-15.5 | 0.06 | ND | ND | 0.3 | 140 | ND |
| B-3 | 20.0-20.5 | 0.53 | 0.6 | 2.1 | 9.5 | 190 | 110 |
| B-4A | 5.0 | ND | ND | ND | ND | ND | ND |
| B-4B | 9.5 | ND | 0.1 | ND | ND | ND | ND |
| B-5A | 4.6 | ND | 0.2 | ND | ND | ND | ND* |
| B-5B | 9.2 | ND | ND | ND | ND | ND | ND |
| B-6A | 4.8 | ND | 0.2 | ND | ND | ND | ND |
| B-6B | 9.5 | ND | ND | ND | ND | ND | ND |
| MW-3D | 15.5-16.0 | ND | ND | ND | ND | ND | ND |
| MW-3D | 20.5-21.0 | ND | ND | ND | ND | ND | ND |
| MW-3E | 15.5-16.0 | ND | ND | ND | ND | ND | ND |
| MW-3E | 20.5-21.0 | ND | ND | ND | ND | ND | ND |
| MW-3E | 25.5-26.0 | ND | ND | ND | ND | ND | ND |
| MW-3F | 16.0 | ND | ND | ND | ND | ND | ND |
| MW-3G | 16.0 | ND | ND | ND | ND | ND | ND |

* An unknown hydrocarbon mixture near the range of diesel fuel was identified in this sample.