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Geotechnical and Water Resources Engineering

Phase IIa Hydrogeologic Investigation

Jasco Chemical Corporation

Mountain View, California

AR0105

0000123

Phase IIa Hydrogeologic Investigation

Jasco Chemical Corporation

Mountain View, California

AR0105

Prepared for:

BRONSON, BRONSON, AND MCKINNON

March 1988

WAHLER ASSOCIATES

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Project JCO-104H

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March 30, 1988

Mr. Roger B. James
California Regional Water Quality Control Board
1111 Jackson Street, Room 6040
Oakland, California 94007

Re: Jasco Chemical Corporation, 2189.8210 (CEC)

Dear Mr. James:

(date on report: March 1988)

Enclosed is our Phase IIa Hydrogeologic Investigation performed at and in the vicinity of the JASCO site.

Should you have any questions concerning this report, please do not hesitate to contact me at your earliest convenience.

Sincerely,

James L. Jaffe

JLJ/ls
Enclosure

Wahler Associates

Geotechnical and Water Resources Engineering

0000123

March 31, 1988
Project JCO-104H

Mr. James L. Jaffe
Bronson, Bronson and McKinnon
Bank of America Center
555 California Street
San Francisco, CA 94104

Dear James,

Enclosed is a copy of our report describing the results of the Phase IIa Hydrogeologic Investigation performed at and in the vicinity of Jasco Chemical Corporation in Mountain View, California. Please do not hesitate to call if you have any questions regarding the topics discussed in this report.

Sincerely,

WAHLER ASSOCIATES

Robert G. Breynaert
Project Manager

F. Homayounfar
Department Head,
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RGB:FH:i

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PHASE IIa HYDROGEOLOGIC INVESTIGATION
JASCO CHEMICAL CORPORATION
MOUNTAIN VIEW, CALIFORNIA

A. INTRODUCTION

1. Purpose

This Phase IIa hydrogeologic investigation report has been prepared to satisfy the requirements of California Regional Water Quality Control Board (CRWQCB) Clean-up and Abatement Order (CAO) No. 87-094 submitted to Jasco Chemical Corporation on August 3, 1987. The objectives of this investigation were: (1) to locate the northern boundary of chemicals within the A-aquifer in the vicinity of the Jasco facility; (2) to better define the A-aquifer ground water gradient; (3) to better assess the stratigraphy and hydrogeologic conditions north of the Jasco site; (4) to determine if diesel fuel and related hydrocarbons are present in the soil and ground water adjacent to the diesel tank excavation at the Jasco site; and (5) to destroy monitoring well V-2. This report presents the methods used during the well construction, destruction, sampling, and development, an interpretation of the stratigraphy encountered during drilling, a map of the A-aquifer potentiometric surface, the chemical testing results, and conclusions based on these data. In addition, a section is included on work to be performed in the future.

This report is organized into six sections: (A) An introductory section (B) the well construction, destruction, development, and sampling procedures, (C) presentation of the results and interpretation of the site hydrogeology, (D) a discussion of work to be performed in the future, (E) a conclusions section, and (F) a statement of limitations.

2. Scope of Work Performed

As part of the Phase IIa program, three A-aquifer monitoring wells, V-8, V-9, and V-10, were installed. The well construction information for the

wells is contained in Table 1. During the same time period that V-8, V-9, and 10 were installed, monitoring well V-2 was destroyed. In addition to the well installation, water-level measurements were taken from the newly installed wells (Table 2). After ground water elevations were calculated from the water level data (Table 3), a map was prepared showing both the ground water gradient and direction of ground water flow for the A-aquifer (Figure 9).

Ground water samples were obtained from monitoring wells V-8, 9, and 10 on March 8-9, 1988 and March 22, 1988. The chemical testing program for V-8, V-9, and V-10 was designed to include those chemicals that are at present, or were in the past, stored at the Jasco facility. During the first round of testing, ground water samples from the newly installed wells were analyzed for: purgeables using EPA Method 624 including an open scan for non-priority compounds, phenols using EPA Method 604, total hydrocarbons as paint thinner, alcohols/acetone and turbidity. In addition, ground water from V-10 was analyzed for total petroleum hydrocarbons as diesel. The samples collected on March 22, 1988 were analyzed for purgeable halocarbons using EPA Method 8010 plus analysis for the EPA non-priority compounds MEK and acetone and xylenes. Turbidity measurements were also taken. A ground water sample from V-10 was also analyzed for total petroleum hydrocarbons as diesel including benzene, toluene and xylenes. Soil samples obtained during the construction of V-10 were analyzed for total petroleum hydrocarbon content as diesel and for aromatic volatile organics using EPA Method 8020.

B. WELL CONSTRUCTION, DESTRUCTION, DEVELOPMENT, AND SAMPLING PROGRAM

1. Well Construction Methods

The main objective in installing monitoring wells V-8 and V-9 was to define the northern extent of chemicals within the A-aquifer. Well V-10 was installed to determine if diesel fuel was present in the soil and ground water adjacent to the diesel tank excavation, located approximately 40 feet up-gradient of V-10.

Wells V-8 and V-9 were installed using an Acker Soil Max drill rig. An Acker rig was chosen because of its ability to drill to at least 50 feet without extending the drilling tower. Drilling with the tower down was necessary due to overhead powerlines being located directly above the drilling locations. The locations of V-8 and V-9 are shown on Figure 2. Well V-10 was also to be installed using the Acker rig. When the rig was brought to the drilling location originally proposed, a field decision was made not to drill at the original location. This decision was made because of overhead powerlines being located closer than 10 feet to the drill rig. Federal OSHA regulations state that drilling cannot be performed closer than 10 feet to overhead powerlines. A CME-75 drill rig was brought on-site seven days later. The new drilling location which was chosen is approximately 40 feet down-gradient of the diesel tank excavation, approximately 11 feet east of the overhead powerlines (Figure 2). Soil samples were taken at five-foot intervals during the boring advancement using a California Modified (Calmod) sampler equipped with 2.5-inch outside diameter brass liners. In addition to the soil samples taken at five-foot intervals, a soil sample was taken at eight feet within V-10, the depth of the diesel tank excavation, as well as at five and ten feet. A 140-pound hammer falling thirty inches was used to drive the sampler during construction of V-10. During the construction of V-8 and V-9, the hydraulics system of the drill rig was used to push the Calmod sampler. After a sample was taken, the soil sample was removed from the brass liners for examination. The information from the soil samples was used to log the soil borings. In the case of well V-10, one soil sample from each of the following depths: 8, 11, 16, 21, 26, and 31 feet, was capped with aluminum foil and a plastic cap, sealed with adhesive tape, then placed in a chilled cooler for delivery to Sequoia Laboratories of Redwood City, California. The soil borings were logged in the field by a Wahler Associates' geologist under the supervision of a State of California certified engineering geologist or registered civil engineer. The stratigraphy encountered during drilling is summarized in the boring logs located in Appendix A as well as in Figures 7 and 8.

After termination of the borings, a bentonite seal was placed from the bottom of the boring to the base of the A-aquifer. The monitoring wells were completed using two-inch diameter, Schedule 40, flush-threaded PVC casing with 0.020-inch factory-made slots. A number three sand pack was tremied into position around the slotted portion of the casing. A one to two-foot bentonite seal was placed above the sand pack. After the bentonite pellets were hydrated and had formed a reliable seal, a sanitary seal consisting of cement grout and three to five percent powdered bentonite was tremied into place under the supervision of a Santa Clara Valley Water District (SCVWD) well inspector. While the cement was still moist, an above-ground, steel, locking well cover, in the case of V-8 and V-9, and a Christy box in the case of V-10 was installed over the PVC well casing. Table 1 contains the well construction information for wells V-8, V-9, and V-10.

After installation, the top of the protective casing/Christy box and the ground surface at each well location were surveyed by Kier and Wright, Inc. of Santa Clara, California. The top of the protective casing (cover open) was used as the reference elevation in the calculation of ground water elevation data for V-8 and V-9 (Table 3). The top of the Christy box was used as the reference point for V-10. In the monthly status report submitted to the CRWQCB on March 15, 1988, the reference elevation for V-10 was reported as 59.03 feet. The correct elevation is 59.30 feet. This corrected elevation will henceforth be used in the calculation of ground water elevation data for well V-10.

2. Well Development

After installation, each well was developed to lower the turbidity of the ground water being removed from each of the wells, as well as to increase the degree of continuity between the aquifer material, the sand pack and the well screen. At first, development with pressurized nitrogen was attempted. The permeability of the aquifer material in all three wells was not high enough to allow large volumes of ground water to be evacuated as rapidly as

occurs when wells are developed using pressurized nitrogen. After each of the wells had recovered sufficiently for development to continue, ground water was removed using a teflon bailer. Each of the bailers, along with the stainless-steel bailer cable were steam-cleaned before being lowered down the well.

The development of V-8 and V-9 continued until the ground water from both wells was relatively free of sediment. The development of V-10 continued until a noticeable decrease in the turbidity of the ground water was induced. A total of 30 gallons of ground water were removed from each of the wells.

3. Sampling Program

Before ground water samples were obtained for chemical analysis, at least five bore volumes of ground water were removed from each well using a steam-cleaned Teflon bailer. Ground water was removed from each well prior to sampling to ensure that the samples used for chemical analysis were freshly drawn formational ground water, not ground water that had been in the well casing for an undetermined period of time. Two rounds of ground water sampling and analysis were performed: March 8-9, 1988 and March 22, 1988.

As mentioned above, the ground water samples were taken from each well using a steam-cleaned bailer. A separate bailer was used for each well to reduce the possibility of cross-contamination. After removal, samples from each of the wells were promptly placed in a chilled cooler and delivered to Sequoia Analytical Laboratories in Redwood City, California. Quality control (QC) samples, including duplicate samples, method blanks, and travel blanks were submitted for analysis to Anametrix Inc., of San Jose, California.

The chemical testing performed on ground water samples collected from V-8, V-9, and V-10 on March 8-9, 1988 and submitted to Sequoia Laboratories included analyses for EPA priority and non-priority purgeables using EPA

Method 624, EPA priority phenols using EPA Method 604, alcohols/acetone, total hydrocarbons as paint thinner, and turbidity. Analysis for total hydrocarbons as diesel was also performed on a sample from well V-10. The QC samples submitted to Anametrix were analyzed for EPA priority and non-priority purgeables using EPA Method 624. The ground water samples from wells V-8 and V-9, collected on March 22, 1988 and submitted to Sequoia Laboratories were analyzed for halogenated volatile organics, including acetone, MEK, and xylenes using EPA Methods 8010 and 8020. The samples from V-10 were analyzed for halogenated volatile organics using EPA Method 8010, as well as for total petroleum hydrocarbons as diesel, including benzene, toluene, and xylenes. In addition, the turbidity of the ground water from V-8, V-9, and V-10 was also determined. The QC samples analyzed by Anametrix Inc., were analyzed for purgeables including acetone, MEK and xylenes using EPA Method 8240. Six soil samples obtained during the construction of well V-10 were analyzed for total petroleum hydrocarbon content as diesel, as well as for aromatic volatile organics using EPA Method 8020.

The ground water chemical analysis results are summarized in Table 4. Since chemicals were not detected in the soil samples from well V-10, the results are not given in Table 4. The laboratory data sheets, QC summary tables and sample/QC chromatograms are included as Appendix B. The analysis request forms which contain chain-of-custody records are found in Appendix C. Appendix D contains the water sampling parameter sheets.

4. Ground Water Elevation Measurements

Two rounds of ground water level measurements were taken from all on and off-site monitoring wells, including V-8, V-9, and V-10. The depth to ground water depth data along with the elevations of the ground surface and reference points of each well are presented in Table 2. The ground water elevation data are summarized in Table 3. A potentiometric surface map for the A-aquifer constructed using data collected on March 6, 1988 is presented as Figure 9.

5. Well Destruction Methods

The destruction of well V-2 was performed on February 24, 1988. An Acker Soil Max hollow-stem auger drill rig was used during the destruction procedure. Well V-2 was destroyed by pressure grouting. A tremie pipe was lowered to the bottom of the well and cement grout containing three to five percent bentonite was pumped into the PVC casing. The grouting continued until the well was sealed from bottom to top. No settling of the grout was observed in subsequent days indicating that the destruction was successful.

C. RESULTS

1. Hydrogeologic Interpretation

The boring logs from monitoring wells V-8, V-9 and V-10 along with the logs from previously installed wells have been used to construct geologic cross-sections F-F' and G-G' (Figures 7 and 8). Figure 2 shows the locations of the cross-sections and monitoring wells. Both F-F' and G-G' are oriented roughly perpendicular to the direction of ground water flow within the A-aquifer.

The stratigraphy encountered in the completed borings can be divided into two relatively permeable zones: a higher permeability zone, which begins within the vadose zone and extends to the A-aquifer, best seen in V-9 and V-10, and the B_1-aquifer. The higher permeability zones are separated by zones of lower permeability including a vadose lower permeability unit, and the A-B_1 aquitard. The soil types have been classified according to the Unified Soil Classification System which is summarized on Figure 6.

The upper eleven to fifteen feet of section encountered in V-8, V-9, and V-10 consists of lower permeability clay and sandy clay. In well V-8, this low permeability unit is underlain by higher permeability sandy gravelly clay. Well V-8 is screened from 32.0 to 37.0 feet within a clayey sand-sandy clay unit which extends from 31.5 to 37.0 feet below ground

surface. This unit is interpreted to be the A-aquifer. Underlying the A-aquifer, a low permeability clay unit was found from 37.0 to 42.0 feet. This low permeability unit is interpreted to be the A-B_1 aquitard. At V-8, the B_1- aquifer consists of yellow brown sand containing less than ten percent fines. After 7.2 feet of the B_1-aquifer was penetrated, the boring was terminated. Bentonite was then placed from the bottom of the boring to the base of the A-aquifer feet where the well construction took place.

In well V-9, the uppermost lower permeability unit is underlain by a vadose zone gravelly silty sand unit extending from 13.0 to 22.0 feet. This unit is underlain by the A-aquifer which consists of a clayey sand-sandy clay. Well V-9 was screened within the A-aquifer, which extends from 22.0 to 28.0 feet. The A-aquifer is underlain by a lower permeability clay unit interpreted to be the A-B_1-aquitard.

The uppermost lower permeability unit at well V-10 is underlain by a vadose clayey sandy gravel unit from 11.3 to 18.5 feet. This higher permeability unit is in turn underlain by a sandy clay-clayey sand unit extending from 18.5 to 32.5 feet. The lower portion of this unit is designated as the A-aquifer. Well V-10 was screened within the A-aquifer from 25.0 to 32.0 feet. The A-aquifer is underlain by a red-brown clay interpreted to be the A-B_1-aquitard. As mentioned above, the stratigraphy encountered in each of the monitoring wells is summarized within the boring logs located in Appendix A. An interpretation of the stratigraphy is contained in cross sections F-F' and G-G' (Figures 7 and 8).

The ground water elevation data collected on March 6, 1988 (Table 3) were used to construct a revised potentiometric surface map of the A-aquifer (Figure 9). An earlier version of this figure was presented in the March 15, 1988 monthly status report. Examination of Figure 9 reveals that the potentiometric surface has been modified by the extraction of ground water from well V-4. The direction of ground water flow ranges from N9°E in the vicinity of wells V-5 and V-10 to N53°E near wells V-6 and V-9. The magnitude of gradient is on average 0.004 ft/ft. Between V-10 and V-5

however, the gradient may be as steep as 0.005 ft/ft. Between wells V-3 and V-6, the slope of the potentiometric surface may be as low as 0.002 ft/ft.

2. Chemical Analysis Results

The results of the chemical analyses performed on ground water samples from wells V-8, V-9 and V-10 as well as for the QC samples are summarized in Table 4 and presented in Appendix B. The laboratory QC data and chromatograms are also contained in Appendix C. The sample chain of custody/analysis request records are presented in Appendix D. Appendix E contains the ground water sampling parameter records. Figure 10 and 11 summarize the chemical concentrations found in wells V-8, V-9, and V-10.

As discussed above, wells V-8 and V-9 were installed to locate the northern limit of chemical migration, within the A-aquifer in the vicinity of the Jasco facility. In wells V-8 and V-9, low concentrations of 1,1,1-TCA, 1,1-DCA, 1,1-DCE, and acetone were identified in the ground water samples taken on March 8, 1988 and March 22, 1988. In V-8, 1,1,1-TCA at 0.0035 ppm, and acetone at 0.003 ppm were identified by the March 8, 1988 sampling. The March 22, 1988 sampling identified 1,1,1-TCA at 0.0037 ppm, 1,1-DCA at 0.00069 ppm and 1,1-DCE at 0.00065 ppm. A duplicate sample from V-8 obtained on March 22, and analyzed by Anametrix, Inc. contained 1,1,1-TCA at 0.007 ppm. The turbidity of the ground water from V-8 was 47 NTU on March 8, and 40 NTU on March 22, 1988.

In V-9, 1,1-DCA at 0.0036 and acetone at 0.0051 ppm were detected in the samples taken on March 8. The sample from V-9 taken on March 22 contained 1,1,1-TCA at 0.0022, and 1,1-DCA at 0.0039 ppm. The turbidity of the ground water from V-9 was 15 NTU on March 8 and 130 NTU on March 22.

The low concentrations of chemicals identified in V-8 and V-9 indicate that the northern limit of chemical migration within the A-aquifer lies proximal to the northern shoulder of the Central Expressway. In past reports, (Phase II Hydrogeologic Investigation, November 5, 1987), the eastern and western boundaries of chemicals in the A-aquifer were defined.

In well V-10, total petroleum hydrocarbon concentrations as diesel were not detected in the ground water above a detection limit of 50 ppm in both the March 9, 1988 and the March 22, 1988 sampling episodes. The only chemical detected in ground water from V-10 was 1,1,1-TCA at 0.00096 ppm in the sample collected on March 22, 1988. The turbidity of the ground water from V-10 was 470 NTU on March 9 and 660 NTU on March 22, 1988.

In summary, from the ground water chemical data collected thus far from A-aquifer wells V-1 through V-10, the approximate northern, eastern, and western boundaries of the A-aquifer chemical plume have been defined. The northern boundary is located in the vicinity of wells V-8 and V-9, near the northern shoulder of the Central Expressway. The western boundary is located in the vicinity of well V-6. The eastern boundary is located in the vicinity of V-10 and to the west of V-5.

As discussed above, soil samples from wells V-10 were analyzed for total petroleum hydrocarbon content as diesel (high boiling point hydrocarbons), as well as for aromatic volatile organics using EPA Method 8020. Petroleum hydrocarbons as diesel were not detected in any of the soil samples at a detection limit of 1.0 ppm. In addition, none of the EPA Method 8020 compounds were detected at a detection limit of 50 ppb.

D. FUTURE WORK TO BE PERFORMED

This section of the report discusses the work to be completed in the future which will aid in documenting changes in the concentrations of chemicals as observed within the A and B_1-aquifer monitoring wells. Additional tasks in progress or work that will be performed in the near future has been discussed in the March 15, 1988 Monthly Status Report (MSR). Additional tasks will also be discussed in future MSRs.

The continuing ground water sampling program proposed for all on and off-site monitoring wells is outlined below:

All monitoring wells that have been sampled at least five times will be sampled on a quarterly basis. At this time, wells V-1, V-3, V-4, V-5, V-6, V-7, and I-1 have been sampled at least five times. Wells V-8, V-9, and V-10, which have been sampled twice, as well as B_1-aquifer wells I-2 and I-3 which have been sampled four times, will be sampled on a bi-monthly basis until each of the wells have been sampled five times. The next round of ground water sampling is tentatively scheduled for the week of May 23, 1988.

Ground water samples from A and B_1-aquifer monitoring wells will be analyzed for halogenated and aromatic volatile organics using EPA Method 8010/8020, including MEK and xylenes, phenols using EPA Method 8040, total hydrocarbons as paint thinner, and for alcohols/acetone. Samples will be collected on an annual basis from on and off-site wells and analyzed for purgeables using EPA Method 8240 (plus open-scan for non-priority compounds), phenols using EPA Method 8040, total hydrocarbons as paint thinner, and alcohols/acetone. Samples from well V-10 will also be analyzed for total petroleum hydrocarbons as diesel. If changes in the chemical testing program are deemed necessary, they will be outlined in a future MSR.

The purging and ground water sampling will be performed using a pre-steam cleaned Teflon bailer. Three or more bore volumes of ground water will be removed from each well before a sample is taken. During the purging process, temperature, pH, and conductivity will be monitored; sampling will not be performed until the three parameters have stabilized. Samples will not be filtered in the field. If a sample requires filtering before analysis, the laboratory that performs the analysis will perform the filtering. The ground water samples which will be analyzed using EPA Methods 8010, 8020, 8240, and alcohols/acetone will be submitted to the laboratory in airtight VOA vials containing Teflon septa. The EPA Method 8040 and total petroleum hydrocarbon samples will be submitted in one liter, amber, glass jars containing Teflon septa. After collection, the VOA vials and one liter amber jars will be placed in a chilled cooler. The samples will be kept cool until delivery to a State of California DOHS certified laboratory. After collection, the samples will either be delivered to the

laboratory by Wahler Associates' personnel or will be picked up at Wahler Associates' Palo Alto offices by a representative of the laboratory. At the time of sample delivery, chain-of-custody forms will be signed by representatives of Wahler Associates and the laboratory performing the analyses. The laboratory will be instructed to document the quality of the samples delivered as compared to appropriate standards.

The quality assurance/quality control plan for the chemical testing will consist of: one or two duplicates per round of sampling. The actual number will depend on whether one or two days were required to perform the sampling. In addition, one method (equipment rinsate) blank will be submitted per round of sampling. Lastly, one travel blank will be submitted per day of sampling. The duplicates, method blanks and travel blanks will be analyzed for purgeable halocarbons and aromatics using EPA Methods 8010/8020 or 8240 plus MEK and xylenes. With every round of sampling results, a quality control data report will be submitted containing the results of the duplicate and spike analyses. Percent deviation and percent recovery data will be included. One such report will be submitted for each testing method performed per round of testing. The laboratory chromatograms of the blanks, standards and actual ground water samples will be submitted with the quality control data report. One set of chromatograms will be submitted for each testing method performed per round of testing. Each of the laboratory reports will contain the dilution factor and detection limits based on limits of quantification.

Each piece of equipment used during the sampling procedures will be steam-cleaned prior to and after use to assure decontamination. In addition, the bailer rope will be changed or the stainless-steel bailer cable will be steam-cleaned between wells. A separate bailer will be used per well for each day of sampling. If a bailer has to be used more than once on a particular day, the bailer will be steam-cleaned between uses. Water removed from each well during the purging procedure will be disposed of in the sanitary sewer at the Jasco facility. Jasco Chemical Corporation has a permit from the City of Mountain View to discharge extracted ground water to the sanitary sewer.

In addition to the chemical testing, monthly water level measurements will be taken from all on and off-site wells. The water levels will be measured to the nearest 0.01-foot. The water level data will be collected using an electric water level meter. The measurements will be taken relative to either the top of the protective casing or Christy box. The elevation of the top of protective casing/Christy box, as well as the ground elevation at each well has been surveyed by Kier and Wright of Santa Clara, California. The elevation data, along with the ground water level data, will be used to calculate ground water elevations. The ground water elevation data along with potentiometric surface maps for the A and B_1-aquifers will be submitted to the CRWQCB as part of the quarterly reports. Water levels will also be taken prior to purging wells during the sampling procedure.

E. CONCLUSIONS

1. In well V-8, the A-aquifer is approximately five feet thick and is underlain by a five-foot thick clay confining unit, the A-B_1 aquitard. The B_1-aquifer underlies the A-B_1 aquitard. In well V-9, located approximately 190 feet west of V-8, the A-aquifer is approximately five feet thick. The A-aquifer at V-9 is underlain by a low permeability clay unit, the A-B_1 aquitard, at least five feet in thickness.

2. At well V-10, the A-aquifer, which extends from 25.0 to 32.5 feet, is underlain by a low permeability clay unit, the A-B_1 aquitard. At well V-10 the A-B_1 aquitard is at least 5.5 feet in thickness.

3. The direction of ground water flow and magnitude of gradient within the A-aquifer have been modified due to ground water extraction from well V-4. The direction of flow within the A-aquifer ranges from N9°E near the eastern boundary of the Jasco facility to N53°E adjacent to the western boundary. The magnitude of gradient ranges from 0.002 ft/ft to 0.005 ft/ft and averages 0.004 ft/ft. The area of steepest gradient is located between monitoring wells V-10 and V-5.

4. Very low concentrations of 1,1,1-TCE, 1,1-DCA, and acetone were identified in monitoring wells V-8 and V-9. Very low concentrations of 1,1-DCE were also identified in well V-8. The very low magnitude of the concentration values indicates that the northern limit of chemical migration in the A-aquifer lies very close to the northern shoulder of the Central Expressway.

5. From the ground water chemical data collected thus far from A-aquifer wells V-1 through V-10, the approximate northern, eastern and western boundaries of the A-aquifer chemical plume have been defined. The northern boundary is located in the vicinity of wells V-8 and V-9, proximal to the northern shoulder of the Central Expressway. The western boundary is located in the vicinity of well V-6. The eastern boundary is located in the vicinity of well V-10 and to the east of V-5.

6. Concentrations of total petroleum hydrocarbons as diesel, as well as EPA priority aromatic volatile organics were not detected in monitoring well V-10, installed approximately 40 feet down-gradient of the diesel tank excavation. The chemical data indicates that hydrocarbons from the diesel tank area have not migrated a significant distance away from the tank excavation within the vadose zone or ground water.

F. LIMITATIONS

The data, information, interpretations, and conclusions contained within this report are presented specifically and solely for Bronson, Bronson and McKinnon. The conclusions and professional opinions presented herein were developed by Wahler Associates, in accordance with currently accepted geologic and hydrogeologic principles and practices. Wahler Associates cannot be responsible for any conclusions and recommendations that may be made by others, unless we have been given an opportunity to review such conclusions and concur in writing. The conclusions and interpretations made are subject to change if additional information becomes available.

TABLE 1

JASCO CHEMICAL CORPORATION

WELL CONSTRUCTION INFORMATION (depths in feet)

Well No.	Aquifer	Boring Depth	Casing Depth	Screened Interval	Sand Pack	Diameter	Installation Date	Drillin Method
V-8	A	49.2	32.0	32.0-37.0	31.0-37.0	2-inch	2/24,25/88	HA
V-9	A	33.0	28.0	23.0-28.0	22.0-28.0	2-inch	2/26/88	HA
V-10	A	38.0	32.0	25.0-32.0	24.0-32.0	2-inch	3/4,5/88	HA

Explanation

HA - Hollow stem auger

TABLE 2

JASCO CHEMICAL CORPORATION

DEPTH TO GROUND WATER:
A AND B_1-AQUIFER WELLS

(March 6, 1988, March 22-23, 1988)

Well Number	Ground Elevation	Reference Elevation	3-6-88	3-22,23-1988
V-1	58.29	58.29	24.00	24.14
V-3	58.30	57.60	23.49	23.73
V-4	57.40	58.54	33.00	33.68
V-5	58.65	60.14	26.28	26.50
V-6	58.10	58.59	24.87	25.67
V-7	56.60	56.76	23.56	23.77
V-8	55.90	57.50	24.17	24.30
V-9	55.00	56.69	23.55	23.65
V-10	59.30	59.30	24.92	25.00
I-1a	58.30	59.22	25.44	25.80
I-2a	56.80	57.66	24.29	24.44
I-3a	56.30	57.29	23.98	24.12

Explanation

a - B_1-Aquifer well

TABLE 3

JASCO CHEMICAL CORPORATION

GROUND WATER ELEVATIONS:
A AND B_1-AQUIFER MONITORING WELLS

(March 6, 1988, March 22-23, 1988)

Well Number	3-6-88	3-22, 23-88
V-1	34.29	34.15
V-3	34.11	33.87
V-4	25.54	24.86
V-5	33.86	33.64
V-6	33.72	32.92
V-7	33.20	32.99
V-8	33.33	33.20
V-9	33.14	33.04
V-10	34.38	34.30
I-1	33.78	33.42
I-2	33.37	33.22
I-3	33.31	33.17

TABLE 4

JASCO CHEMICAL CORPORATION

SUMMARY OF CHEMICAL ANALYSIS RESULTS (ppm)

Well Number	Date	Lab	1,1,1-TCA	1,1,-DCA	1,1-DCE	Acetone	Turbidity (NTU)
V-8	3-8-88	S	0.0035	ND(0.002)	ND(0.002)	0.003	47
V-8	3-22-88	S	0.0037	0.00069	0.00065	ND(0.010)	40
V-8	3-22-88	A	0.007	ND(0.005)	ND(0.005)	ND(0.020)	NA
V-9	3-8-88	S	ND(0.002)	0.0036	ND(0.002)	0.0051	15
V-9	3-22-88	S	0.0022	0.0039	ND(0.0005)	ND(0.010)	130
V-10	3-9-88	S	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.010)	470
V-10	3-9-88	A	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.020)	NA
V-10	3-22-88	S	0.00096	ND(0.0005)	ND(0.0005)	NA	660
MB	3-8-88	A	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.020)	NA
TB	3-8-88	A	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.020)	NA
MB	3-9-88	A	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.020)	NA
TB	3-9-88	A	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.020)	NA
MB	3-22-88	A	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.020)	NA
TB	3-22-88	A	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.020)	NA

Explanation

S - Sequoia Analytical Laboratories

A - Anametrix Laboratories

NA - Not analyzed

ND(0.002) - Not detected at detection limit of 0.002 ppm

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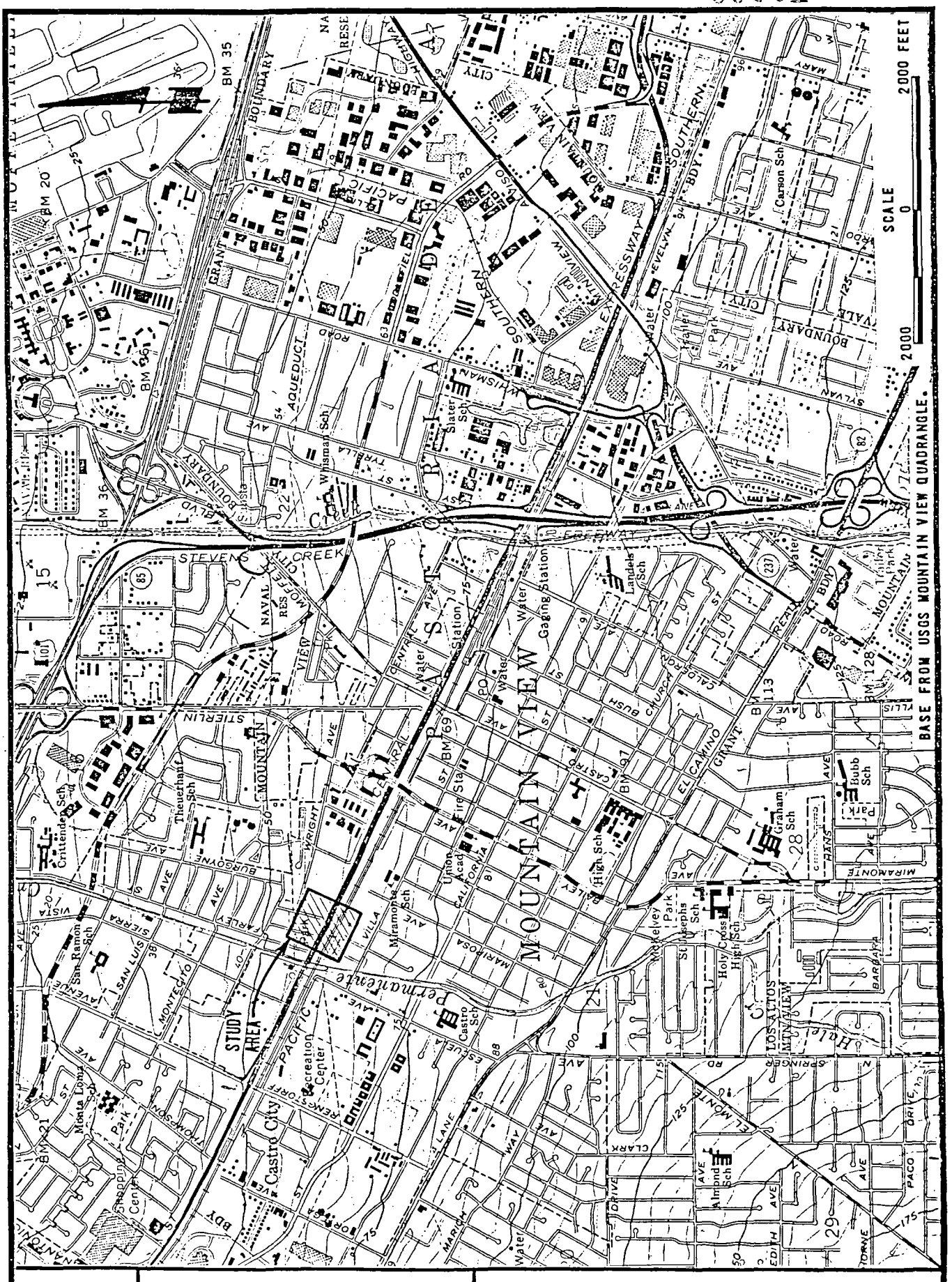
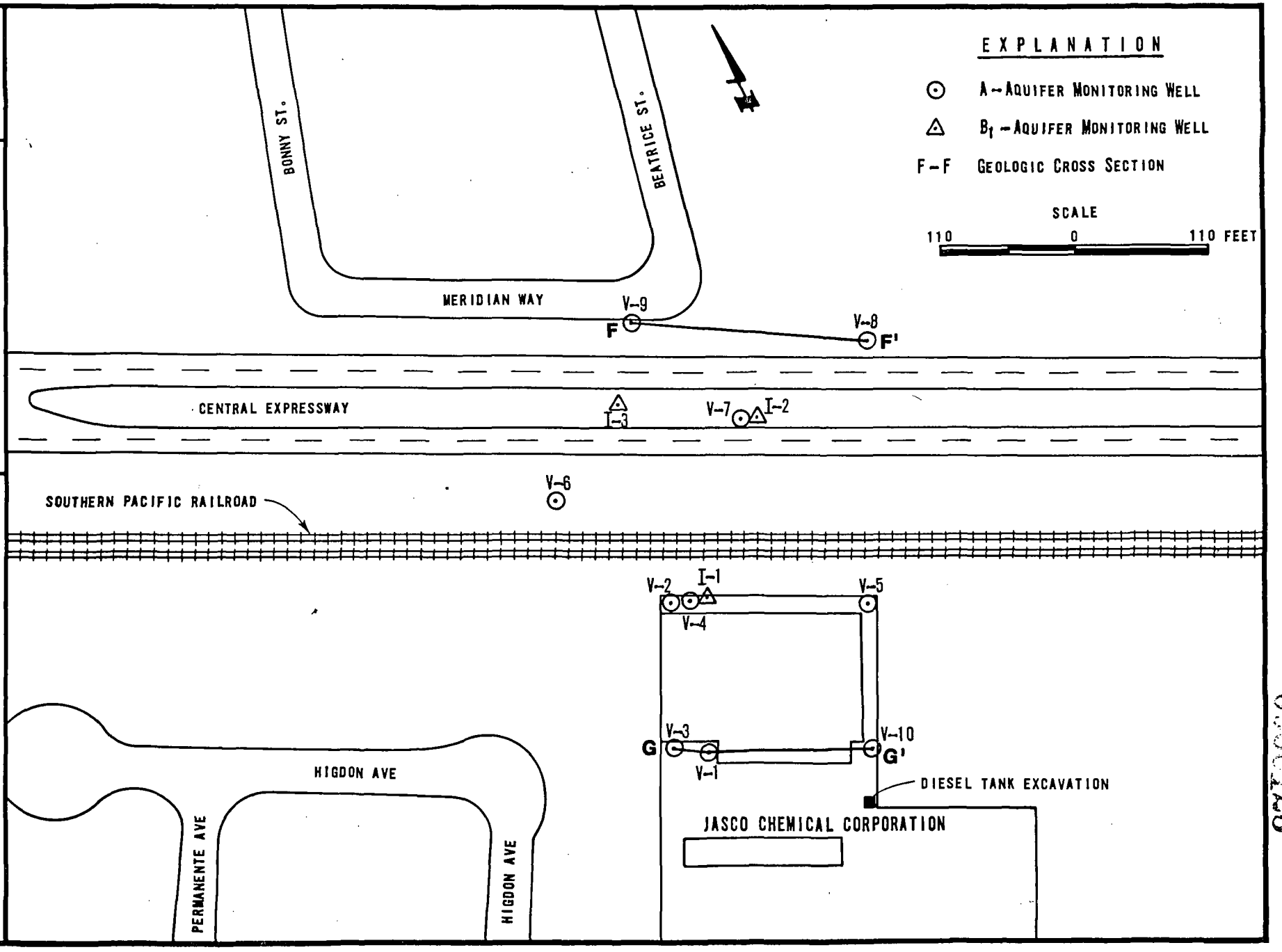


Wahler Associates	JASCO CHEMICAL CORPORATION PHASE IIa HYDROGEOLOGIC INVESTIGATION PALO ALTO • CALIFORNIA	LOCATION OF STUDY AREA		
		PROJECT NO.	DATE	FIGURE NO.
		JCO-104H	MARCH 1988	



LOCATION OF EXISTING A AND B_1 AQUIFER MONITORING WELLS

JASCO CHEMICAL CORPORATION
PHASE IIa HYDROGEOLOGIC INVESTIGATION

Woodward-Clyde Associates
PALO ALTO • CALIFORNIA

PROJECT NO.	DATE	FIGURE NO.
JCO-104H	MARCH 1988	2

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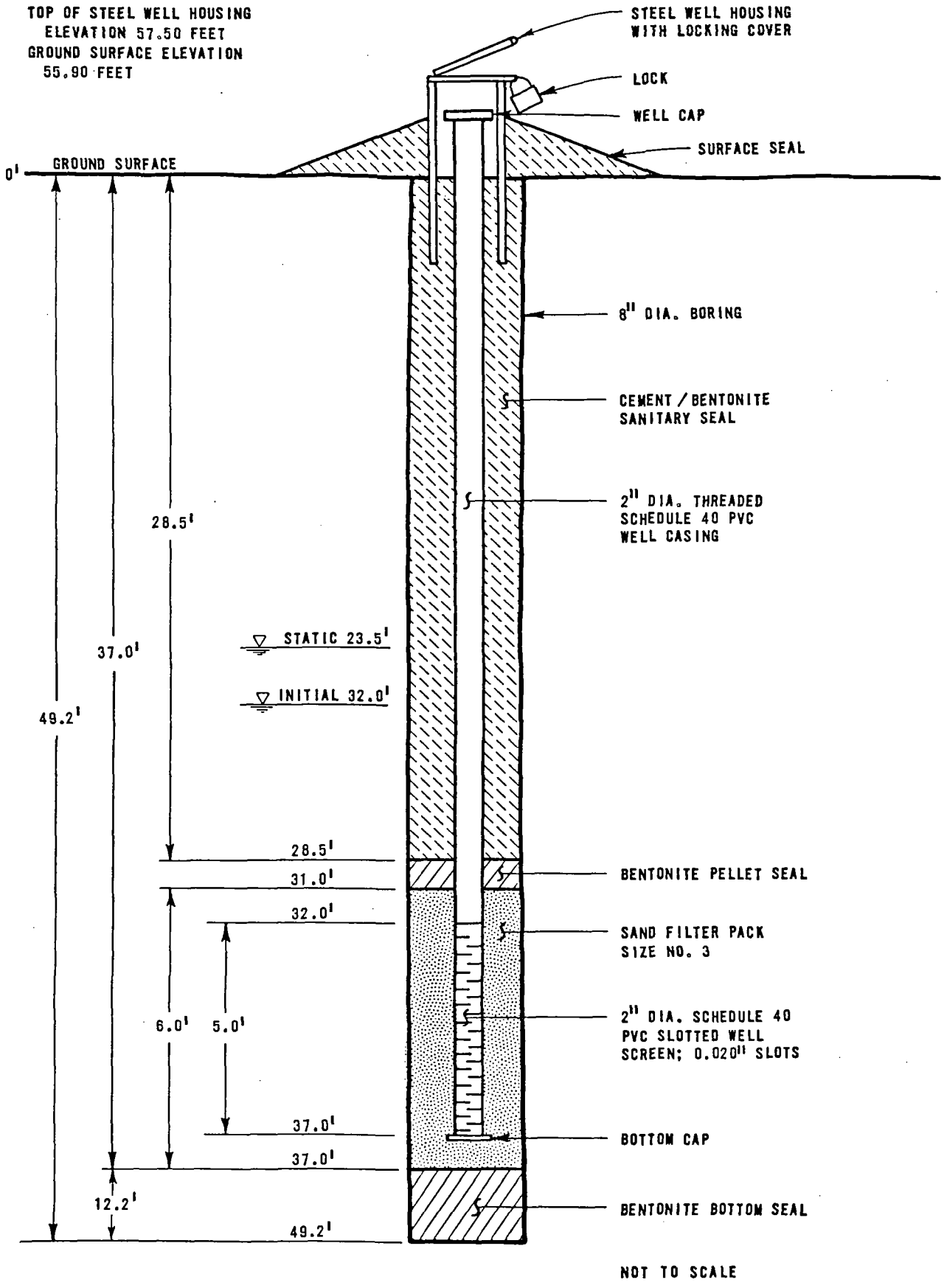
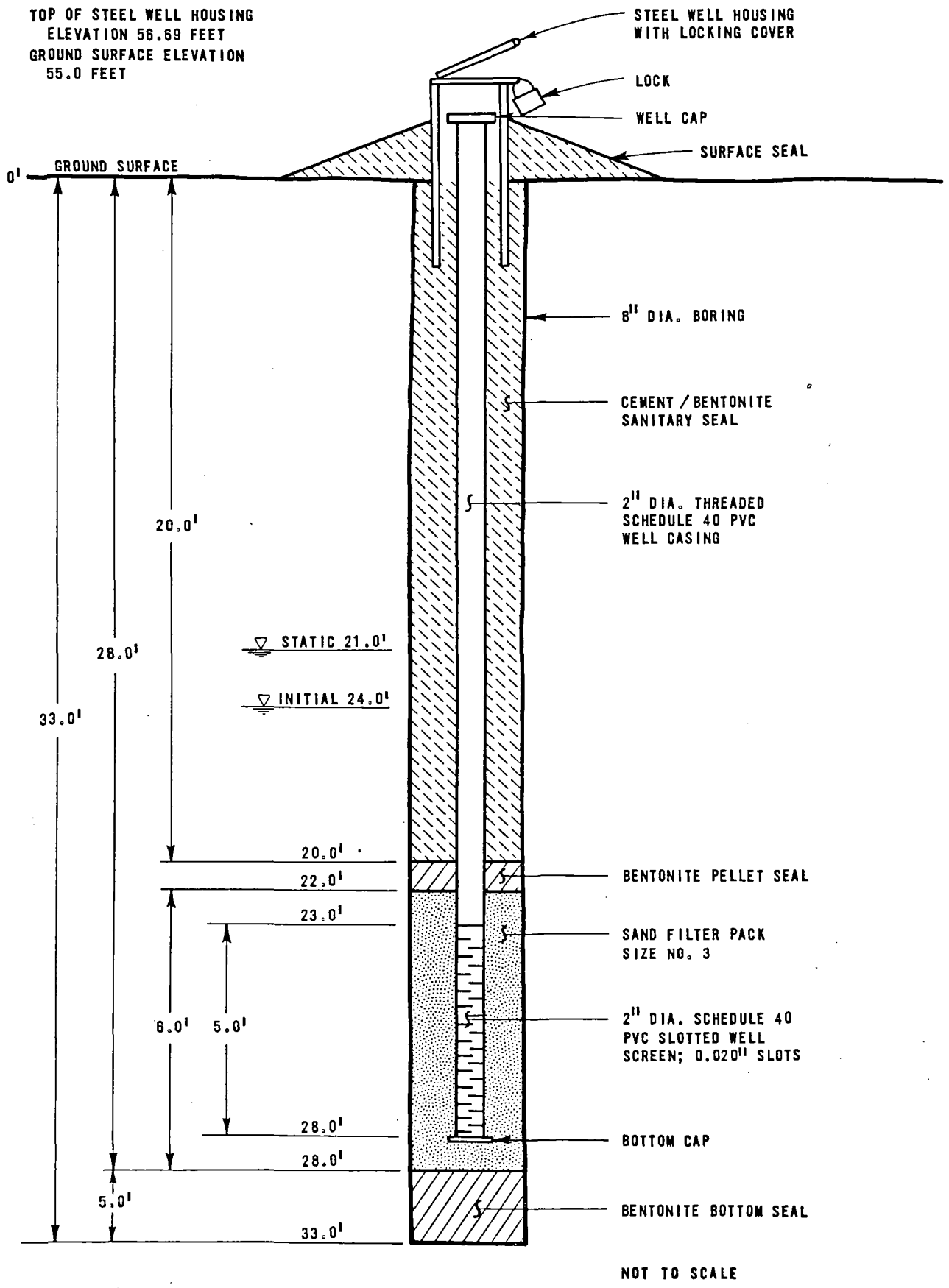
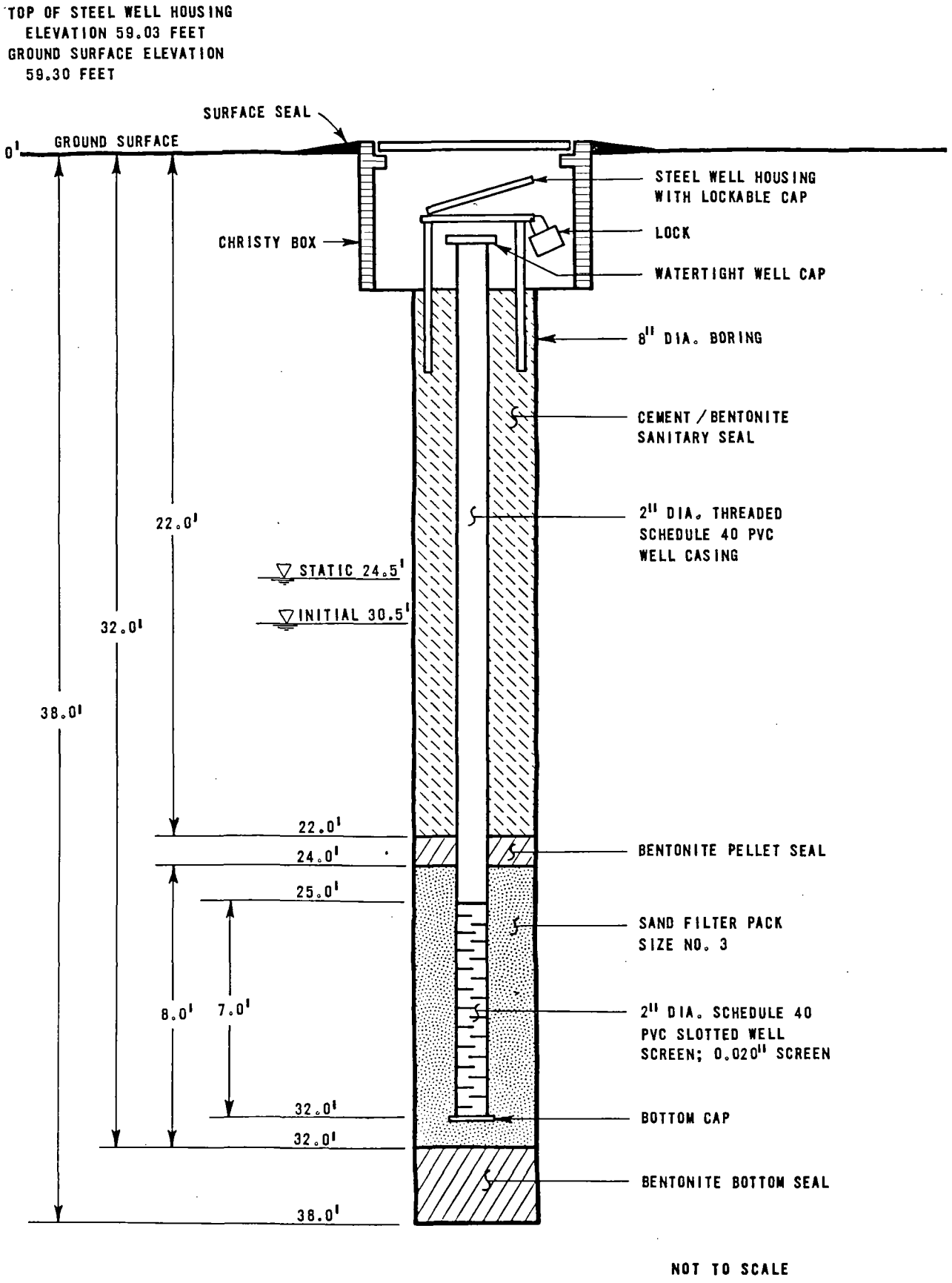


Wahler Associates	JASCO CHEMICAL CORPORATION PHASE IIA HYDROGEOLOGIC INVESTIGATION PALO ALTO • CALIFORNIA	WELL COMPLETION DIAGRAM OF V-8		
		PROJECT NO.	DATE	FIGURE NO.
		JCO-104H	MARCH 1988	3



Wahler Associates	JASCO CHEMICAL CORPORATION PHASE IIA HYDROGEOLOGIC INVESTIGATION PALO ALTO • CALIFORNIA	WELL COMPLETION DIAGRAM OF V-9		
		PROJECT NO.	DATE	FIGURE NO.
		JCO-104H	MARCH 1988	4



Wahler Associates	JASCO CHEMICAL CORPORATION PHASE IIa HYDROGEOLOGIC INVESTIGATION PALO ALTO • CALIFORNIA	WELL COMPLETION DIAGRAM OF V-10		
		PROJECT NO.	DATE	FIGURE NO.
		JCO-104H	MARCH 1988	5

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

PRIMARY DIVISIONS			GROUP SYMBOL	SECONDARY DIVISIONS
COARSE GRAINED SOILS — MORE THAN HALF OF MATERIALS IS LARGER THAN #200 SIEVE SIZE	GRAVELS — MORE THAN HALF OF COARSE FRACTION IS LARGER THAN #4 SIEVE	CLEAN GRAVELS (LESS THAN 5% FINES)	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
			GP	POORLY GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
		GRAVEL WITH FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURE. NON PLASTIC FINES.
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES. PLASTIC FINES.
	SANDS — MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN #4 SIEVE	CLEAN SANDS (LESS THAN 5% FINES)	SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.
			SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES.
		SANDS WITH FINES	SM	SILTY SANDS, SAND-SILT MIXTURES. NON-PLASTIC FINES.
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES. PLASTIC FINES.
FINE GRAINED SOILS — MORE THAN HALF OF MATERIAL IS SMALLER THAN #200 SIEVE SIZE	SILTS & CLAYS — LIQUID LIMIT IS LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY.
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS.
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY.
	SILTS & CLAYS — LIQUID LIMIT IS GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS.
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS.
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS.
HIGHLY ORGANIC SOILS			PT	PEAT AND OTHER HIGHLY ORGANIC SOILS.

DEFINITION OF TERMS

GRAIN SIZES

U.S. STANDARD SERIES SIEVE: 200, 50, 16, 4, 3/4", 3", 6"

SILTS & CLAYS DISTINGUISHED ON BASIS OF PLASTICITY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

MOISTURE CONDITION (INCREASING MOISTURE ⟶)

DRY — SLIGHTLY DAMP — DAMP (PL) — MOIST — VERY MOIST — WET (SATURATED) (LL)

KEY

SAMPLE NUMBER

SAMPLE CONTAINER:

- BAG..... B
- JAR..... J
- SHELBY TUBE... S
- DRIVE SAMPLER RINGS..... R

MODE

METHOD OF ADVANCING HOLE:

DRILL

- FLIGHT AUGER..... AD
- BUCKET AUGER..... BA
- SPIN AUGER..... SD
- HOLLOW STEM AUGER... HA
- ROTARY DRILL..... RD
- CABLE TOOL..... CT

SAMPLER

- DRIVE..... DR
- PITCHER BARREL..... PB
- CORE..... C
- PUSH..... P

RECOVERY

RECOVERY RATIO INDICATED BY A FRACTION:

$$\frac{1.2}{1.5} = \frac{\text{FOOTAGE RECOVERED}}{\text{FOOTAGE SAMPLED}}$$

REMARKS

INCLUDES DRILLING INFORMATION, E.G. WATER LEVEL, DATES.

REFUSAL: STOPPED BY MATERIAL TOO HARD FOR EQUIPMENT.

TERMINATED: SUFFICIENT INFORMATION OBTAINED.

ABANDONED: STOPPED BECAUSE OF DIFFICULTIES EXPLAINED ON LOG.

PENETRATION RESISTANCE (PR)
(RECORDED AS BLOWS/0.5 FOOT)

SANDS & GRAVELS

RELATIVE DENSITY	BLOWS/FOOT*
VERY LOOSE	0–4
LOOSE	4–10
MEDIUM DENSE	10–30
DENSE	30–50
VERY DENSE	OVER 50

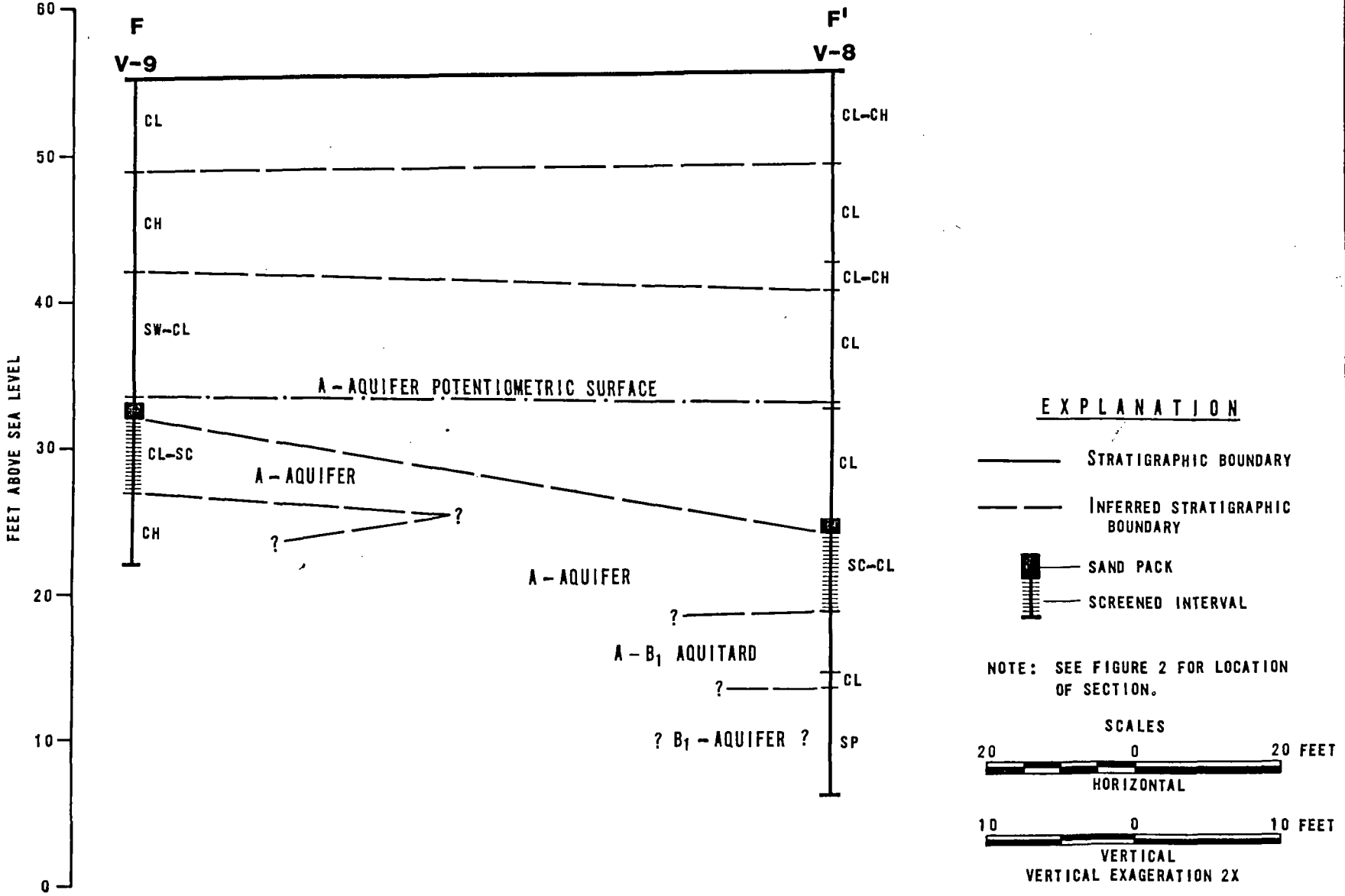
CLAYS & SILTS

CONSISTENCY	BLOWS/FOOT*	STRENGTH †
VERY SOFT	0–2	0–¼
SOFT	2–4	¼–½
FIRM	4–8	½–1
STIFF	8–15	1–2
VERY STIFF	15–30	2–4
HARD	OVER 30	OVER 4

* Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. (1-3/8 inch I.D.) Split-Barrel sampler (ASTM-1586 standard penetration test).

† Unconfined compressive strength in tons/sq ft. Read from a pocket penetrometer.

Wahler Associates	JASCO CHEMICAL CORPORATION PHASE IIa HYDROGEOLOGIC INVESTIGATION	KEY FOR SOIL EXPLORATION LOGS	
		PROJECT NO.	FIGURE NO.
		JCO-104H	6



Wahler Associates

PALO ALTO • CALIFORNIA

JASCO CHEMICAL CORPORATION

PHASE IIa HYDROGEOLOGIC INVESTIGATION

GEOLOGIC CROSS SECTION F - F'

PROJECT NO.	DATE	FIGURE NO.
JCO-104H	MARCH 1988	7

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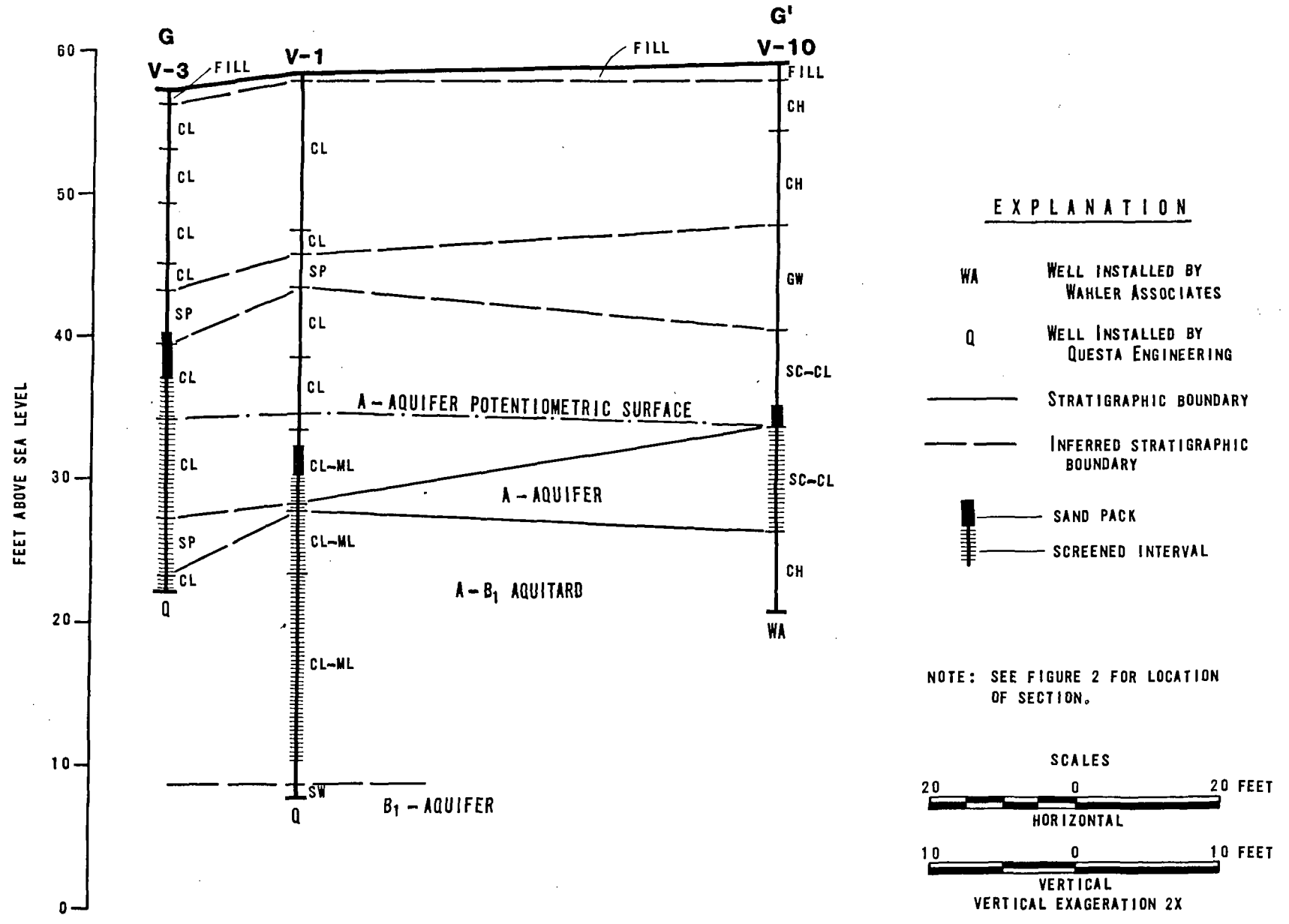


Wahler Associates

JASCO CHEMICAL CORPORATION

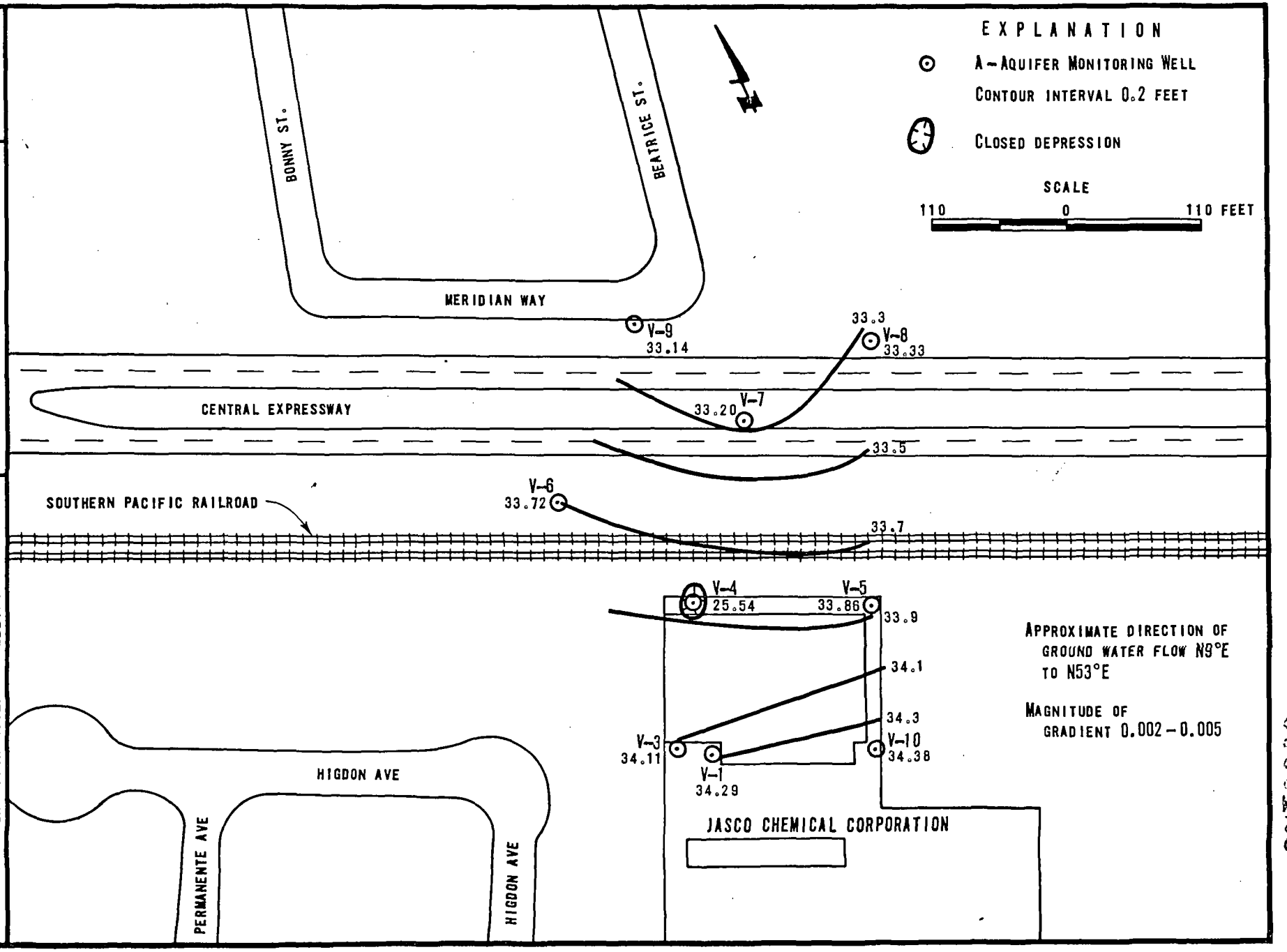
PHASE IIa HYDROGEOLOGIC INVESTIGATION

PALO ALTO • CALIFORNIA

GEOLOGIC CROSS SECTION G-G'

PROJECT NO.	DATE	FIGURE NO.
JCO-104H	MARCH 1988	8

000023



Wahler Associates
PALO ALTO • CALIFORNIA

JASCO CHEMICAL CORPORATION
PHASE IIa HYDROGEOLOGIC INVESTIGATION

A-AQUIFER POTENTIOMETRIC SURFACE
MARCH 6, 1988

PROJECT NO.	DATE	FIGURE NO.
JCO-104H	MARCH 1988	9

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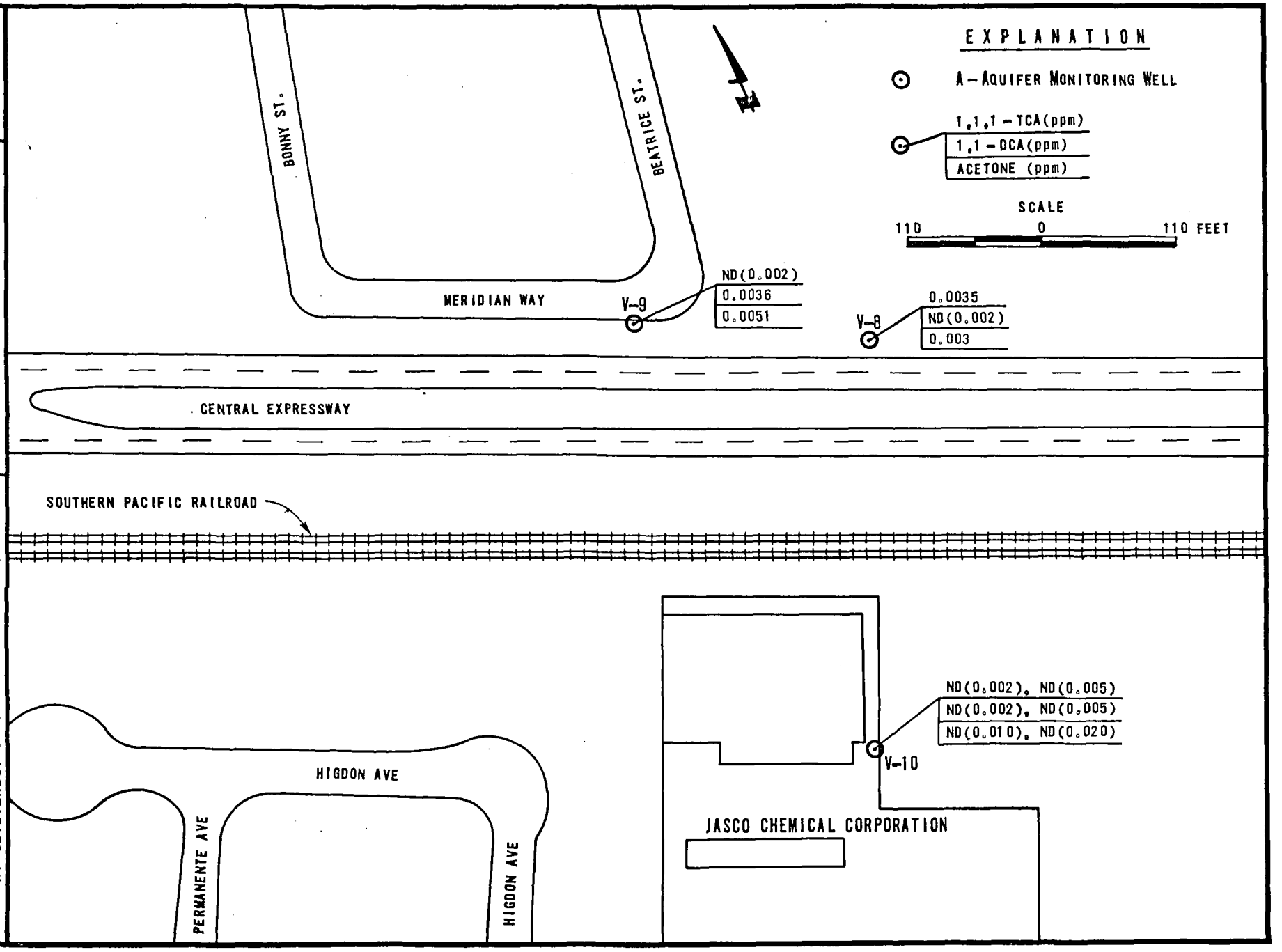


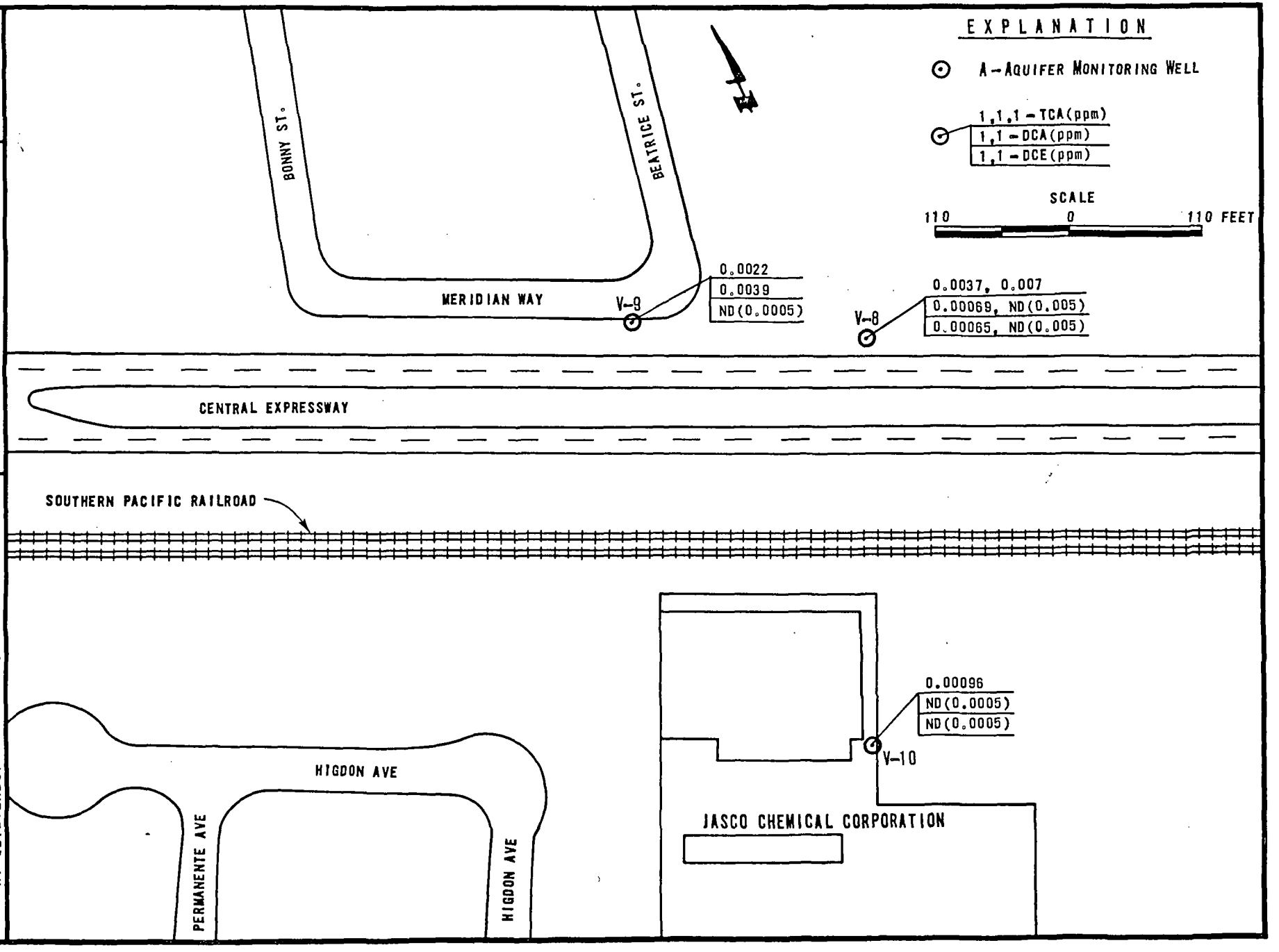
Wahler Associates

JASCO CHEMICAL CORPORATION
PHASE IIa HYDROGEOLOGIC INVESTIGATION
PALO ALTO • CALIFORNIA

CHEMICAL CONCENTRATIONS IDENTIFIED IN V-8, V-9 AND V-10: MARCH 8-9, 1988

PROJECT NO.	DATE	FIGURE NO.
JCO-104H	MARCH 1988	10

0001123



Wahler Associates

JASCO CHEMICAL CORPORATION
PHASE IIa HYDROGEOLOGIC INVESTIGATION
PALO ALTO • CALIFORNIA

CHEMICAL CONCENTRATIONS IDENTIFIED IN V-8, V-9 AND V-10: MARCH 22, 1988

PROJECT NO.	DATE	FIGURE NO.
JCO-104H	MARCH 1988	11

0000123

APPENDIX A

BORING LOCATION JASCO CHEMICAL CORPORATION			GROUND EL.
DEPTH/ELEV. WATER ~23.5' 2-24	DRILL CONTRACTOR PC EXPLORATION		TOTAL DEPTH 49.2
DRILL RIG Acker Soil Max	BORING DIA. 8"	DATE DRILLED 2-24-88	LOGGED BY RGB/PS

SOIL CLASS.	DESCRIPTION	DEPTH	SAMPLE NO.	PR / RQD	REC.	MODE	REMARKS
	ALLUVIUM						
CL-CH	0.0-6.2 - SANDY CLAY: dark brown. 0-5% fine sand, occasional coarse sand clast, damp.	0				HA	Begin drilling on x-way at 925 AM after Health and safety briefing. Drilling performed with tower down - sampler pushed with hydraulic system.
		2	R-1	—	0.5/1.5	P	2.0-3.5' - 2.5" diameter California Modified Sampler (calmod) pushed using rig hydraulics
		4				HA	- drilling is slow due to drilling with tower down
			R-2	—	0.5/1.5	P	5.0-6.5 CALMOD
CL	6.2-13.0 SANDY CLAY: Mottled yellow brown/medium brown. Caliche veinlets; 10-15% fine sand. Low to moderate plasticity	6					
		8				HA	
		10	R-3	—	0.5/1.5	P	10.0'-11.5' CALMOD
	11.4 - increase in sand content to 30%, color change to mottled light brown/yellow brown moderate plasticity	12					
CL-CH	13.0-15.0 - Sandy Clay: dark gray; occasional 3/4" long gravel clast; drilling tougher, ~5% fine sand, damp	14				HA	13' - drilling tougher. stiff clay with gravel fragments.
CL	15.0-315 - Sandy Gravelly Clay: Yellow brown, 25% fine to medium sand, 20% fine gravel, 55% clay; Low plasticity, slightly damp	16	R-4	—	0.5/1.5	P	15.0'-16.5' CALMOD
		18				HA	
		20					

Wahler Associates	JASCO CHEMICAL CORPORATION	EXPLORATION BORING LOG	BORING NO.
		PROJECT NO. JCO-104H / SHEET NO. 1 OF 3	V-8

BORING LOCATION			GROUND EL.
DEPTH/ELEV. WATER	DRILL CONTRACTOR		TOTAL DEPTH
DRILL RIG	BORING DIA.	DATE DRILLED	LOGGED BY

SOIL CLASS.	DESCRIPTION	DEPTH	SAMPLE NO.	PR / RQD	REC.	MODE	REMARKS
	15.0-31.5: Sandy Gravelly Clay (Continued)	20					20.0-21.5 CALMOD
			R-5	—	0.5/1.5	P	
		22				HA	23.0 - Drilling easier - softer material.
							▼ H_2O 23.7' (10:00AM 2-25)
		24					
							25.0-26.5 CALMOD
		26	R-6	—	1.5/1.5	P	
CL	26.2 - decrease in sand and gravel content to 10-15%. Increase in moisture to most moderate plasticity; occasional wood fragments; slight mottling	28				HA	
		30					30.0-31.5 CALMOD
			R-7	—	1.2/1.5	P	
	31.5-42.0: CLAYEY SAND/SANDY CLAY: Yellow brown; 50% medium sand, 10% fine gravel, 40% clay; moderate plasticity; dense; moisture increases with depth.	32					▼ 32.0 - H_2O ENCOUNTERED
SC-CL		34				HA	
							35.0-36.5 CALMOD
		36	R-8		1.2/1.5	P	
	37.0 - grading more clayey	38				HA	~37.0 - Drilling Action Gets Hard.
	40.0-41.0 very clayey	40					40.0-41.5 CALMOD

Wahler Associates	JASCO CHEMICAL CORPORATION	EXPLORATION BORING LOG		BORING NO.
		PROJECT NO. JCO-104H	SHEET NO. 2 OF 2	V-8

BORING LOCATION			GROUND EL.
DEPTH/ELEV. WATER	DRILL CONTRACTOR		TOTAL DEPTH
DRILL RIG	BORING DIA.	DATE DRILLED	LOGGED BY

SOIL CLASS.	DESCRIPTION	DEPTH	SAMPLE NO.	PR / RQD	REC.	MODE	REMARKS
SC-CL	31.5-42.0 CLAYEY SAND/SANDY CLAY (cont.) ~41.5' grading more sandy.	40			1.5 / 1.5	P	40.0-41.5 Cal mod.
			R-9				2:00 2:24
		42				WA	10:15 2:25 42.0 Drilling hard. Having difficulty keeping hollow stems open while advancing augers. Very time consuming
SP	~42.0-49.2' SAND: Med. brown, <10% fines; >90 sand, fine to coarse grained, poor grading (mostly fine sand), coarse grains are rounded; no organics; hard; saturated	44	B-1		.2/.2	P	44.0' Attempted to sample at 44'. Unable to advance sampler (pushed with entire weight of rig). Shoe is jammed very hard with gravelly SAND.
		46				HA	46.0' Drilling gets easier. Driller thinks clay or fine sand (No coarseness trading.)
		48					
	Bottom hole 49.2'		B-2		.2/.2	P	49.0' Cal Mod. Again attempted to sample and was unable to advance sampler. Terminated boring at 49.2'. Began well construction.
		50					
		52					WELL CONSTRUCTION 0.0-32.0' Solid (2.0" SCH 40 PVC pipe) 32.0-37.0' Slotted (0.020 factory slots) SAND & SEAL 0.0-28.5' Grout 28.5-31.0' Bentonite 31.0-37.0' SAND (#3) 37.0-49.2' Bentonite
		54					
		56					
		58					
		60					

DATA ON THIS LOG ARE AN APPROXIMATION OF THE GEOLOGIC AND SUBSURFACE CONDITIONS BECAUSE THE INFORMATION WAS OBTAINED FROM INDIRECT, DISCONTINUOUS, AND POSSIBLY DISTURBED SAMPLING NECESSITATED BY USE OF SMALL-DIAMETER HOLES. ROTARY AND WASH BORING HOLES HAVE FURTHER COMPLICATIONS IN THIS REGARD BECAUSE OF THE NEED TO USE DRILLING FLUID AND/OR CASING IN ADVANCING HOLES.

THIS LOG INDICATES CONDITIONS IN THIS HOLE ONLY ON THE DATE INDICATED AND MAY NOT REPRESENT CONDITIONS AT OTHER LOCATIONS AND ON OTHER DATES. ANY WATER LEVELS SHOWN ARE SUBJECT TO VARIATION.

THIS HOLE WAS LOGGED IN SUCH A WAY AS TO PROVIDE DATA PRIMARILY FOR DESIGN PURPOSES AND NOT NECESSARILY FOR THE PURPOSES OF SPECIFIC CONTRACTORS.

THE STRATIFICATION LINES OR DEPTH INTERVALS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES, AND THE TRANSITIONS MAY BE GRADUAL.

SOIL CLASSIFICATIONS SHOWN ON LOGS ARE FIELD CLASSIFICATIONS BASED ON THE UNIFIED SOILS CLASSIFICATION SYSTEM.

Wahler Associates	JASCO CHEMICAL CORPORATION	EXPLORATION BORING LOG		BORING NO.
		PROJECT NO.	SHEET NO. 3 OF 3	V-8

BORING LOCATION Jasco, Corner of Meridian & Beatrice			GROUND EL.
DEPTH/~~ELEV~~. WATER ~21.0' 2-29-88	DRILL CONTRACTOR P.C. Exploration		TOTAL DEPTH 33.0
DRILL RIG ACKER "Soil-max"	BORING DIA. 8.0"	DATE DRILLED 26 Feb. 88	LOGGED BY G.F.L.

SOIL CLASS.	DESCRIPTION	DEPTH	SAMPLE NO.	PR / RQD	REC.	MODE	REMARKS
CL	ALLUVIUM 0.0-6.1 SANDY CLAY: Black; ~60-70 % fines, high plastic; ~30-40 % sand, poorly graded, angular; slight organics; firm to stiff; damp. ~2.9-3.1 clean sand 3.5' roots ~5.0 more clean sand (fill)	0.0 2.0 4.0	R-1		1.5/1.5	HA P HA	Advancing hole with 8.0" hollow stem augers. Sampling with a 2.0" JD split spoon (S.S.) sampler. Advancing sampler by pushing with system hydraulics. Drilling with tower down. Mike Ybarra - Driller Mike - Helper Begin setup 1:30, Drilling 2:15 2.0-3.5 Pushed S.S. 5.0-6.5 Pushed S.S.
CH	~6.1-13.0 CLAY: Olive gray with brown mottling; >90 % fines, high plastic; <10 % sand, fine-grained; some cementation; rxx to HCL; Fe staining; slight wht ppt.; stiff; damp. ~11.0' increase in wht ppt., slight charcoal ~13.0' hard	6.0 8.0 10.0	R-2 R-3		1.1/1.5 0.8/1.5	P HA P	Drilling action is smooth and stiff 10.0-11.5 Pushed S.S.
SW-CL	~13.0'-22.0 GRAVELLY SILTY SAND: Lt. olive gray to brownish; ~30 % fines, slightly plastic; ~60 % sand, fine- to coarse-grained; mod. grading; angular to subrounded; hard; dry to damp. ~15.5-16.1 silt clay (stiff?) ~19.0-20.0 CLAYEY lens (by cuttings)	12.0 14.0 16.0 18.0 20.0	R-4		1.1/1.5	HA P HA	~13.0' Drilling action gets hard but still smooth. ~14.0' cuttings get slightly gravelly 15.0-16.5 Pushed S.S. ~18.5' Drilling gets super hard, bound augers tight and almost broke the gears. ~19.0 20.0-21.5 Pushed S.S.

Wahler Associates	JASCO CHEMICAL CORPORATION	EXPLORATION BORING LOG		BORING NO.
		PROJECT NO. ICO 104 H	SHEET NO. 1 OF 2	V-9

BORING LOCATION			GROUND EL.
DEPTH/ELEV. WATER	DRILL CONTRACTOR		TOTAL DEPTH
DRILL RIG	BORING DIA.	DATE DRILLED	LOGGED BY

SOIL CLASS.	DESCRIPTION	DEPTH	SAMPLE NO.	PR / RQD	REC.	MODE	REMARKS
SW-CL	13.0-22.0 GRAVELLY SILTY SAND: (cont.)	20.0	R-5		1.0 / 1.5	P	20.0-21.5 Pushed S.S. 4:30 2-26-88 21.5' 10:15 2-29-88
CL-SC	22.0-28.0 CLAYEY SAND - SANDY CLAY: Mod. yel. brn.; ~40-60 % fines, med. plastic; ~40-60 % sand, fine- to coarse-grained, mod grading, rounded to angular; abundant small holes; wht ppt.; Fe staining; shell frags; charcoal; soft to firm, wet. - occasional rounded fine gravel, lenses of coarser & finer material	22.0 24.0 26.0	R-6		1.5 / 1.5	HA P	~22.0' Drilling action gets very easy. H_2O @ 21.5 after well completed — H_2O @ ~24.0' after sampling at 25.0'. 25.0-26.5 Pushed S.S.
CH	~28.0-33.0 CLAY: Bluish gray with Fe mottling; >90 % fines, high plastic; <10 % sand, fine-grained (sporadic coarse); slight wht ppt; slight roots hairs; stiff; damp.	28.0 30.0	R-7		1.5 / 1.5	HA P	~28.0' Drilling gets harder but smooth. 30.0-31.5 Pushed S.S. 31.5-33.0 Pushed S.S.
	32.0-33.0 color slight-brn, slight increase in sand. Bottom hole 33.0'	32.0	R-8		1.3 / 1.5	P	Terminated boring at 33.0'. Began well installation.
		34.0 36.0 38.0					WELL CONSTRUCTION 0.0-23.0' Solid (2.0" SCH 40 PVC) 23.0-28.0 Slotted (0.020 Factory slots) SAND & SEAL 0.0 - 20.0 Grout 20.0-22.0 Bentonite 22.0-28.0 SAND (#3) 28.0-33.0 Bentonite

DATA ON THIS LOG ARE AN APPROXIMATION OF THE GEOLOGIC AND SUBSURFACE CONDITIONS BECAUSE THE INFORMATION WAS OBTAINED FROM INDIRECT, DISCONTINUOUS, AND POSSIBLY DISTURBED SAMPLING NECESSITATED BY USE OF SMALL-DIAMETER HOLES. ROTARY AND WASH BORING HOLES HAVE FURTHER COMPLICATIONS IN THIS REGARD BECAUSE OF THE NEED TO USE DRILLING FLUID AND/OR CASING IN ADVANCING HOLES.

THIS LOG INDICATES CONDITIONS IN THIS HOLE ONLY ON THE DATE INDICATED AND MAY NOT REPRESENT CONDITIONS AT OTHER LOCATIONS AND ON OTHER DATES. ANY WATER LEVELS SHOWN ARE SUBJECT TO VARIATION.

THIS HOLE WAS LOGGED IN SUCH A WAY AS TO PROVIDE DATA PRIMARILY FOR DESIGN PURPOSES AND NOT NECESSARILY FOR THE PURPOSES OF SPECIFIC CONTRACTORS.

THE STRATIFICATION LINES OR DEPTH INTERVALS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES, AND THE TRANSITIONS MAY BE GRADUAL.

SOIL CLASSIFICATIONS SHOWN ON LOGS ARE FIELD CLASSIFICATIONS BASED ON THE UNIFIED SOILS CLASSIFICATION SYSTEM.

Wahler Associates	JASCO CHEMICAL CORPORATION	EXPLORATION BORING LOG		BORING NO.
		PROJECT NO. JCO 104 H	SHEET NO. 2 OF 2	V-9

BORING LOCATION	JASCO, East side of main building		GROUND EL.
DEPTH/ELEV. WATER ~24.5' (5 March)	DRILL CONTRACTOR HEW DRILLING		TOTAL DEPTH 38.0
DRILL RIG CME 55	BORING DIA. 8.0"	DATE DRILLED 4 MAR. 88	LOGGED BY P.J.S.

SOIL CLASS.	DESCRIPTION	DEPTH	SAMPLE NO.	PR / RQD	REC.	MODE	REMARKS
	FILL 0.0-0.4' ASPHALT						Advancing hole with 8.0" hollow-stem augers. Sampling with a 2.5" ID split spoon (S.S.) sampler driven by a 140 lb rope line hammer, free-falling 30 in per blow.
AC	0.4-1.2' SILTY SANDY GRAVEL: sub-base material; greenish-gray	0.0				HA	
CH	ALLIVIUM 1.2-4.8' CLAY: Black; >90% fines, high plastic, high toughness; <10% sand, fine-grained; slight wht ppt; slight rootlets; very stiff to hard; damp.	2.0		5 15	1.2	DR	Driller - Jeff Helper - John
			R-1	20	1.5		Rig arrived 1:00 Drilling 1:45
		4.0				HA	2.0-3.5 Drove S.S.
CH	~4.8-11.3 CLAY: Greenish brown with Fe mottling; >90% fines, med. to higher plastic, med toughness; <10% sand, fine-to med.-grained; slight wht ppt.; very stiff to stiff; damp to slightly moist. - slightly crumbly ~8.0' color to mostly brn, gray clay stringers, some cemented, slight increase in sand %. ~10.5' grading sandy and gravelly.			8 20	1.0	DR	3.0-3.5 OVA=12
			R-2	22	1.5		4.0-5.5 Drove S.S. 5.0-5.5 OVA=14
		6.0				HA	Regional Board observers on site. (Liz Cameron)
				7 16	1.5	DR	7.0-8.5 8.0-8.5 OVA=10
		8.0	R-3	22	1.5		
						HA	
		10.0		5 12	1.0	DR	10.0-11.5 Drove S.S. 11.0-11.5 OVA=12
			R-4	22	1.5		
GW	11.2-18.5 CLAYEY SANDY GRAVEL: Med yel. brn.; ~20-40% fines; ~20-50% sand, fine-to coarse-grained, sub-angular to rounded, well graded; ~40-60% gravel, fine, sub to rounded; Fe staining; dense to very dense; damp to slightly moist. 16.0-16.5 clean sand, med-to fine-grained	12.0				HA	~12.5' Drilling action gets hard and jumpy.
				17	0.8	DR	13.0-14.0 Drove S.S.
			R-5	30	1.0		13.5-14.0 OVA=8
		14.0				HA	
				15 15	1.2	DR	15.0-16.5 Drove S.S. 16.0-16.5 OVA=3
		16.0	R-6	12	1.5		
	~18.5-32.5' SANDY CLAY/CLAYEY SAND: Mod. yel. brn.; ~40-60% fines, med. plastic; ~40-60% sand, fine-to coarse-grained,	18.0				HA	~18.5' Drilling action gets easy
SC-CL		20.0					20.0-21.5 Drove S.S.

Wahler Associates	JASCO CHEMICAL CORPORATION	EXPLORATION BORING LOG		BORING NO.
		PROJECT NO. JCO 104H	SHEET NO. 1 OF 2	V-10

BORING LOCATION			GROUND EL.
DEPTH/ELEV. WATER	DRILL CONTRACTOR		TOTAL DEPTH
DRILL RIG	BORING DIA.	DATE DRILLED	LOGGED BY

SOIL CLASS.	DESCRIPTION	DEPTH	SAMPLE NO.	PR / RQD	REC.	MODE	REMARKS
SC-CL	18.5-32.5 SANDY CLAY/CLAYEY SAND (cont.) subangular to subrounded, mod. grading; slight fine gravel; Fe mottling; stiff to medium dense; damp to moist.	20.0					20.0-21.5 Drove S.S.
				4	1.3	DR	21.0-21.5 OVA = 3
				4			
			R-7	7	1.5		
		22.0				HA	SAND & SEAL 0.0-22.0 Grout 22.0-24.0 Bentonite 24.0-32.0 SAND (at 3') 32.0-38.0 Bentonite
		24.0					▽ H_2O @ ~24.5' after well completed.
	~25.0-26.5 more sandy heavy fe staining, very moist			7	1.3	DR	25.0-26.5 Drove S.S.
				10			26.5 OVA = 2
		26.0	R-8	14	1.5		
	DATA ON THIS LOG ARE AN APPROXIMATION OF THE GEOLOGIC AND SUBSURFACE CONDITIONS BECAUSE THE INFORMATION WAS OBTAINED FROM INDIRECT, DISCONTINUOUS, AND POSSIBLY DISTURBED SAMPLING NECESSITATED BY USE OF SMALL-DIAMETER HOLES. ROTARY AND WASH BORING HOLES HAVE FURTHER COMPLICATIONS IN THIS REGARD BECAUSE OF THE NEED TO USE DRILLING FLUID AND/OR CASING IN ADVANCING HOLES. THIS LOG INDICATES CONDITIONS IN THIS HOLE ONLY ON THE DATE INDICATED AND MAY NOT REPRESENT CONDITIONS AT OTHER LOCATIONS AND ON OTHER DATES. ANY WATER LEVELS SHOWN ARE SUBJECT TO VARIATION. THIS HOLE WAS LOGGED IN SUCH A WAY AS TO PROVIDE DATA PRIMARILY FOR DESIGN PURPOSES AND NOT NECESSARILY FOR THE PURPOSES OF SPECIFIC CONTRACTORS. 20.0' Wet (saturated) THE STRATIFICATION LINES OR DEPTH INTERVALS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES, AND THE TRANSITIONS MAY BE GRADUAL. SOIL CLASSIFICATIONS SHOWN ON LOGS ARE FIELD CLASSIFICATIONS BASED ON THE UNIFIED SOILS CLASSIFICATION SYSTEM.	28.0				HA	H2O to 27.5' after sampling at 30'.
		30.0					30.0-31.5 Drove S.S.
				11	1.3	DR	31.0 OVA = 2
				33			
			R-9	50	1.5		
CH	~32.5-38.0 CLAY: Red brn.; >70% fines, high plastic, high toughness; <10% sand, fine-grained, fe staining, stiff to very stiff; damp. Sporadic sand with slight gravel.	32.0				HA	~32.0' Drilling action gets smooth but hard. Driller thinks clay (very good aquitard)
		34.0					
							35.0-36.5 Drove S.S.
				8	1.3	DR	36.5' OVA = 4
				14			
		36.0	R-10	21	1.5		
							36.5-38.0 Drove S.S.
				15	1.2	DR	38.0 OVA = 3
				20			Terminated boring at 38.0', installed well.
	Bottom hole 38.0'		R-11	22	1.5		WELL CONSTRUCTION 0.0-25.0 solid (2" PVC) 25.0-32.0 slotted (0.020) SAND & SEAL
		38.0					- see above
		40.0					

Wahler Associates	JASCO CHEMICAL CORPORATION	EXPLORATION BORING LOG		BORING NO.
		PROJECT NO.	SHEET NO.	V-10
		JCO 104 H	2 OF 2	

APPENDIX B

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/04/88
Date Received: 03/08/88
Date Reported: 03/15/88

Project: #JCO-104H

TOTAL PETROLEUM HYDROCARBONS

Sample Number	Sample Description Soil,	Detection Limit ppm	High Boiling Point Hydrocarbons ppm
8030558	R-3	1	< 1.0
8030559	R-4	1	< 1.0
8030560	R-6	1	< 1.0
8030561	R-7	1	< 1.0
8030562	R-8	1	< 1.0
8030563	R-9	1	< 1.0

Method of Analysis: EPA 3550/8015

SEQUOIA ANALYTICAL LABORATORY

Scot Cocanour

Arthur G. Burton
Laboratory Director

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/04/88
Date Received: 03/08/88
Date Analyzed: 03/10/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030558	Soil, R-3

PRIORITY POLLUTANTS

PURGEABLE AROMATICS
results in ppb

Benzene	< 50
Chlorobenzene	< 50
Ethylbenzene	< 50
Toluene	< 50
1,2-Dichlorobenzene	< 50
1,3-Dichlorobenzene	< 50
1,4-Dichlorobenzene	< 50

Method of Analysis: EPA 8020

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Scott Cocanour

Arthur G. Burton
Laboratory Director

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/04/88
Date Received: 03/08/88
Date Analyzed: 03/10/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030559	Soil, R-4

PRIORITY POLLUTANTS

PURGEABLE AROMATICS
results in ppb

Benzene	< 50
Chlorobenzene	< 50
Ethylbenzene	< 50
Toluene	< 50
1,2-Dichlorobenzene	< 50
1,3-Dichlorobenzene	< 50
1,4-Dichlorobenzene	< 50

Method of Analysis: EPA 8020

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Laboratory Director

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Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/04/88
Date Received: 03/08/88
Date Analyzed: 03/10/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030560	Soil, R-6

PRIORITY POLLUTANTS

PURGEABLE AROMATICS
results in ppb

Benzene	< 50
Chlorobenzene	< 50
Ethylbenzene	< 50
Toluene	< 50
1,2-Dichlorobenzene	< 50
1,3-Dichlorobenzene	< 50
1,4-Dichlorobenzene	< 50

Method of Analysis: EPA 8020

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Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/04/88
Date Received: 03/08/88
Date Analyzed: 03/10/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030561	Soil, R-7

PRIORITY POLLUTANTS

PURGEABLE AROMATICS
results in ppb

Benzene	< 50
Chlorobenzene	< 50
Ethylbenzene	< 50
Toluene	< 50
1,2-Dichlorobenzene	< 50
1,3-Dichlorobenzene	< 50
1,4-Dichlorobenzene	< 50

Method of Analysis: EPA 8020

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Laboratory Director

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2549 Middlefield Road
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Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/04/88
Date Received: 03/08/88
Date Analyzed: 03/10/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030562	Soil, R-8

PRIORITY POLLUTANTS

PURGEABLE AROMATICS
results in ppb

Benzene	< 50
Chlorobenzene	< 50
Ethylbenzene	< 50
Toluene	< 50
1,2-Dichlorobenzene	< 50
1,3-Dichlorobenzene	< 50
1,4-Dichlorobenzene	< 50

Method of Analysis: EPA 8020

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2549 Middlefield Road
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Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/04/88
Date Received: 03/08/88
Date Analyzed: 03/10/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030563	Soil, R-9

PRIORITY POLLUTANTS

PURGEABLE AROMATICS
results in ppb

Benzene	< 50
Chlorobenzene	< 50
Ethylbenzene	< 50
Toluene	< 50
1,2-Dichlorobenzene	< 50
1,3-Dichlorobenzene	< 50
1,4-Dichlorobenzene	< 50

Method of Analysis: EPA 8020

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Scot Cocanour

Arthur G. Burton
Laboratory Director

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/04/88
Date Received: 03/08/88
Date Reported: 03/14/88

Q.C. DATA REPORT

Analyst: M. Giles
Date of Analysis: 3/11/88
Method of Analysis: 8020
Detection Limit: 50
Units: ppb

Sample Number	Analyte	Original Result	Duplicate Result	% Deviation
8030561	Benzene	< 5.0	< 50	0.0

Sample Number	Analyte	Sample Contribution	Spike Added	Spike Result	% Recovery
8030561	Benzene	< 50	100	107	107

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Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/04/88
Date Received: 03/08/88
Date Reported: 03/14/88

Q.C. DATA REPORT

Analyst: E. Esilius
Date of Analysis: 3/10/88
Method of Analysis: Diesel
Detection Limit: 1.0
Units: ppm

Sample Number	Analyte	Original Result	Duplicate Result	% Deviation
8030559	TPH-Diesel	< 1.0	< 1.0	0.0

Sample Number	Analyte	Sample Contribution	Spike Added	Spike Result	% Recovery
8030559	TPH-Diesel	< 1.0	12	8.3	69

SEQUOIA ANALYTICAL LABORATORY

Scot Cocanour

Arthur G. Burton
Laboratory Director

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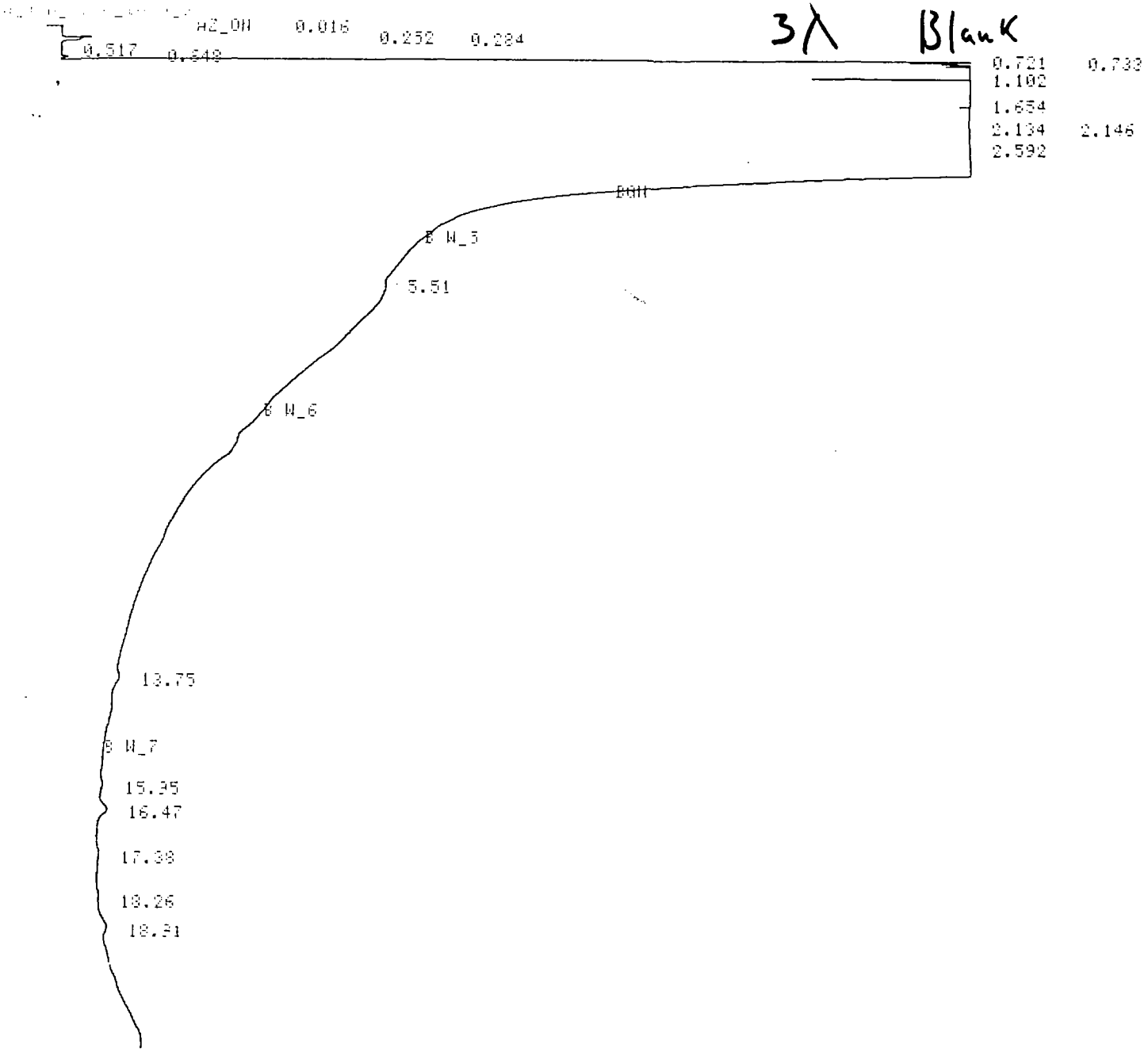
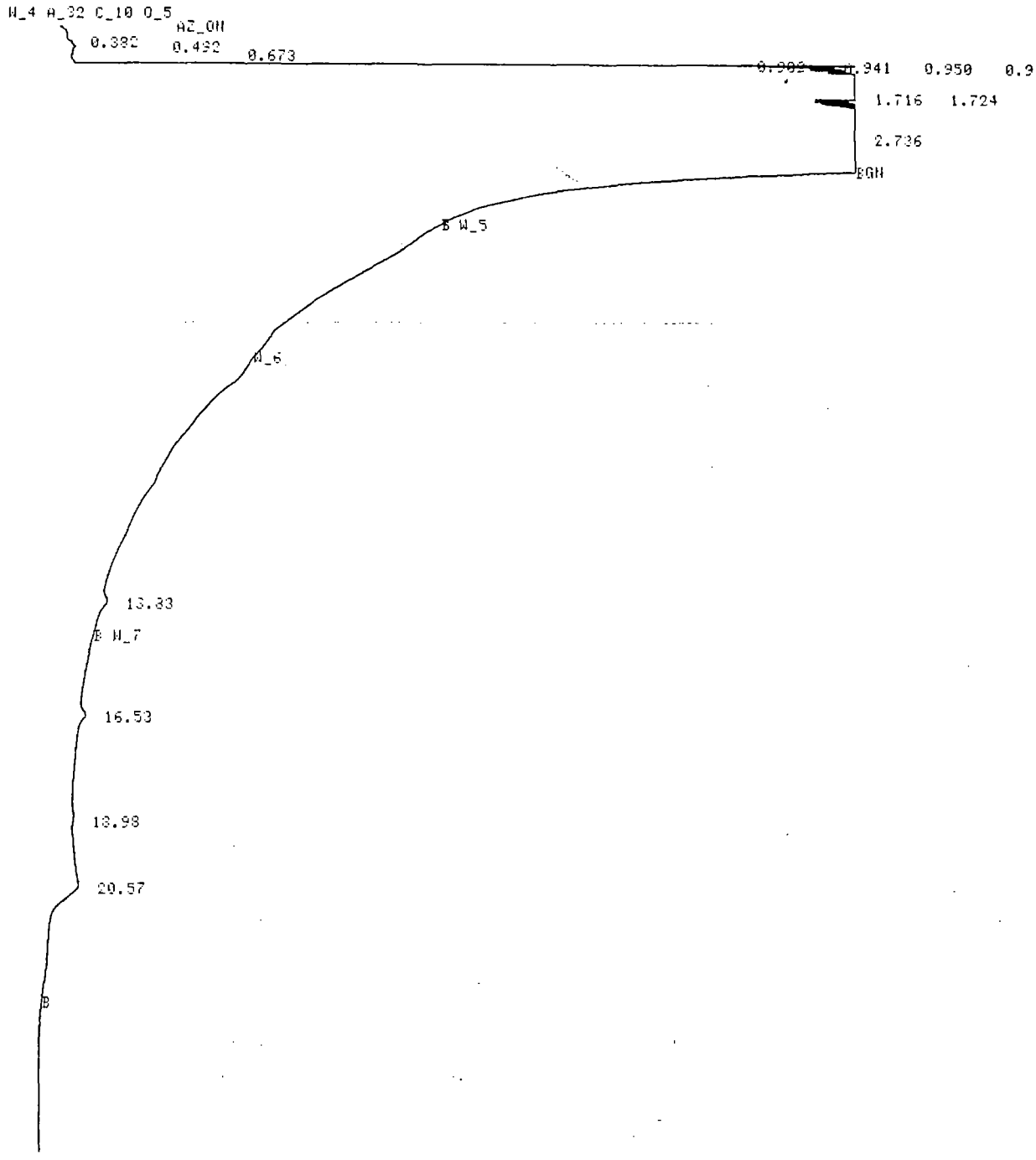


FILE 164 RUN 160 STARTED 02:55.3 80/01/09 HIGH BOILERS
% METHOD 1 DIESELS LAST EDITED 00:29.4 80/01/01

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
5.51	380123	1.7531		78.6458	19.0501
13.75	15182	1.1617		3.1411	12.6235
15.95	9201	0.6698	V	1.9036	7.2786
16.47	34274	2.7572	V	7.0911	29.9608
17.38	11675	0.7881	V	2.4155	8.5633
18.26	4794	0.3978	V	0.9918	4.3227
18.91	28087	1.6750	V	5.8111	18.2010

7 PEAKS > AREA REJECT 483336 TOTAL AREA
7 PEAKS > HEIGHT REJECT 9.2028 TOTAL HEIGHT

FILE 114 RUN 13 STARTED 23:24.1 80/01/06 24HR RUSHES. 3A 8036558 (4:1)
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

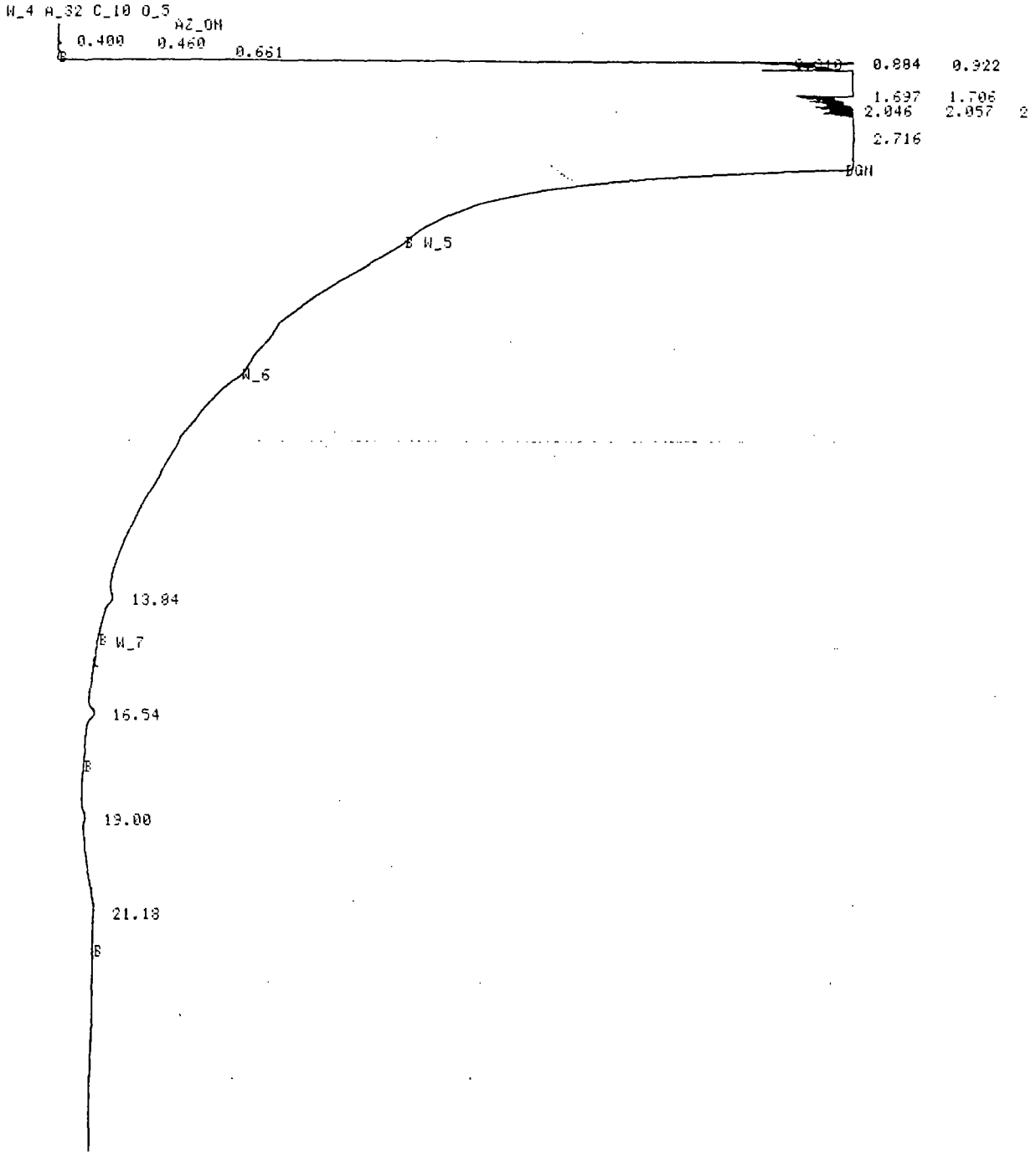


FILE 114 RUN 13 STARTED 23:24.1 80/01/06 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
13.83	37389	2.2432		17.1096	19.3396
16.53	545	2.2362	V	0.2492	19.2796
18.98	12936	0.8794	V	5.9197	7.5820
20.57	167655	6.2401		76.7215	53.7988

4 PEAKS > AREA REJECT 218524 TOTAL AREA
4 PEAKS > HEIGHT REJECT 11.5989 TOTAL HEIGHT

FILE 115 RUN 14 STARTED 23:53.9 80/01/06 24HR RUSHES 3A 8030559 (4:1)
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

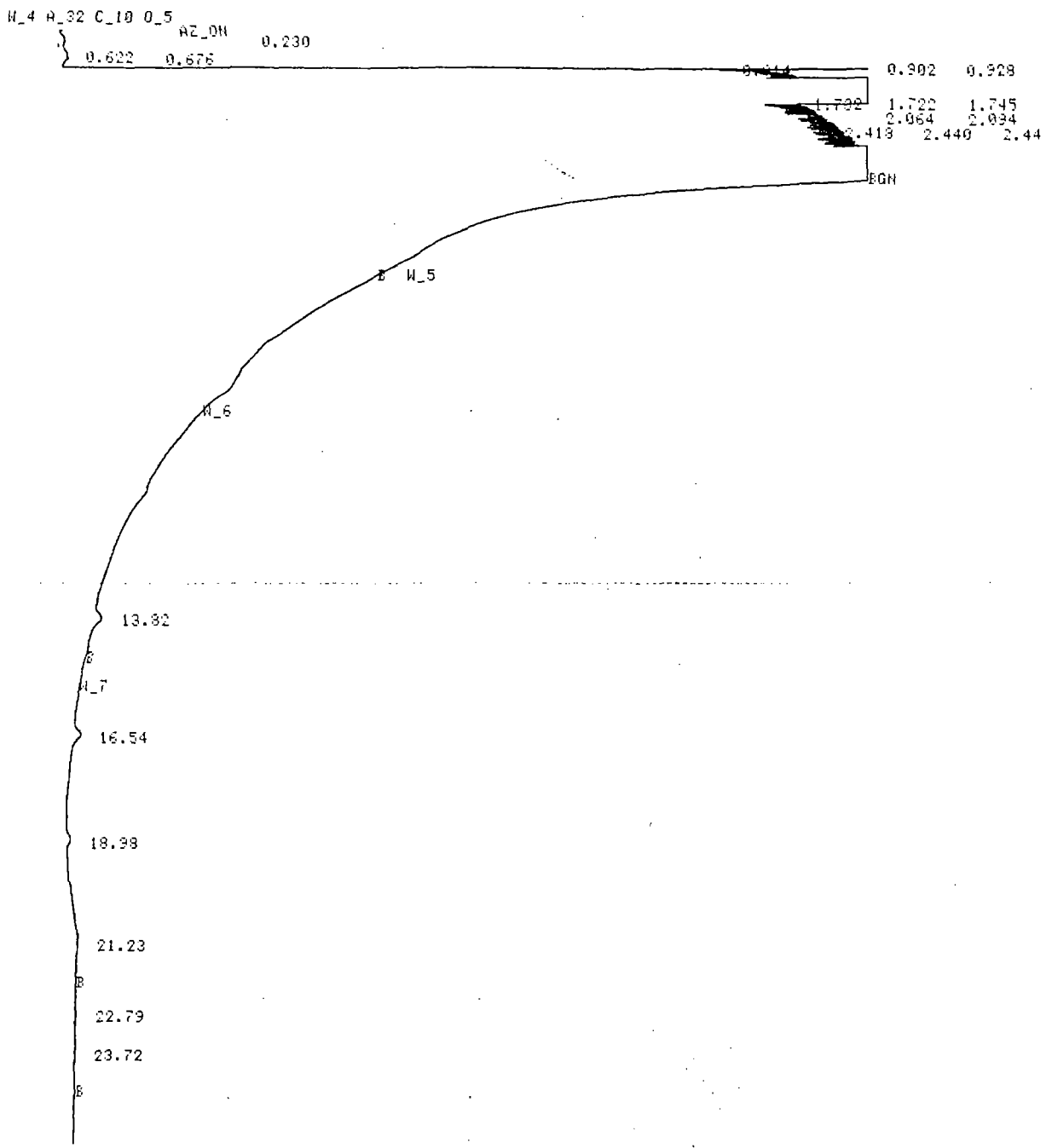


FILE 115 RUN 14 STARTED 23:53.9 80/01/06 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
13.84	32973	2.0917		16.4816	27.3939
16.54	36253	2.6662		18.1763	34.9045
19.00	16471	1.1360	V	8.2581	14.8725
21.18	113855	1.7446		57.0839	22.8391

4 PEAKS > AREA REJECT 199452 TOTAL AREA
4 PEAKS > HEIGHT REJECT 7.6385 TOTAL HEIGHT

FILE 116 RUN 15 STARTED 00:32.9 80/01/07 24HR RUSHES 3λ 8030560 (4:1)
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06



FILE 116 RUN 15 STARTED 00:32.9 80/01/07 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

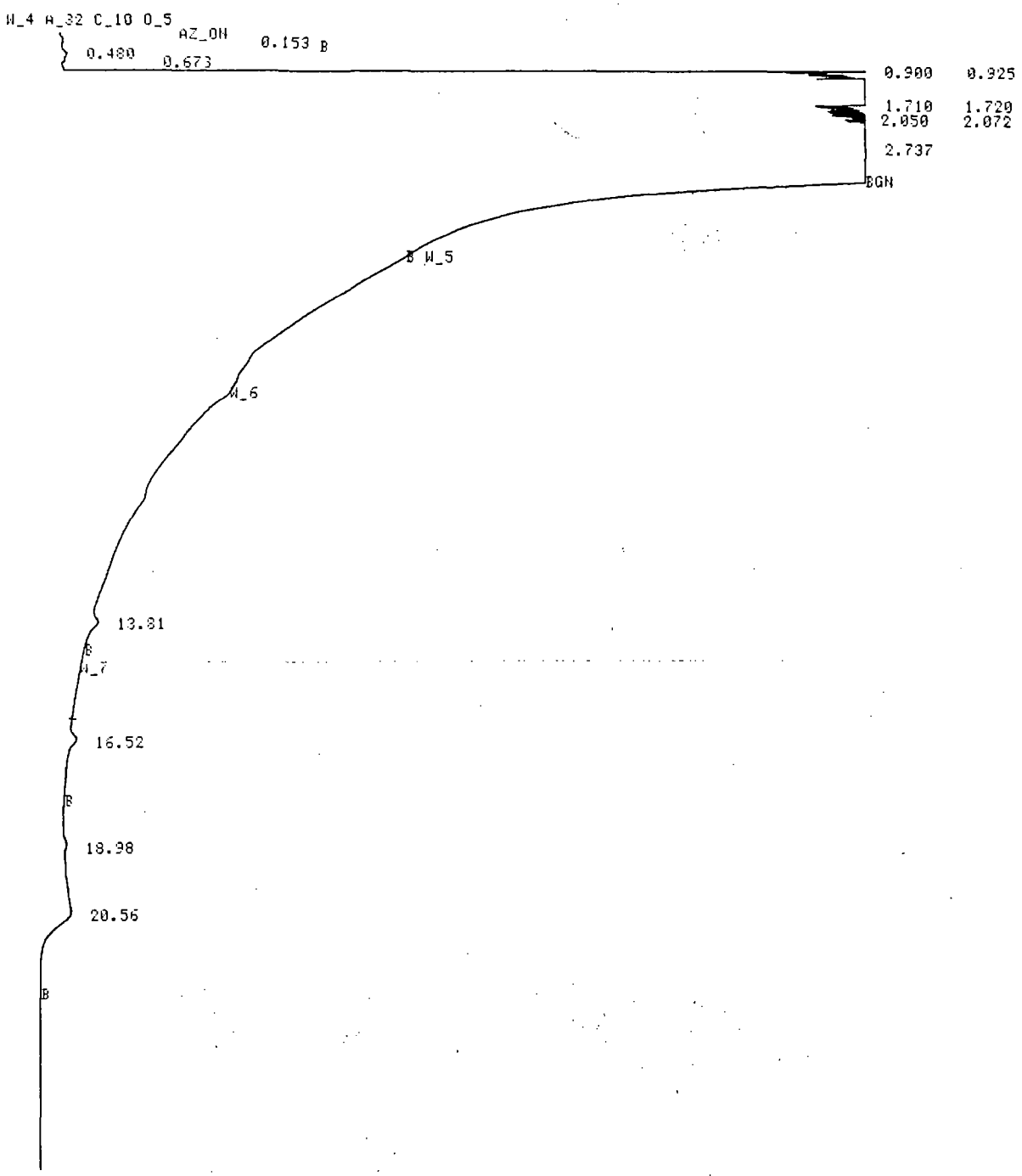
RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
13.82	44842	3.0125		21.3961	32.1940
16.54	4890	2.9325	V	2.3333	31.3394
18.98	21422	1.3875	V	10.2215	14.8282
21.23	129337	1.6539		61.7132	17.6745
22.79	3980	0.1457	V	1.8991	1.5569
23.72	5107	0.2252		2.4368	2.4071

6 PEAKS > AREA REJECT 209578 TOTAL AREA
6 PEAKS > HEIGHT REJECT 9.3572 TOTAL HEIGHT

KEYBOARD DIRECTED EVENTS

TIME	EVENT	VALUE
26.068	Stop Data	

FILE 117 RUN 16 STARTED 01:06.6 80/01/07 24HR RUSHES 3λ 8030561 (4:1)
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06



FILE 117 RUN 16 STARTED 01:06.6 80/01/07 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

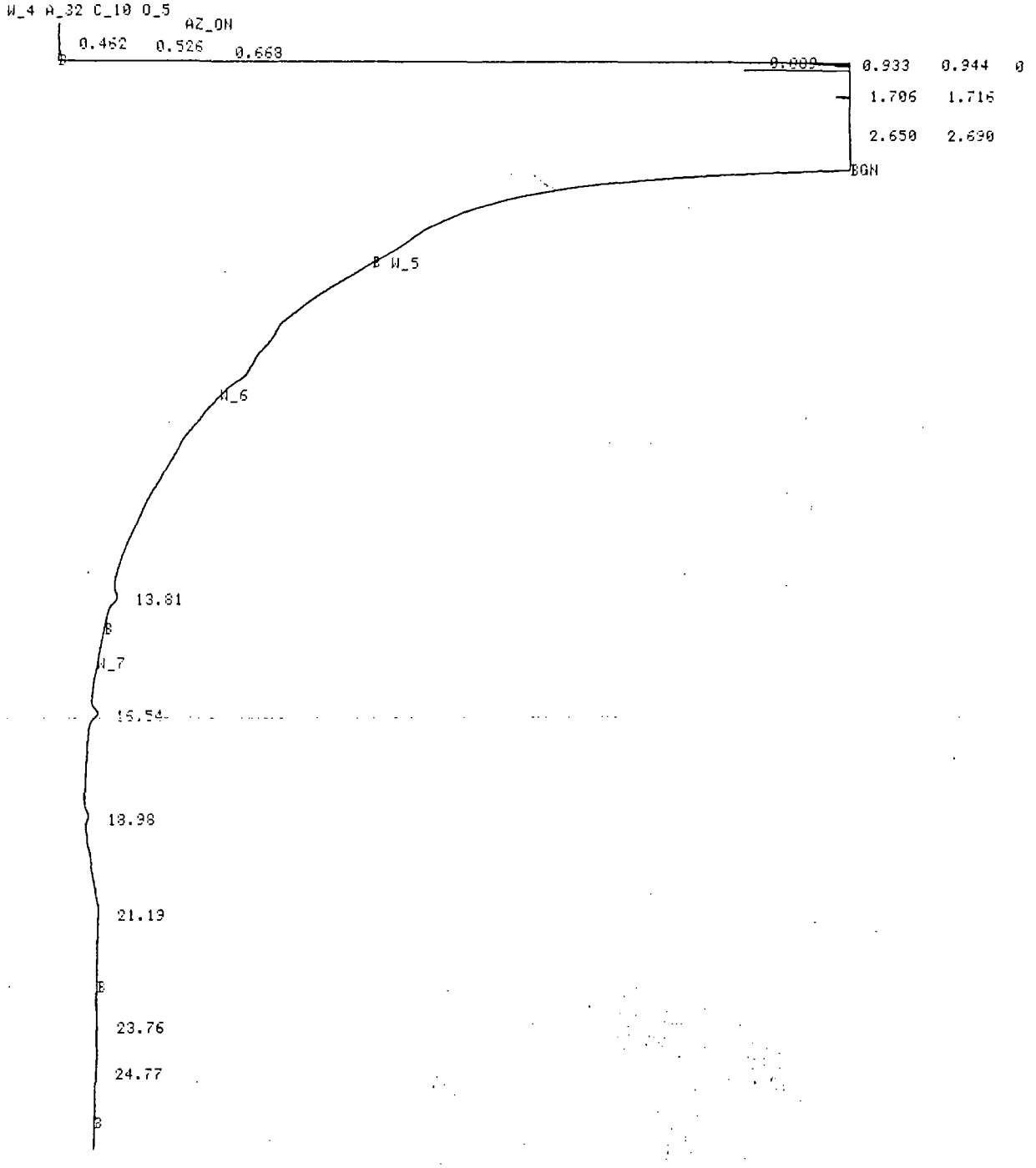
RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
13.81	43195	2.6941		14.6944	21.4638
16.52	32637	2.6625		11.1027	21.2122
18.98	16309	1.0738	V	5.5480	8.5553
20.56	201815	6.1213		68.6549	48.7687

4 PEAKS > AREA REJECT 293955 TOTAL AREA
4 PEAKS > HEIGHT REJECT 12.5517 TOTAL HEIGHT

KEYBOARD DIRECTED EVENTS

TIME	EVENT	VALUE
25.705	Stop Data	

FILE 118 RUN 17 STARTED 01:36.8 80/01/07 24HR RUSHES 31 8050562 4:1
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

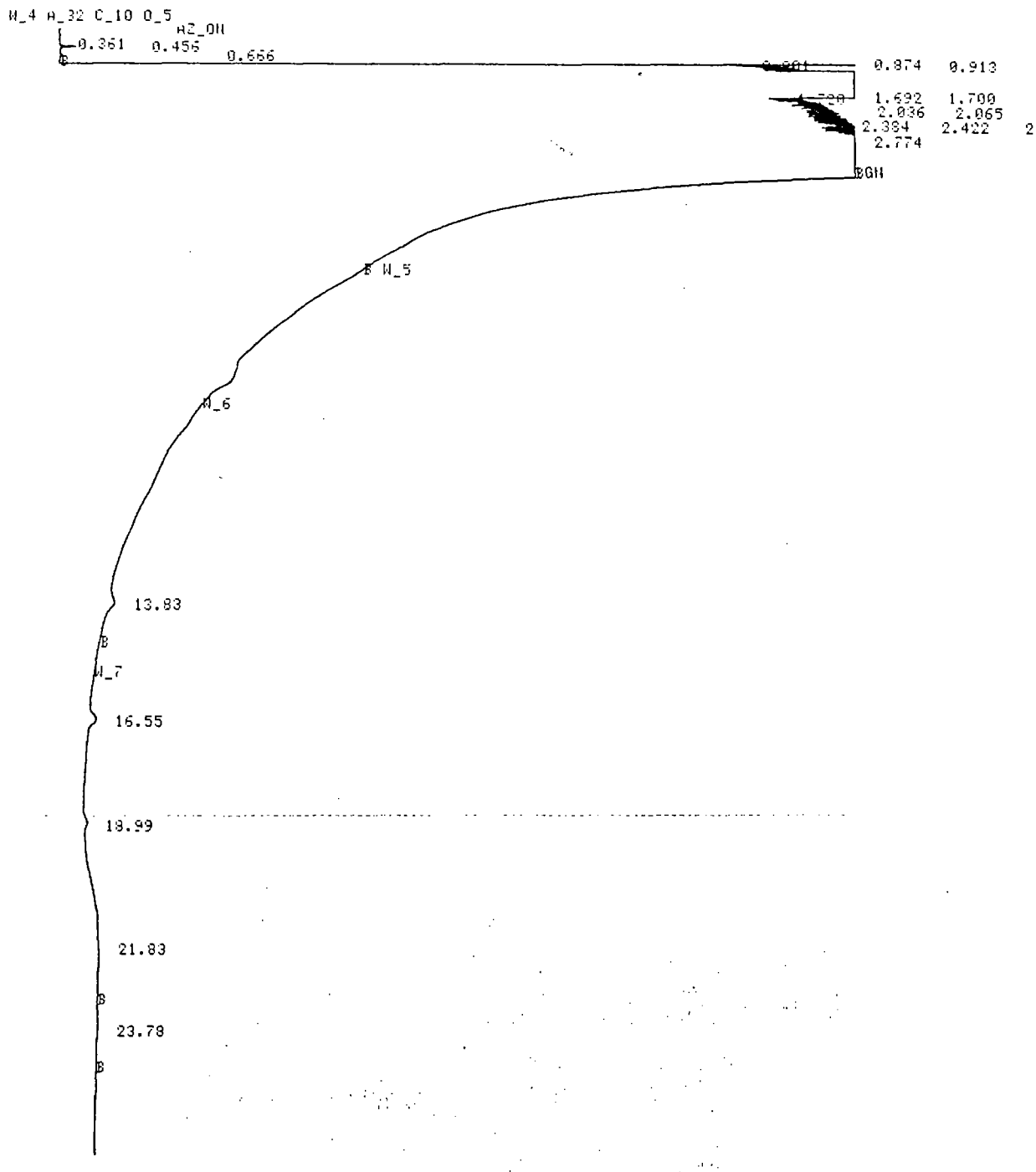


FILE 118 RUN 17 STARTED 01:36.8 80/01/07 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
13.81	31758	2.1206		8.5967	22.3288
16.54		2.7734	V		29.2021
18.98	19023	1.2849	V	5.1493	13.5286
21.19	303893	2.8764		82.2623	30.2864
23.76	5255	0.2066	V	1.4225	2.1750
24.77	9491	0.2354		2.5690	2.4791

5 PEAKS > AREA REJECT 369419 TOTAL AREA
6 PEAKS > HEIGHT REJECT 9.4973 TOTAL HEIGHT

FILE 120 RUN 19 STARTED 02:57.2 80/01/07 24HR RUSHES 3 λ 8030563 4:1
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06



FILE 120 RUN 19 STARTED 02:57.2 80/01/07 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
13.83	35813	2.2598		9.5176	25.3265
16.55	8932	2.9252	V	2.3738	32.7841
18.99	19438	1.3005	V	5.1658	14.5756
21.83	305482	2.1812		81.1854	24.4458
23.78	6613	0.2559		1.7575	2.8679

5 PEAKS > AREA REJECT 376277 TOTAL AREA
5 PEAKS > HEIGHT REJECT 8.9225 TOTAL HEIGHT

SEQUOIA Analytical Laboratory
2549 Middlefield Road
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1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/08/88
Date Received: 03/08/88
Date Analyzed: 03/10/88
Date Reported: 03/14/88
Project: #JCO-104H

Sample Number	Sample Description
8030514	Water, V-8

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 2	1,2-Dichloropropane	< 2
Bromomethane	< 2	1,3-Dichloropropane	< 2
Bromodichloromethane	< 2	Ethylbenzene	< 2
Bromoform	< 2	Methylene chloride	<10
Carbon tetrachloride	< 2	1,1,2,2-Tetrachloroethane	< 2
Chlorobenzene	< 2	Tetrachloroethene	< 2
Chloroethane	< 2	1,1,1-Trichloroethane	3.5
2-Chloroethylvinyl ether	<10	1,1,2-Trichloroethane	< 2
Chloroform	<10	Trichloroethene	< 2
Chloromethane	< 2	Toluene	< 2
Dibromochloromethane	< 2	Vinyl chloride	< 2
1,1-Dichloroethane	< 2		
1,2-Dichloroethane	< 2		
1,1-Dichloroethene	< 2		
trans-1,2-Dichloroethene	< 2		

Method of Analysis: EPA 624

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Date Analyzed: 03/10/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030514	Water, V-8

- Open Scan -
NON-PRIORITY POLLUTANTS
PURGEABLES BY GC/MS
results in ppb

2-Propanone	3.0

SEQUOIA ANALYTICAL LABORATORY

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Date Sampled: 03/08/88
Date Received: 03/08/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030514	Water, V-8

ANALYSIS
results in ppb

Methanol	< 10
Ethanol	< 10
Acetone	< 10
Isopropanol	< 10

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Date Sampled: 03/08/88
Date Received: 03/08/88
Date Extracted: 03/10/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030514	Water, V-8

PRIORITY POLLUTANTS

PHENOLS
results in ppb

4-Chloro-3-methylphenol	< 10
2-Chlorophenol	< 10
2,4-Dichlorophenol	< 10
2,4-Dimethylphenol	< 10
2,4-Dinitrophenol	< 15
2-Methyl-4,6-dinitrophenol	< 15
2-Nitrophenol	< 10
4-Nitrophenol	< 15
Pentachlorophenol	< 10
Phenol	< 10
2,4,6-Trichlorophenol	< 10

Method of Analysis: EPA 604

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Date Sampled: 03/08/88
Date Received: 03/08/88
Date Reported: 03/14/88

Project: #JCO-104H

TOTAL PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Detection Limit ppb	(Paint Thinner) High Boiling Point Hydrocarbons ppb
	Water,		
8030514	V-8	50	< 50

Method of Analysis: EPA 3510/8015

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Date Sampled: 03/08/88
Date Received: 03/08/88
Date Reported: 03/14/88
Project: #JCO-104H

Sample Number	Sample Description
8030514	Water, V-8

ANALYSIS

Turbidity, NTU	47

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Date Sampled: 03/08/88
Date Received: 03/08/88
Date Analyzed: 03/10/88
Date Reported: 03/14/88
Project: #JCO-104H

Sample Number	Sample Description
8030515	Water, V-9

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 2	1,2-Dichloropropane	< 2
Bromomethane	< 2	1,3-Dichloropropane	< 2
Bromodichloromethane	< 2	Ethylbenzene	< 2
Bromoform	< 2	Methylene chloride	<10
Carbon tetrachloride	< 2	1,1,2,2-Tetrachloroethane	< 2
Chlorobenzene	< 2	Tetrachloroethene	< 2
Chloroethane	< 2	1,1,1-Trichloroethane	< 2
2-Chloroethylvinyl ether	<10	1,1,2-Trichloroethane	< 2
Chloroform	<10	Trichloroethene	< 2
Chloromethane	< 2	Toluene	< 2
Dibromochloromethane	< 2	Vinyl chloride	< 2
1,1-Dichloroethane	3.6		
1,2-Dichloroethane	< 2		
1,1-Dichloroethene	< 2		
trans-1,2-Dichloroethene	< 2		

Method of Analysis: EPA 624

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Date Received: 03/08/88
Date Analyzed: 03/10/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030515	Water, V-9

- Open Scan -
NON-PRIORITY POLLUTANTS
PURGEABLES BY GC/MS
results in ppb

2-Propanone	5.1

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Date Received: 03/08/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030515	Water, V-9

ANALYSIS
results in ppb

Methanol	< 10
Ethanol	< 10
Acetone	< 10
Isopropanol	< 10

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Date Sampled: 03/08/88
Date Received: 03/08/88
Date Extracted: 03/10/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030515	Water, V-9

PRIORITY POLLUTANTS

PHENOLS
results in ppb

4-Chloro-3-methylphenol	< 10
2-Chlorophenol	< 10
2,4-Dichlorophenol	< 10
2,4-Dimethylphenol	< 10
2,4-Dinitrophenol	< 15
2-Methyl-4,6-dinitrophenol	< 15
2-Nitrophenol	< 10
4-Nitrophenol	< 15
Pentachlorophenol	< 10
Phenol	< 10
2,4,6-Trichlorophenol	< 10

Method of Analysis: EPA 604

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Date Received: 03/08/88
Date Reported: 03/14/88

Project: #JCO-104H

TOTAL PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Detection Limit ppb	(Paint Thinner) High Boiling Point Hydrocarbons ppb
	Water,		
8030515	V-9	50	< 50

Method of Analysis: EPA 3510/8015

SEQUOIA ANALYTICAL LABORATORY

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Date Sampled: 03/08/88
Date Received: 03/08/88
Date Reported: 03/14/88
Project: #JCO-104H

Sample Number	Sample Description
8030515	Water, V-9

ANALYSIS

Turbidity, NTU	15

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Date Sampled: 03/09/88
Date Received: 03/09/88
Date Analyzed: 03/10/88
Date Reported: 03/14/88
Project: #JCO-104H

Sample Number	Sample Description
8030634	Water, V-10

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 2	1,2-Dichloropropane	< 2
Bromomethane	< 2	1,3-Dichloropropane	< 2
Bromodichloromethane	< 2	Ethylbenzene	< 2
Bromoform	< 2	Methylene chloride	<10
Carbon tetrachloride	< 2	1,1,2,2-Tetrachloroethane	< 2
Chlorobenzene	< 2	Tetrachloroethene	< 2
Chloroethane	< 2	1,1,1-Trichloroethane	< 2
2-Chloroethylvinyl ether	<10	1,1,2-Trichloroethane	< 2
Chloroform	<10	Trichloroethene	< 2
Chloromethane	< 2	Toluene	< 2
Dibromochloromethane	< 2	Vinyl chloride	< 2
1,1-Dichloroethane	< 2		
1,2-Dichloroethane	< 2		
1,1-Dichloroethene	< 2		
trans-1,2-Dichloroethene	< 2		

Method of Analysis: EPA 624

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Date Received: 03/09/88
Date Analyzed: 03/10/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030634	Water, V-10

- Open Scan -
NON-PRIORITY POLLUTANTS
PURGEABLES BY GC/MS
results in ppb

No additional peaks > 10 ppb were detected for identification by NBS spectral library.

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Date Received: 03/09/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030634	Water, V-10

ANALYSIS
results in ppb

Methanol	< 10
Ethanol	< 10
Acetone	< 10
Isopropanol	< 10

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Date Sampled: 03/09/88
Date Received: 03/09/88
Date Extracted: 03/10/88
Date Reported: 03/14/88

Project: #JCO-104H

Sample Number	Sample Description
8030634	Water, V-10

PRIORITY POLLUTANTS

PHENOLS
results in ppb

4-Chloro-3-methylphenol	< 10
2-Chlorophenol	< 10
2,4-Dichlorophenol	< 10
2,4-Dimethylphenol	< 10
2,4-Dinitrophenol	< 15
2-Methyl-4,6-dinitrophenol	< 15
2-Nitrophenol	< 10
4-Nitrophenol	< 15
Pentachlorophenol	< 10
Phenol	< 10
2,4,6-Trichlorophenol	< 10

Method of Analysis: EPA 604

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Attn: Bob Breynaert

Date Sampled: 03/09/88
Date Received: 03/09/88
Date Reported: 03/14/88

Project: #JCO-104H

TOTAL PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Detection Limit ppb	(Paint Thinner) High Boiling Point Hydrocarbons ppb
	Water,		
8030634	V-10	50	< 50

Method of Analysis: EPA 3510/8015

SEQUOIA ANALYTICAL LABORATORY

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Attn: Bob Breynaert

Date Sampled: 03/09/88
Date Received: 03/09/88
Date Reported: 03/14/88
Project: #JCO-104H

Sample Number	Sample Description
8030634	Water, V-10

ANALYSIS

Turbidity, NTU	470

SEQUOIA ANALYTICAL LABORATORY

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Attn: Bob Breynaert

Date Sampled: 03/09/88
Date Received: 03/09/88
Date Reported: 03/14/88

Project: #JCO-104H

TOTAL PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Detection Limit ppb	(Diesel) High Boiling Point Hydrocarbons ppb
	Water,		
8030634	V-10	50	< 50

Method of Analysis: EPA 3510/8015

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Attn: Bob Breynaert

Date Sampled: 03/09/88
Date Received: 03/09/88
Date Reported: 03/14/88
Project: #JCO-104H

Q.C. DATA REPORT

Analyst: Janet Schwarz
Date of Analysis: 3/10/88
Method of Analysis: EPA 624
Detection Limit: 2.0
Units: ppb

Sample Number	Analyte	Original Result	Duplicate Result	% Deviation
8030515	1,1-DCA	3.6	3.4	2.9

Sample Number	Analyte	Sample Contribution	Spike Added	Spike Result	% Recovery
8030635	2-Bromo-1-Chloropropanone	< 2	50	45	90

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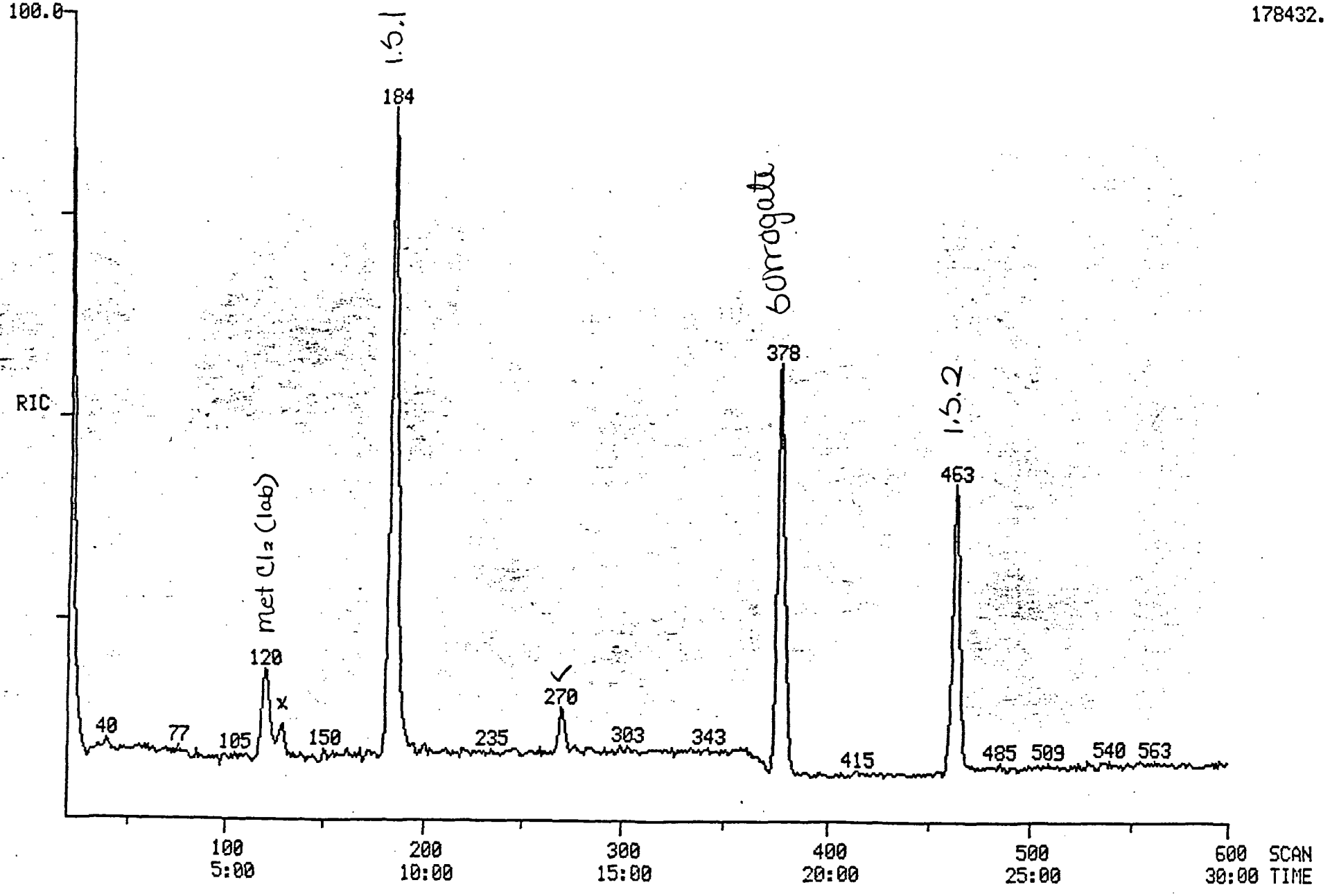
Laboratory Director

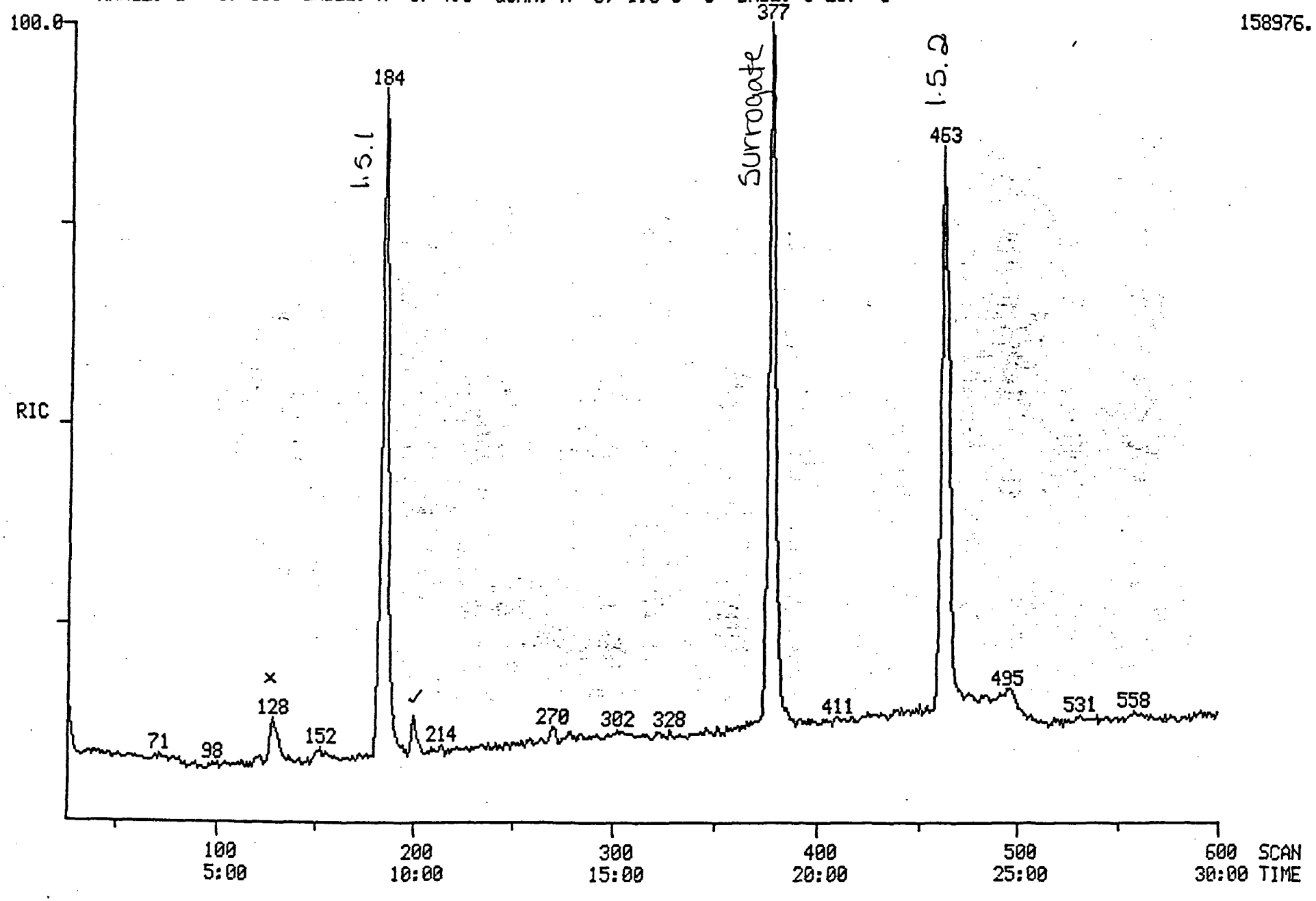
RIC
03/10/88 14:55:00
SAMPLE: JCO V-8 (5ML)
CONDS.: VOA METHOD
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: VOA8030514 #1 SCANS 20 TO 600
CALI: VOA8030514 #2



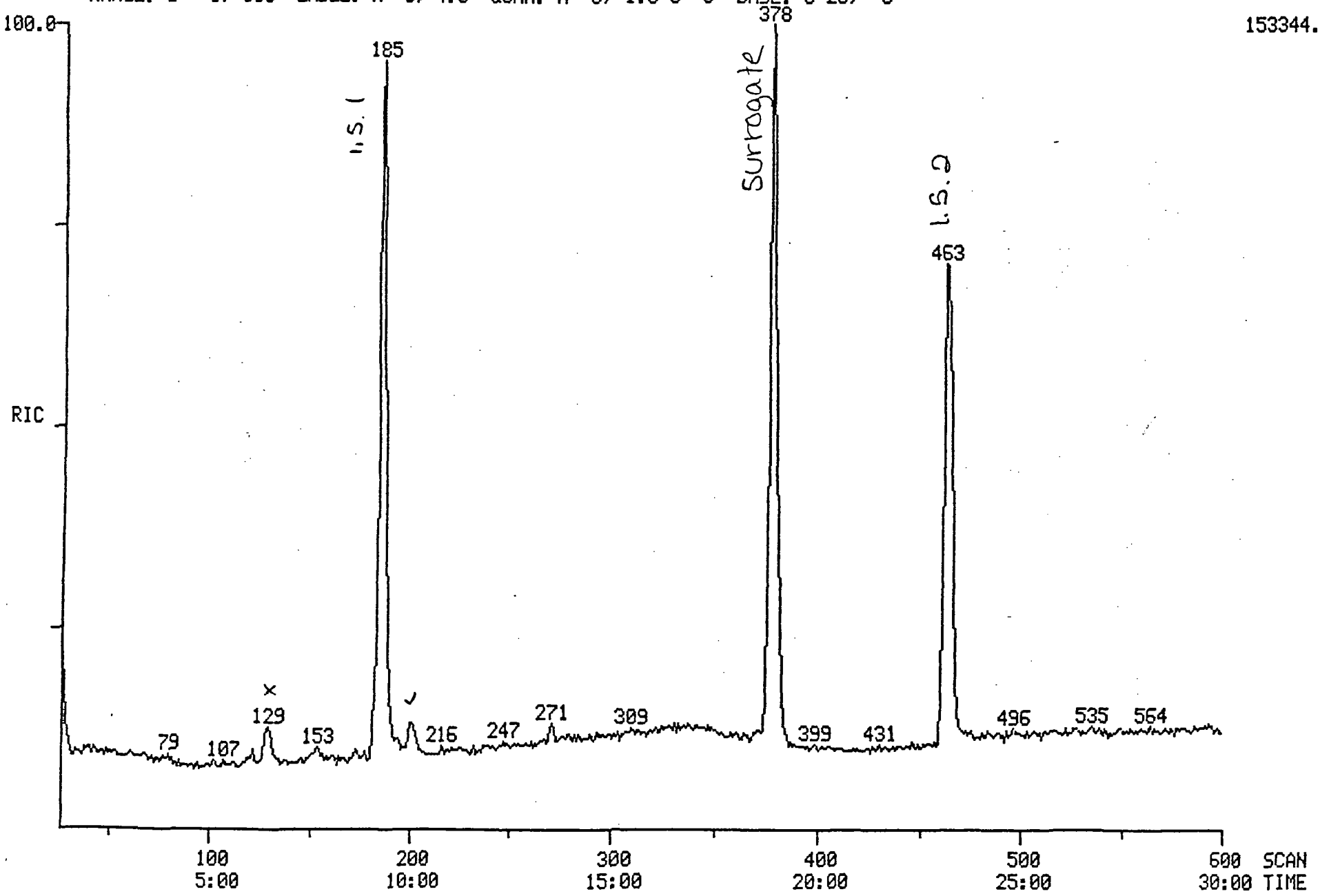
RIC
03/10/88 15:49:00
SAMPLE: JCO V-9 (5ML)
CONDS.: VOA METHOD
RANGE: G 1, 800 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: VOA8030515 #200 SCANS 25 TO 600
CALI: VOA8030515 #2



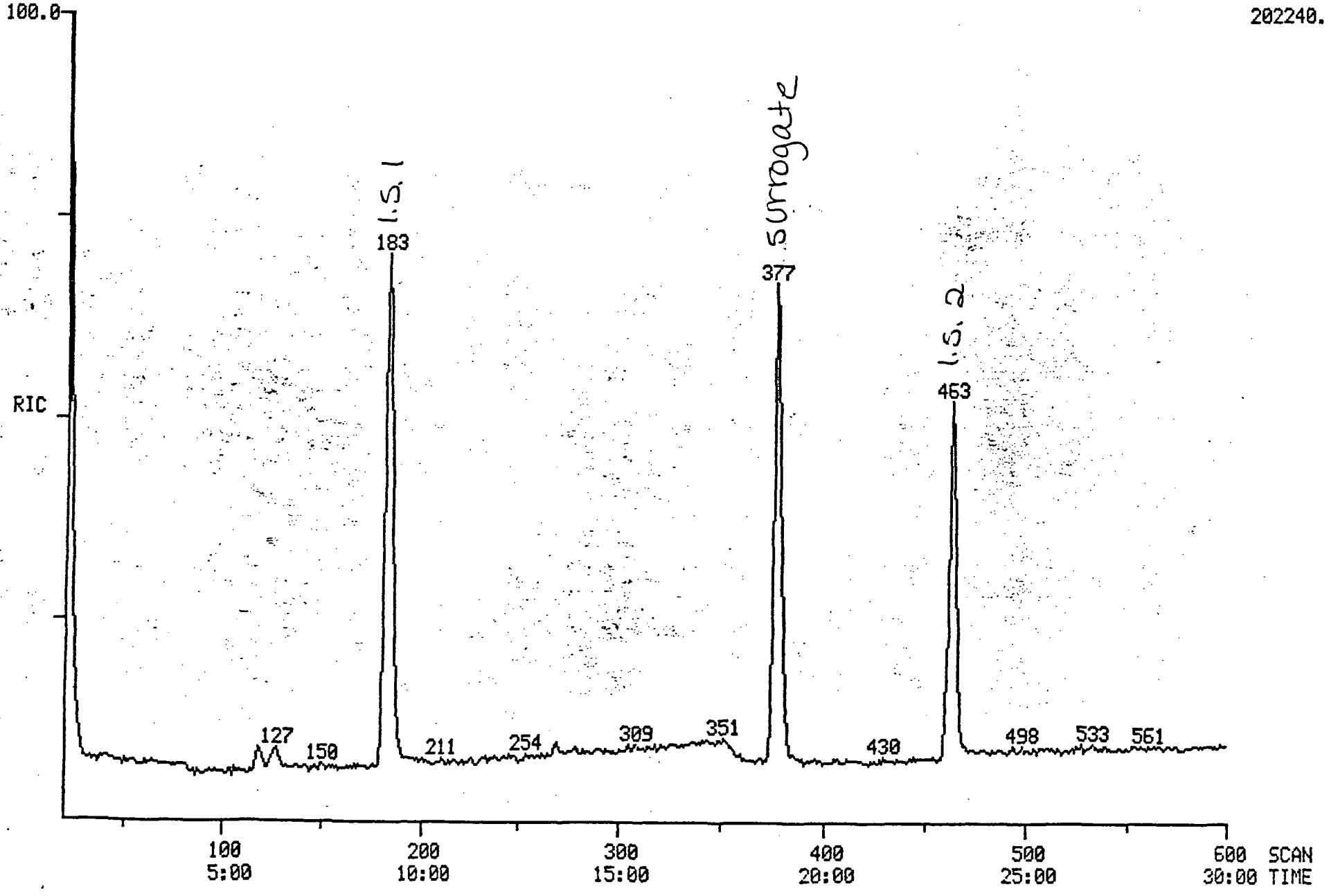
RIC
03/10/88 16:48:00
SAMPLE: JCO V-9 (5ML)
CONDS.: VOA METHOD
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: VOA8030515A #201 SCANS 25 TO 600
CALI: VOA8030515A #2



RIC
03/10/88 17:40:00
SAMPLE: JCO V-10 (5ML)
CONDS.: VOA METHOD
RANGE: G 1, 800 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: VOA8030634 #1 SCANS 20 TO 600
CALI: VOA8030634 #2



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Attn: Bob Breynaert

Date Sampled: 03/09/88
Date Received: 03/09/88
Date Reported: 03/14/88
Project: #JCO-104H

Q.C. DATA REPORT

Analyst: G. Brock
Date of Analysis: 3/11/88
Method of Analysis: Alcohols by GC
Detection Limit: 10
Units: ppb

Sample Number	Analyte	Original Result	Duplicate Result	% Deviation
8030634	Methanol	< 10	< 10	0.0

Sample Number	Analyte	Sample Contribution	Spike Added	Spike Result	% Recovery
8030634	Methanol	< 10	2.5	21	84

SEQUOIA ANALYTICAL LABORATORY

Scot Cocanour

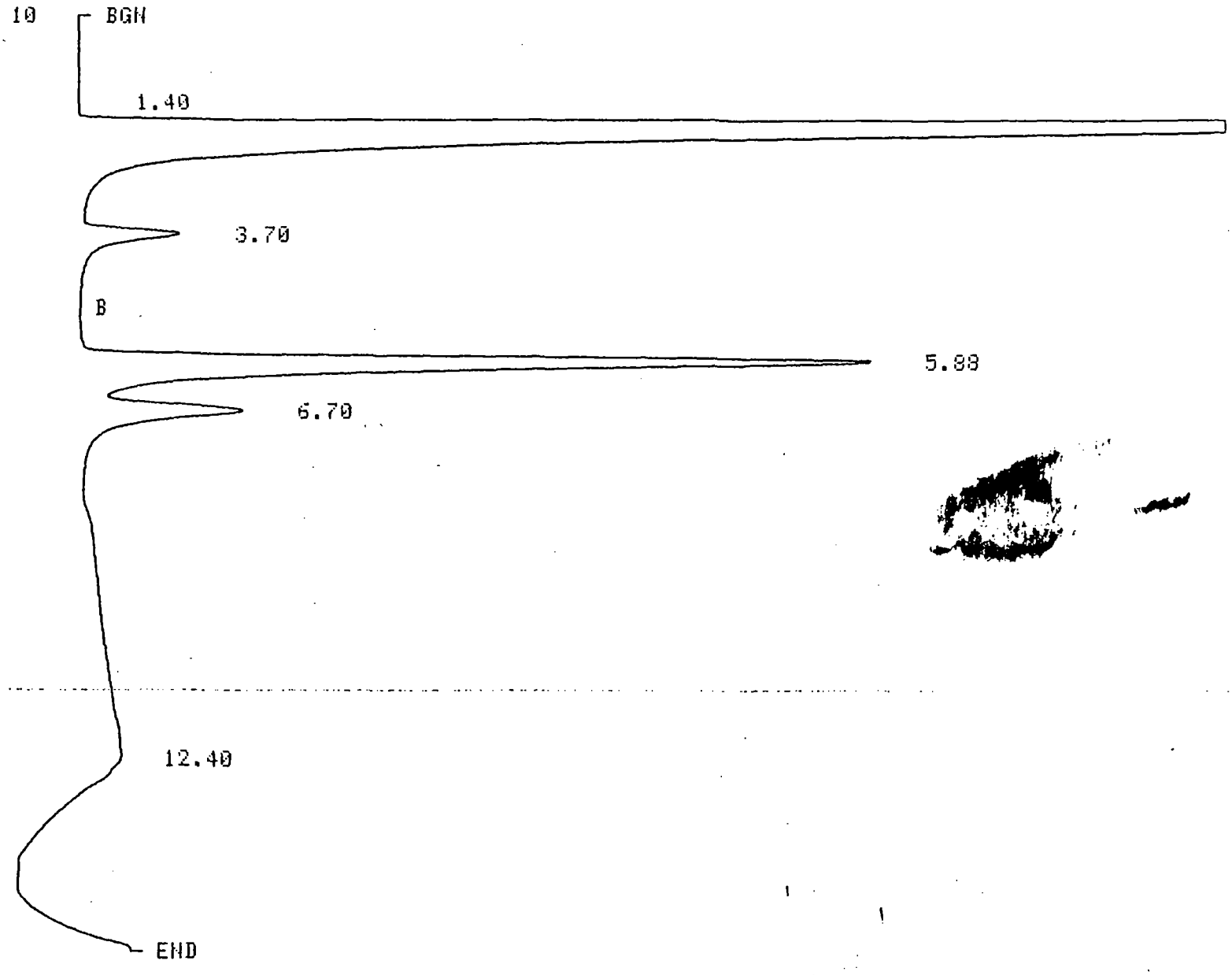
Arthur G. Burton
Laboratory Director

9 PEAKS > AREA/HT REJECT

\\ + COMMON SOLN.

2 15:07 88/02/13

1 ALCOHOLS



RUN 2 15:07 88/02/13

METHOD 1 ALCOHOLS CALCULATION: %

RT	AREA	BC	AREA %
1.40	0.0145	T	0.0044
1.90	188.6770	T	58.0732
3.70	8.5057		2.6179
5.88	65.8573	T	20.2703
6.70	17.4027	V	5.3564
12.40	44.4371	V	13.6774

AREA/HT REJECT

5mls # 8030514.

1 16:04 88/02/13

1 ALCOHOLS

10 BGN

0.60
0.80

1.91
2.51
2.99
3.73

B

5.61
5.97

B

8.39

9.62
10.36
10.94

B

11.83

15.14
END

RUN 1 16:04 88/02/13

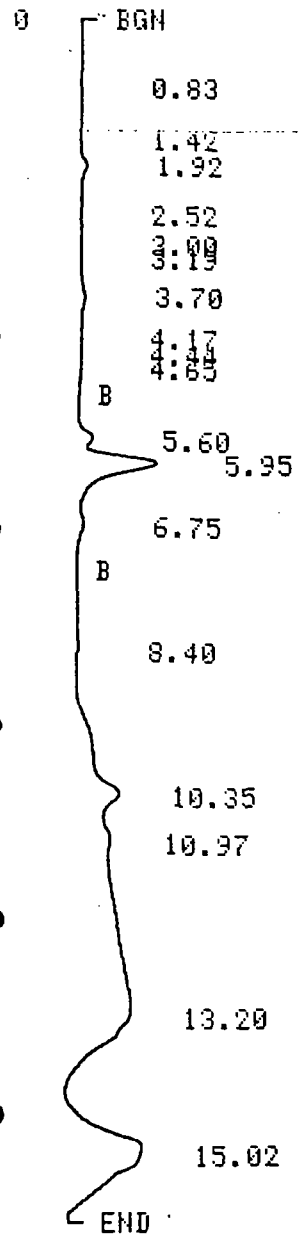
METHOD 1 ALCOHOLS CALCULATION: %

RT	AREA	BC	AREA %
0.60	0.0236	T	0.3987
0.80	0.0447	T	0.7547
1.91	0.6925	T	11.6748
2.51	0.0811	T	1.3682
2.99	0.1730	T	2.9172

16:47 88/02/13

5mls # 8030515

ALCOHOLS



RUN 2 16:47 88/02/13

METHOD 1 ALCOHOLS CALCULATION: %

RT	AREA	BC	AREA %
0.83	0.0563	V	0.1644
1.42	0.0763	T	0.2226
1.92	0.5499	T	1.6041
2.52	0.1017	T	0.2968
3.00	0.1030	T	0.3005
3.19	0.0229	V	0.0668
3.70	0.4311	T	1.2577
4.17	0.0988	T	0.2883
4.44	0.0345	T	0.1009
4.65	0.0610		0.1779
5.60	0.7181	T	2.0950
5.95	5.6568	T	16.5021
6.75	0.6082		1.7745
[illegible]	[illegible]	[illegible]	[illegible]

10.02 10.1374 V 44.1589

18 PEAKS > AREA/HT REJECT

5mls #803063H.

3 17:19 88/02/13

D 1 ALCOHOLS

C 10 BGN

0.52
1.18
1.92
2.27
2.54
3.77
4.39
5.59
5.94
6.70
7.46
8.34
10.42
10.95
14.12
15.33

END

RUN 3 17:19 88/02/13

METHOD 1 ALCOHOLS CALCULATION: %

RT	AREA	BC	AREA %
0.52	0.0674	V	0.1006
1.18	0.0167	V	0.0249
1.92	0.2944	T	0.4390
2.27	0.0253	V	0.0377
2.54	0.0421	V	0.0628

5mls # 8030634 Dup.

1 11:09 88/02/15

1 ALCOHOLS

10 BGN

B 0.46

1.92

B

3.66

B

5.58
5.92

7.78
8.45

9.11

9.79

10.39
10.94

11.86

12.63
13.20

13.96
14.37

15.64

16.52

18.50

20.34

22.59

END

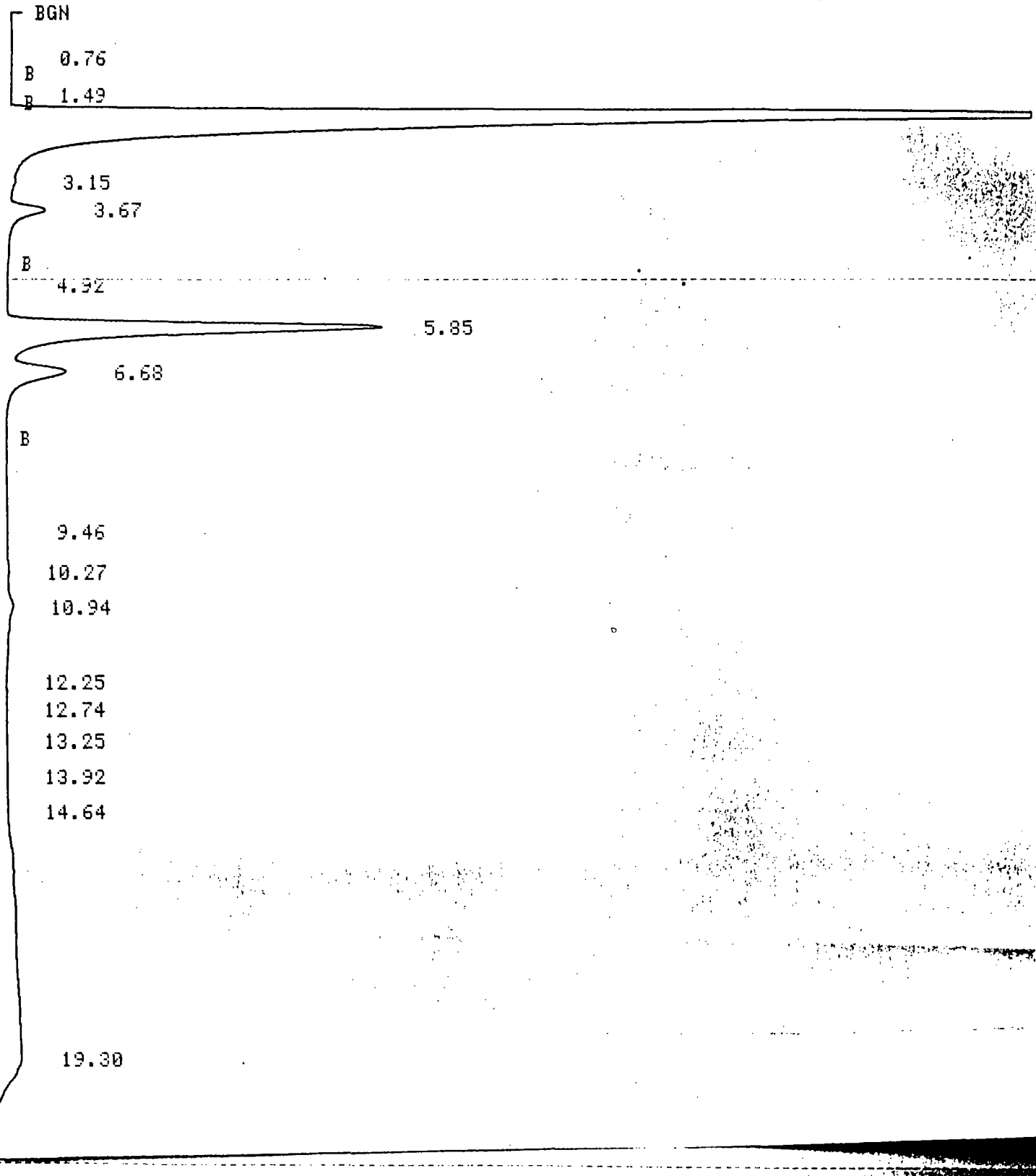
21 PEAKS > AREA/HT REJECT

5ml # 8030634 + SF

2 11:45 88/02/15

ID 1 ALCOHOLS

C 10



RUN 2 11:45 88/02/15

METHOD 1 ALCOHOLS CALCULATION: %

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/09/88
Date Received: 03/09/88
Date Reported: 03/25/88

Q.C. DATA REPORT

Analyst: G. Brock
Date of Analysis: 3/11/88
Method of Analysis: EPA 604
Detection Limit: 10
Units: ppb

Sample Number	Analyte	Original Result	Duplicate Result	% Deviation
8030634	4-Nitrophenol	< 10	< 10	0.0

Sample Number	Analyte	Sample Contribution	Spike Added	Spike Result	% Recovery
8030635	4-Nitrophenol	< 10	20	21	105

SEQUOIA ANALYTICAL LABORATORY

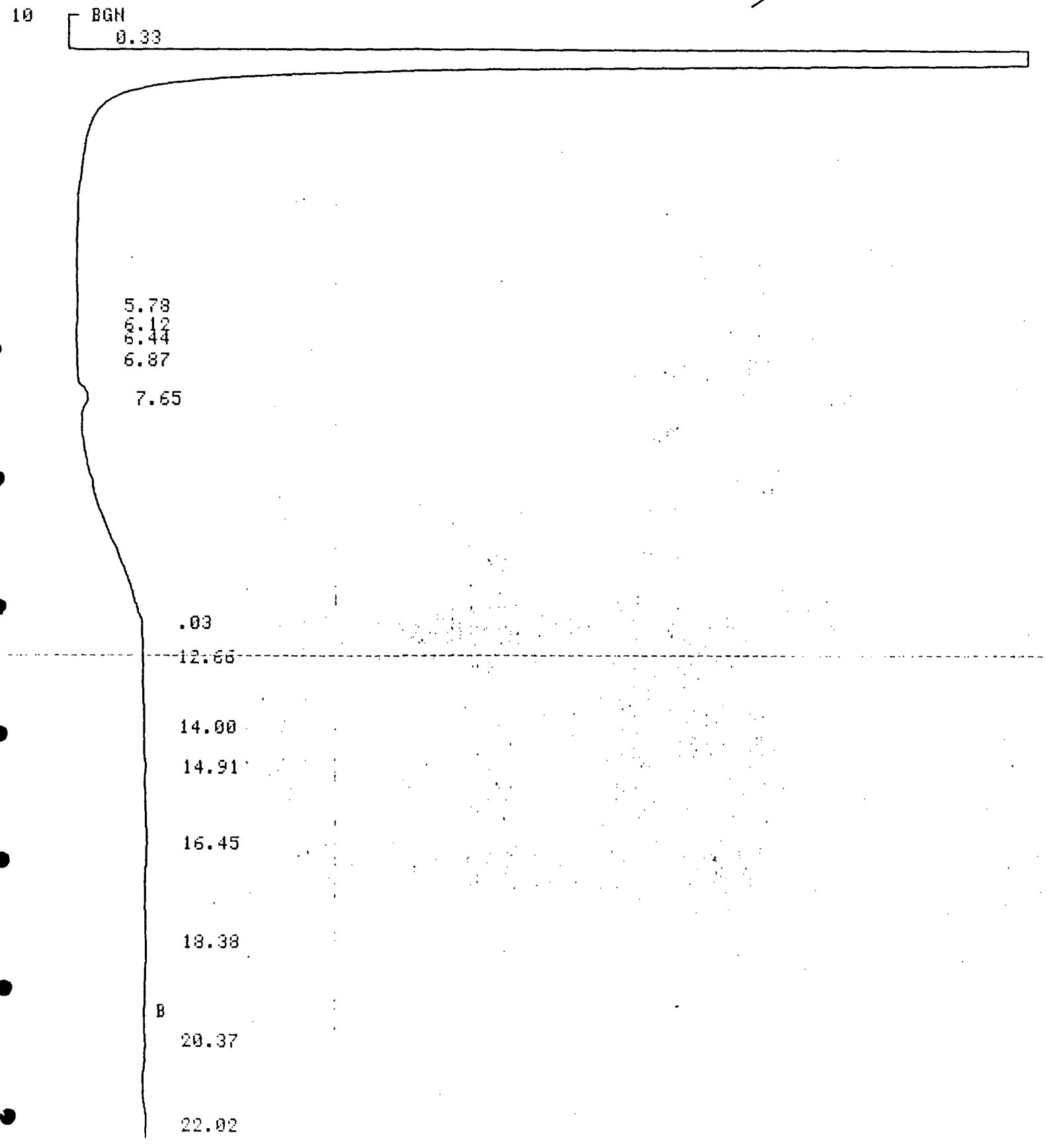
Arthur G. Burton
Laboratory Director

[illegible] 150 TIME 2 26.0 TO 0.0 MIN KB

1 9:06 88/03/

3 PHENOLS 8040

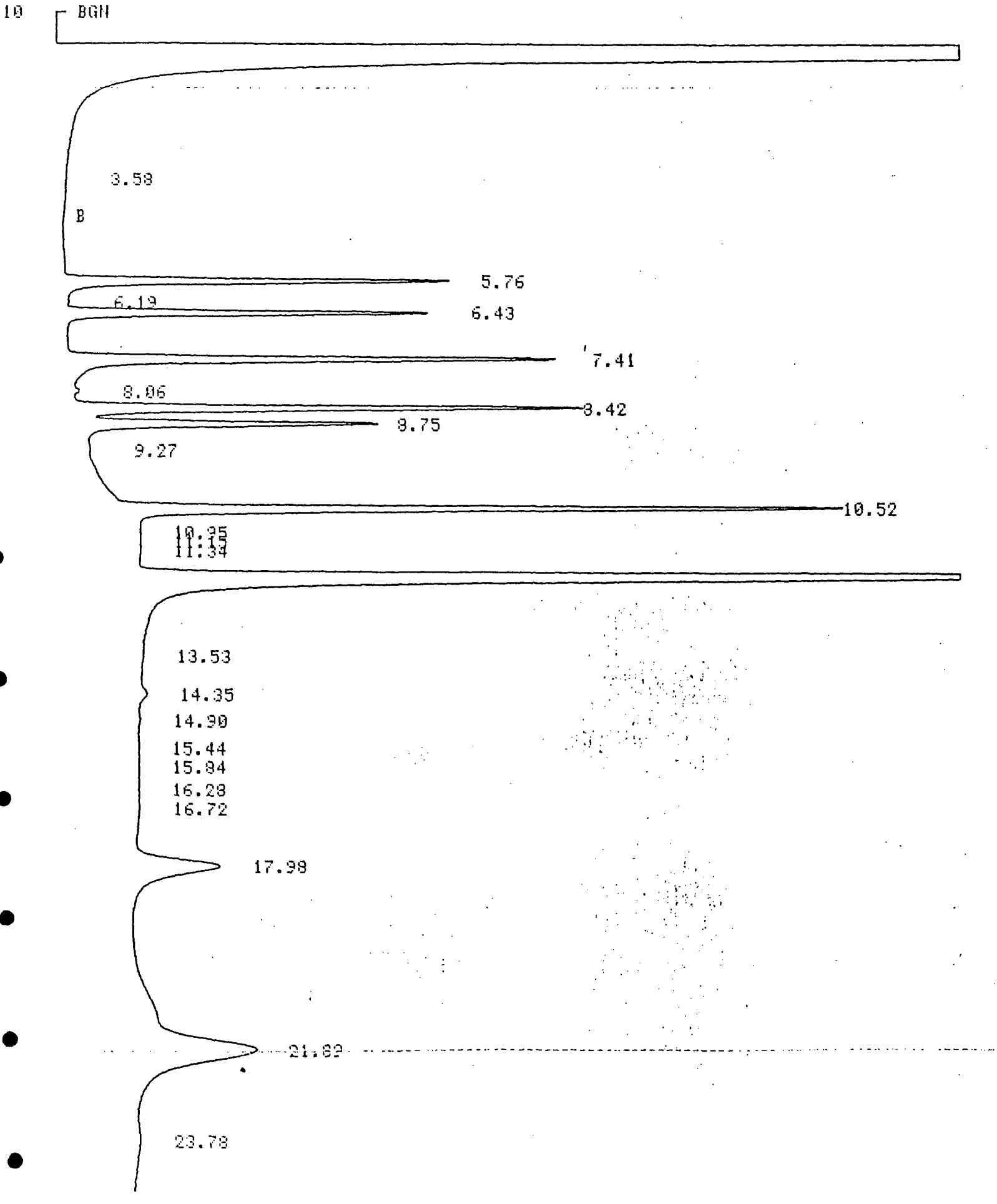
METHYLENE CHLORIDE BLANK.



3 8:27 88/03

3 PHENOLS 8040

Wλ To ... Mix



5λ #8030

RUN DEVIATIONS

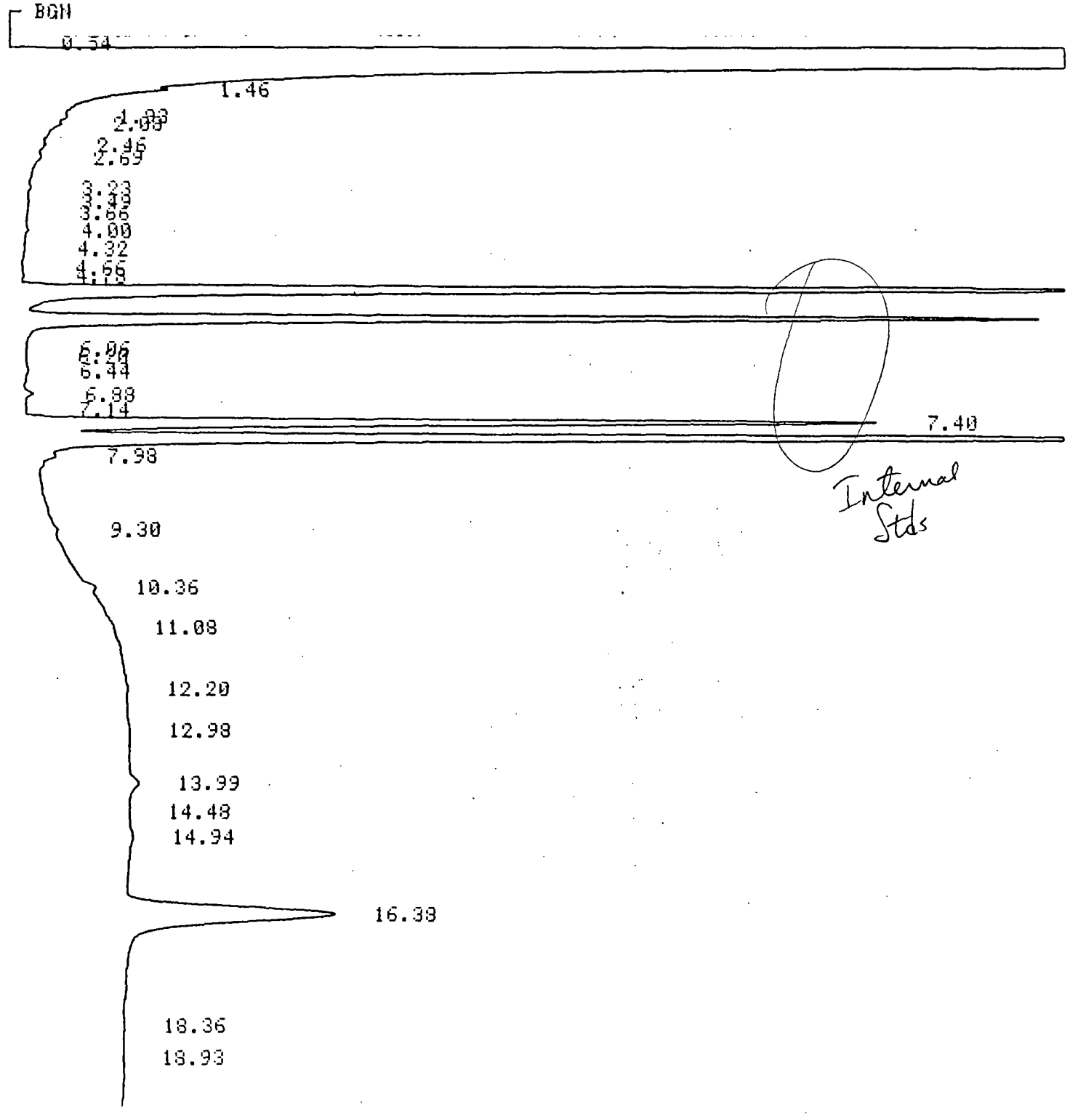
TIME	ZONE	CHANGE	TYPE
18.55	ISO TIME 2	26.0 TO 0.0 MIN	KB

5λ # 8030514

1 18:18 88/03

3 PHENOLS 8040

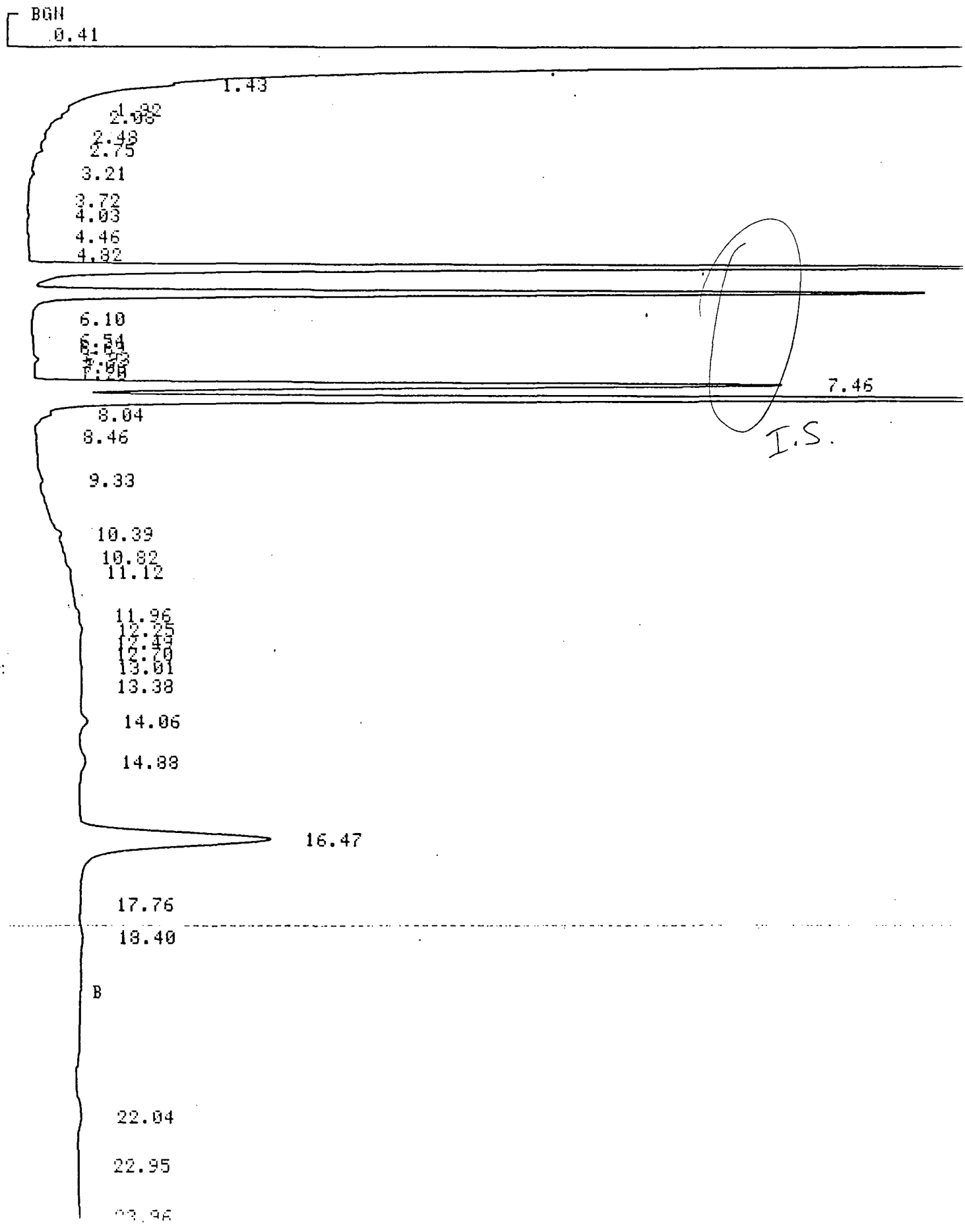
10 BGN



2/ 10:36 88/03

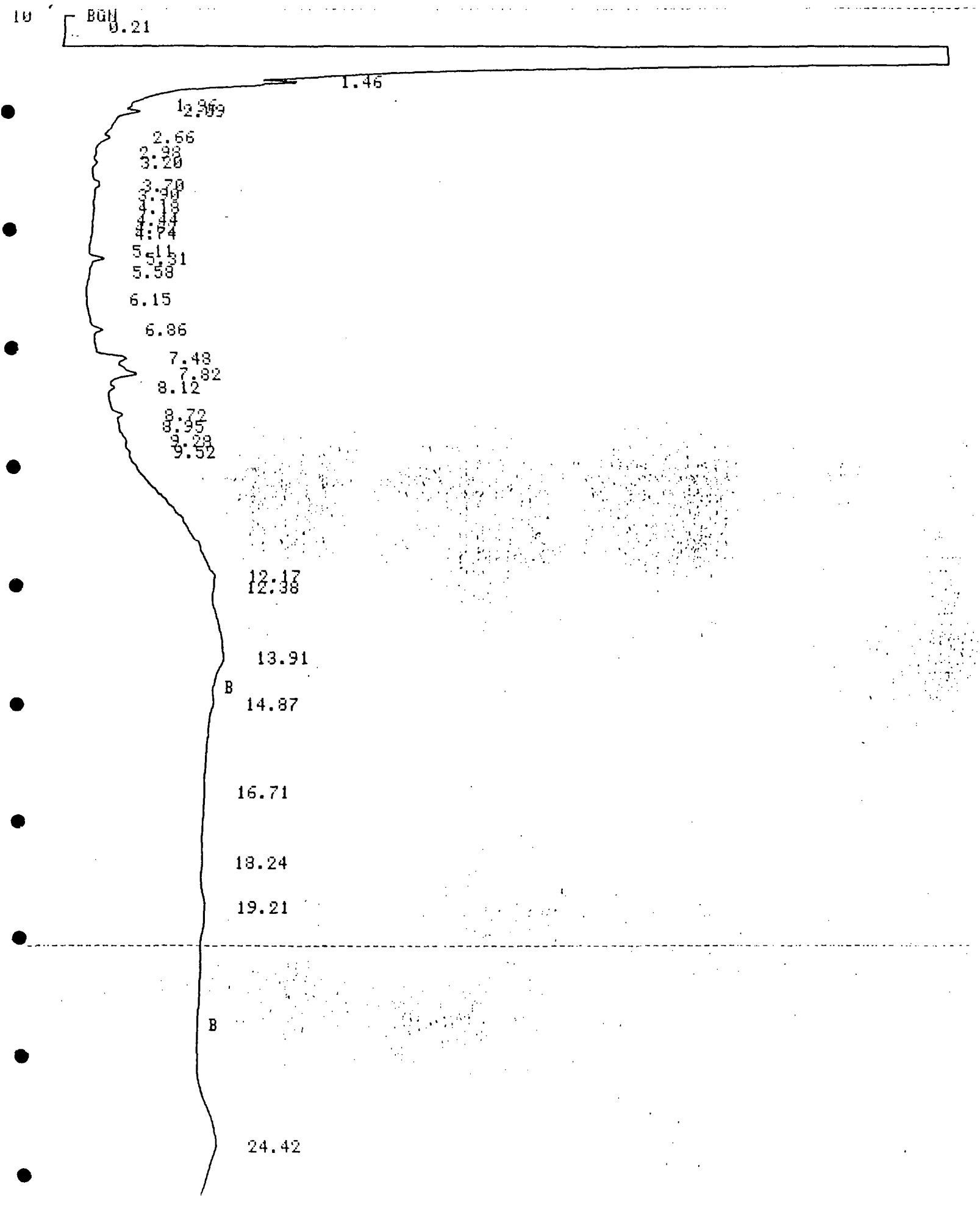
D 3 PHENOLS 8040

5λ # 8030515



3 PHENOLS 8040

5/# 80[illegible]



SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/09/88
Date Received: 03/09/88
Date Reported: 03/14/88
Project: #JCO-104H

Q.C. DATA REPORT

Analyst: E.Esilew
Date of Analysis: 3/10/88
Method of Analysis: EPA 3510/2015
Detection Limit: 50
Units: ppb

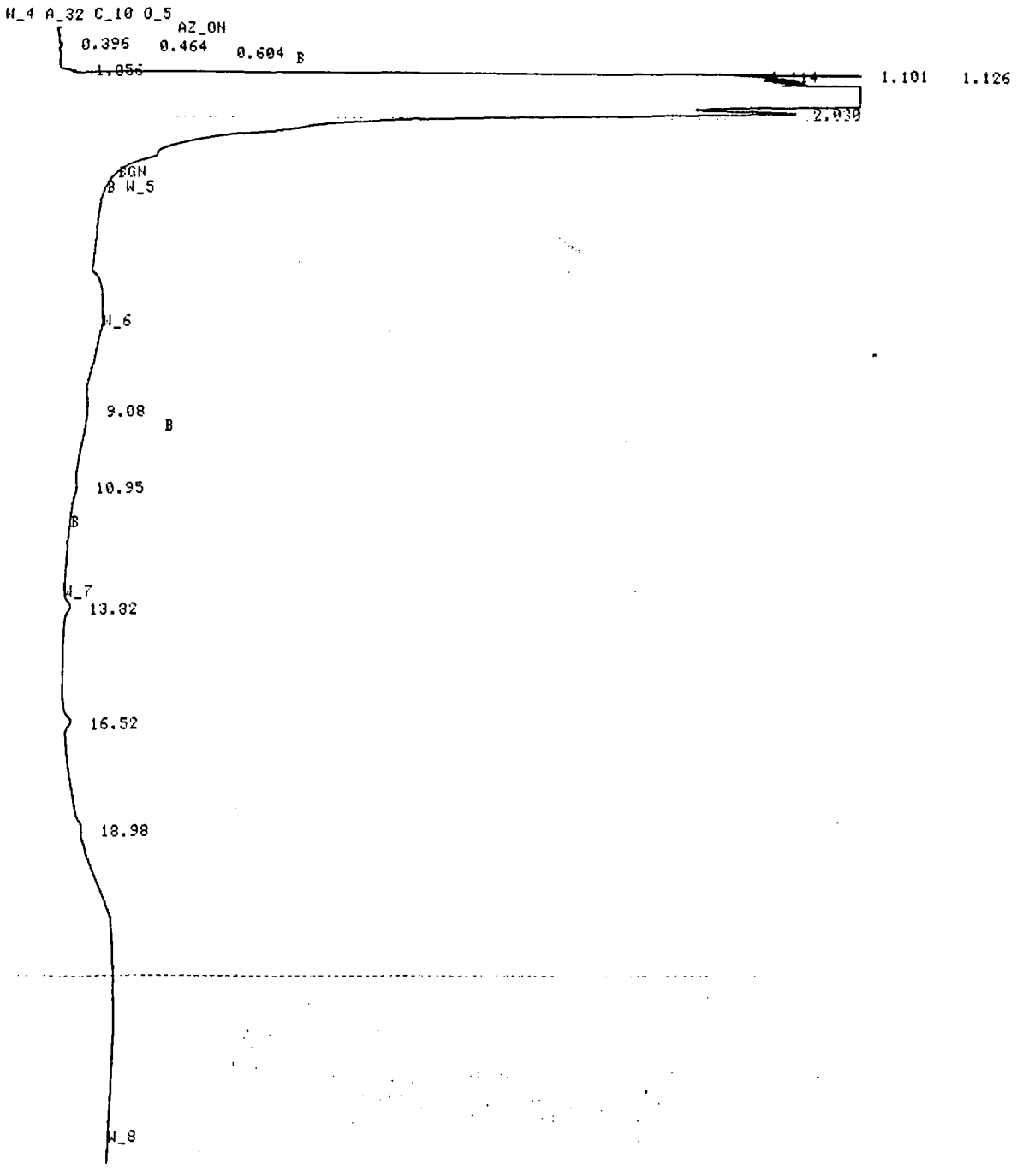
Sample Number	Analyte	Original Result	Duplicate Result	% Deviation
8030514	TPH	< 50	< 50	0.0

Sample Number	Analyte	Sample Contribution	Spike Added	Spike Result	% Recovery
8030514	TPH	< 50	84	111	130

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

FILE 139 RUN 38 STARTED 23:22.2 80/01/07 24HR RUSHES 3A Methylene Chloride D/K
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

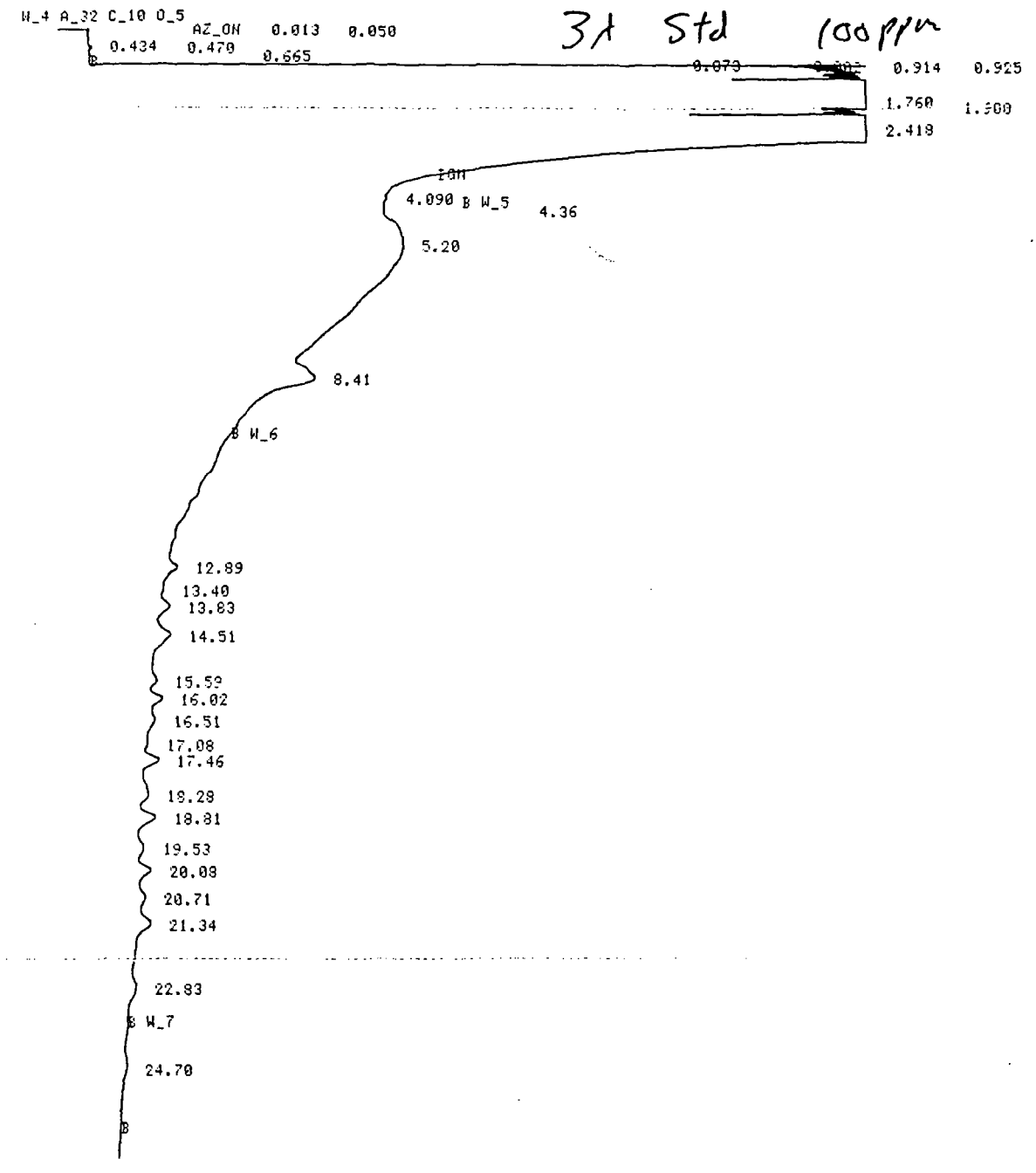


FILE 139 RUN 38 STARTED 23:22.2 80/01/07 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
9.08	21075	0.7280		19.3203	10.1683
10.95	12011	0.7242		11.0110	10.1142
13.82	43298	2.5356	V	39.6926	35.4132
16.52	32699	2.5579	V	29.9761	35.7256
18.98		0.6142	V		8.5788

4 PEAKS > AREA REJECT 109092 TOTAL AREA
5 PEAKS > HEIGHT REJECT 7.1599 TOTAL HEIGHT

FILE 102 PUN 1 STARTED 18:02.4 80/01/06 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06



FILE 102 PUN 1 STARTED 18:02.4 80/01/06 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

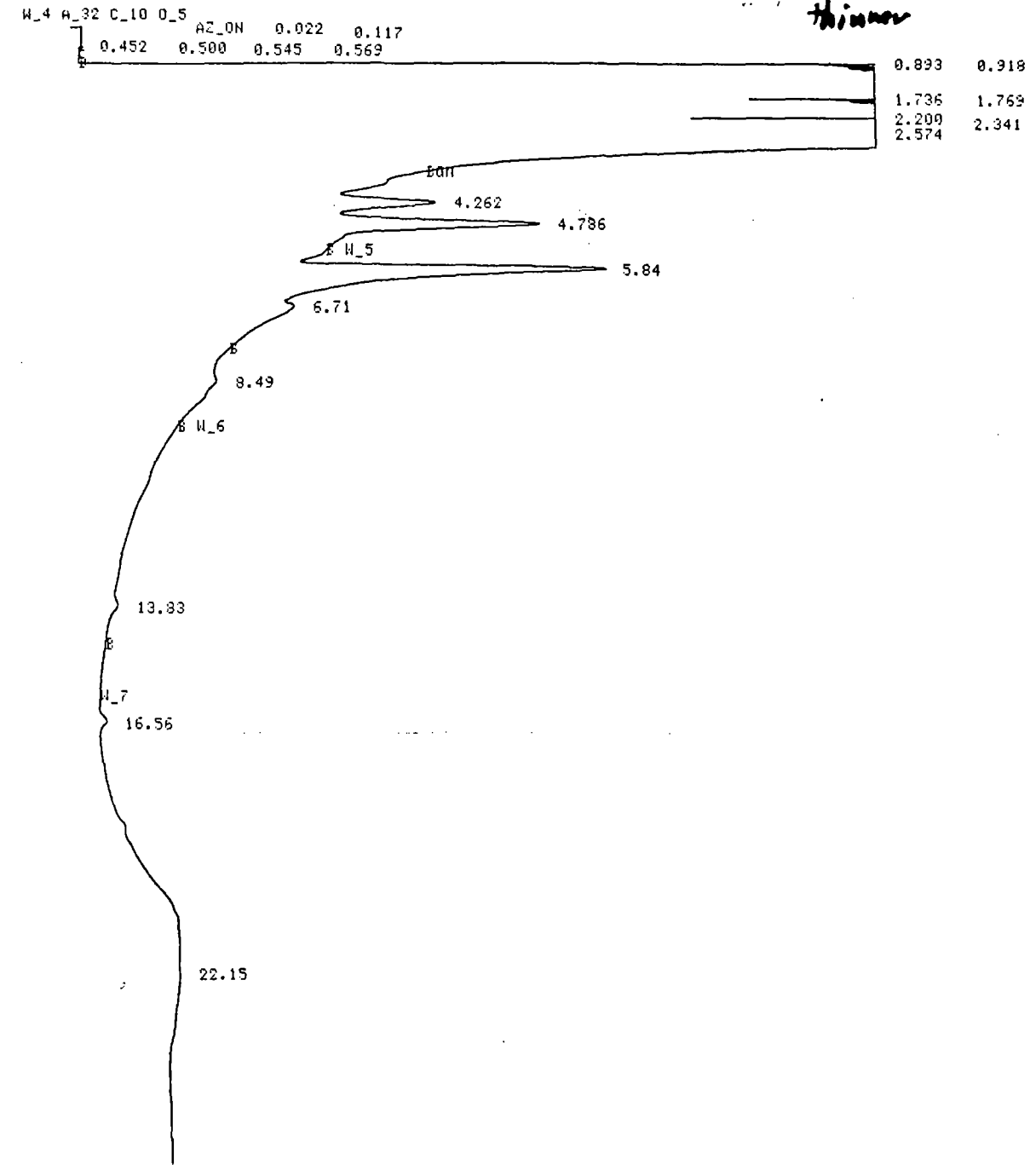
RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
4.090	3328	0.7018		0.1008	0.8263
4.36	2167	0.3246	V	0.0656	0.3821
5.20	2061850	14.6821	V	62.4593	17.2859
8.41	275516	13.3193		8.3462	15.6814
12.89	62102	4.1125	V	1.8812	4.8418
13.40	4559	0.4961	V	0.1381	0.5840
13.83	61099	3.8270	V	1.8508	4.5056
14.51	125387	5.7742	V	3.7983	6.7982
15.59	31317	2.2942	V	0.9487	2.7010
16.02	55528	4.4106	V	1.6821	5.1928
16.51	28886	1.8919	V	0.8750	2.2274
17.08	5613	0.6017	V	0.1702	0.7085
17.46	78083	5.6888	V	2.3654	6.6977
18.28	68012	2.9204	V	2.0603	3.4383
18.81	99502	6.2023	V	3.0142	7.3022
19.53	38966	2.1170	V	1.1804	2.4924
20.08	71312	4.7726	V	2.1602	5.6190
20.71	37317	2.3301	V	1.1304	2.7433
21.34	112607	5.0832	V	3.4112	5.9917
22.83	52621	2.2305		1.5940	2.6260
24.70	25334	1.1503		0.7674	1.3543

21 PEAKS > AREA REJECT 3301108 TOTAL AREA
21 PEAKS > HEIGHT REJECT 84.9369 TOTAL HEIGHT

958,247

FILE 156 RUN 55 STARTED 20:19.7 80/01/08 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

paint std
thinner



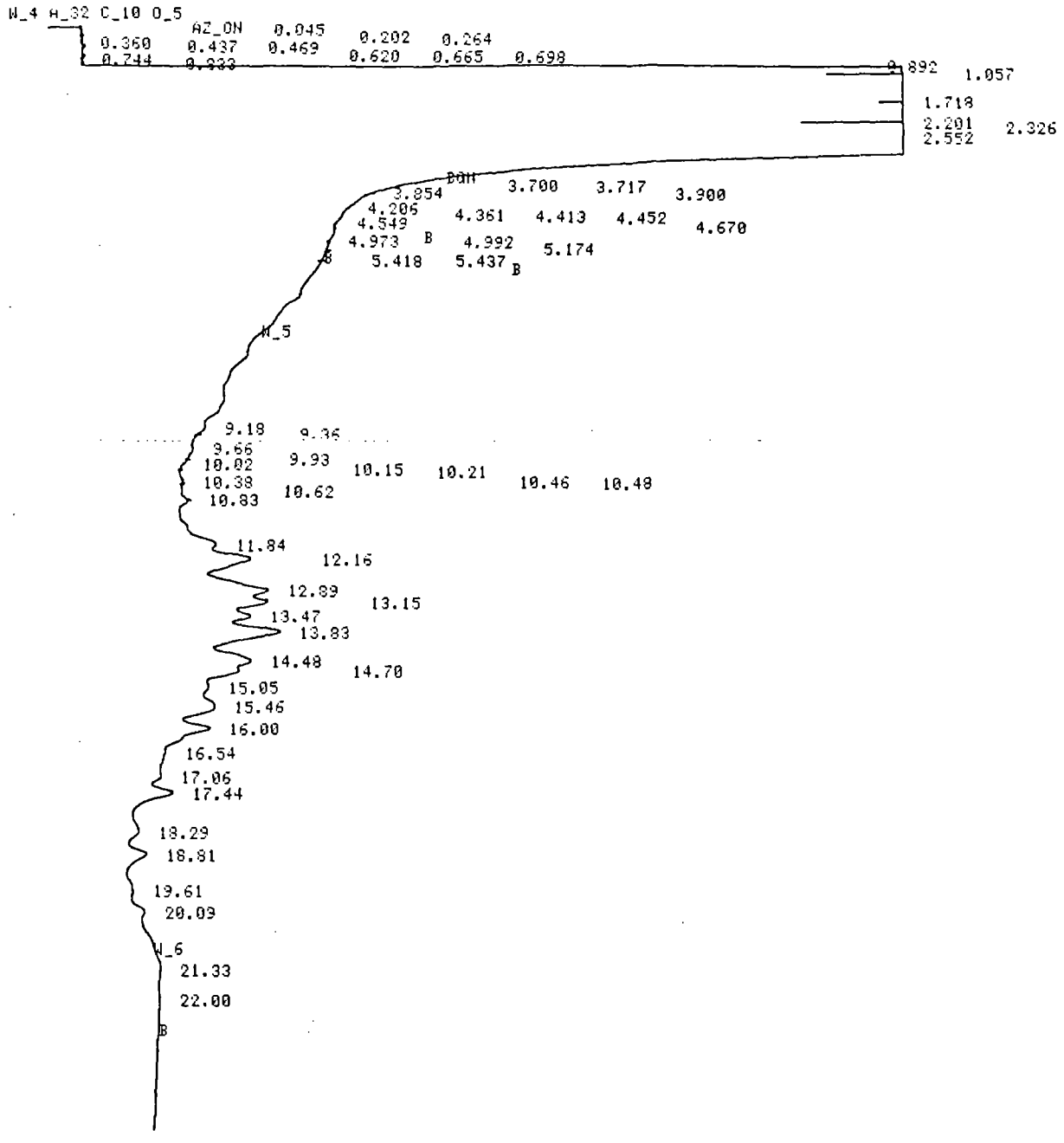
FILE 156 RUN 55 STARTED 20:19.7 80/01/08 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
4.262	464158	35.8552	V	6.8368	14.0301
4.786	1121287	77.0258		16.5159	30.1402
5.84	2106964	116.6415	V	31.0344	45.6418
6.71	142630	5.7654		2.1009	2.2560
8.49	121748	3.0600		1.7933	1.1974
13.83	25969	1.9682		0.3825	0.7701
16.56	40866	2.6841	V	0.6019	1.0503
22.15	2765497	12.5585	V	40.7343	4.9141

8 PEAKS > AREA REJECT 6789118 TOTAL AREA
8 PEAKS > HEIGHT REJECT 255.5586 TOTAL HEIGHT

FILE 161 RUN 60 STARTED 22:45.8 80/01/08 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

Kerosene



FILE 161 RUN 60 STARTED 22:45.8 80/01/08 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
3.700	485	1.0490	V	0.0265	0.7134
3.717	1558	0.7108	V	0.0852	0.4833
3.854	1335	1.2921	V	0.0729	0.8786
3.900	3554	0.7377	V	0.1943	0.5017
4.206	99	0.6706	V	0.0054	0.4560
4.361	895	0.4039	V	0.0489	0.2746
4.413	502	0.4688	V	0.0274	0.3188
4.452	1475	0.5457	V	0.0806	0.3711
4.549	26	0.3915	V	0.0014	0.2662
4.670	4869	0.8009		0.2661	0.5446
4.973	461	1.1062	V	0.0252	0.7523
4.992	4400	0.9258	V	0.2405	0.6296
5.174	1315	1.6896		0.0718	1.1490
5.418	499	0.7106	V	0.0272	0.4832
5.437	8602	1.4059		0.4702	0.9560
9.18	12613	1.0369	V	0.6894	0.7051
9.36		1.1477	V		0.7805
9.66	11137	0.8862	V	0.6087	0.6026
9.93	1517	0.6817	V	0.0829	0.4635
10.02	2537	0.7303	V	0.1387	0.4966
10.15	626	1.1053	V	0.0342	0.7516
10.21	1375	0.4083	V	0.0752	0.2777
10.38	3149	0.5033	V	0.1721	0.3422
[illegible]	[illegible]	[illegible]		[illegible]	0.7331

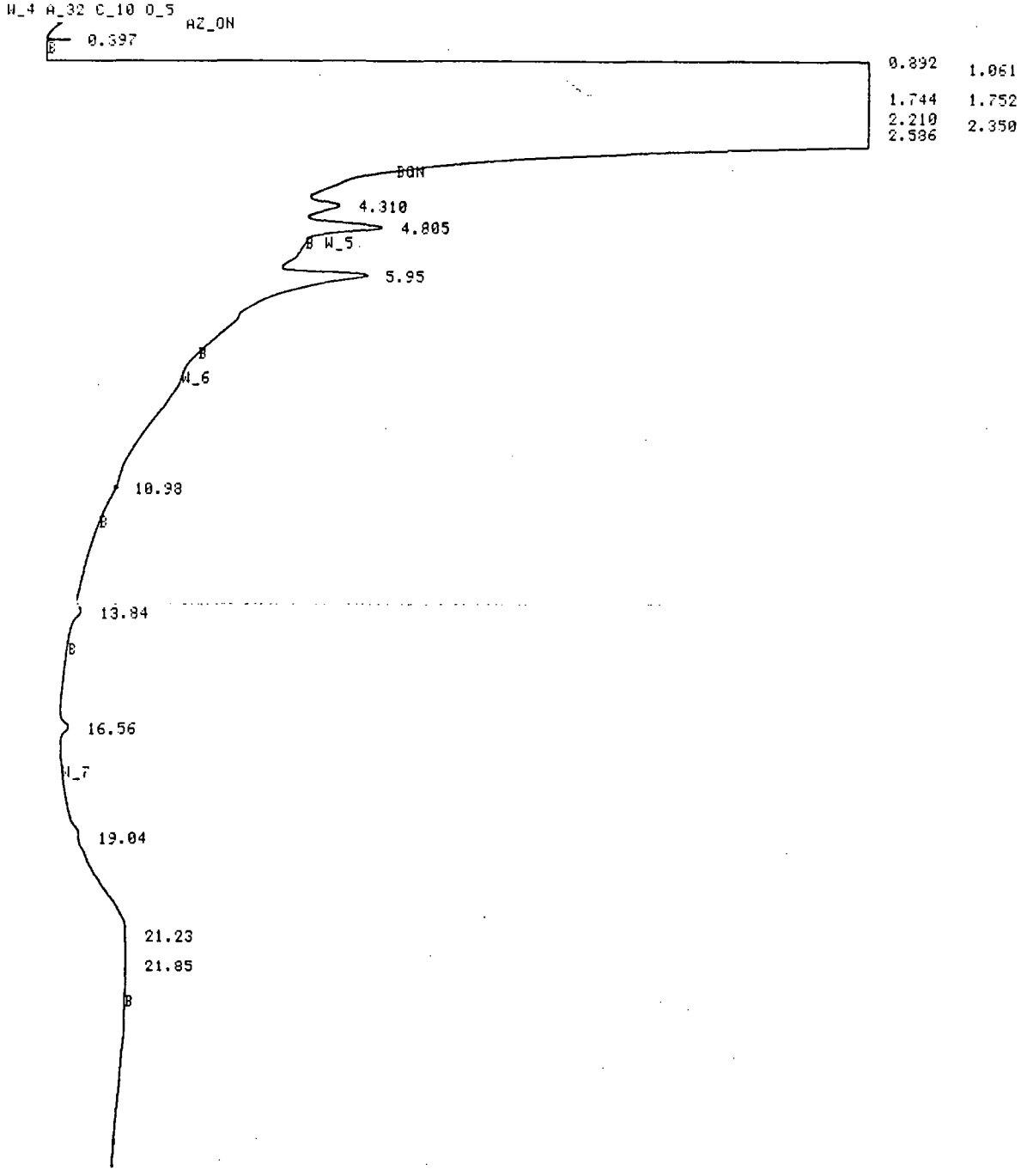
FILE 161 RUN 60 STARTED 22:45.8 80/01/08 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
3.700	485	1.0490	V	0.0265	0.7134
3.717	1558	0.7108	V	0.0852	0.4833
3.854	1335	1.2921	V	0.0729	0.8786
3.900	3554	0.7377	V	0.1943	0.5017
4.206	99	0.6706	V	0.0054	0.4560
4.361	895	0.4039	V	0.0489	0.2746
4.413	502	0.4688	V	0.0274	0.3188
4.452	1475	0.5457	V	0.0806	0.3711
4.549	26	0.3915	V	0.0014	0.2662
4.670	4869	0.8009		0.2661	0.5446
4.973	461	1.1062	V	0.0252	0.7523
4.992	4400	0.9258	V	0.2405	0.6296
5.174	1315	1.6896		0.0718	1.1490
5.418	499	0.7106	V	0.0272	0.4832
5.437	8602	1.4059		0.4702	0.9560
9.18	12613	1.0369	V	0.6894	0.7051
9.36		1.1477	V		0.7805
9.66	11137	0.8862	V	0.6087	0.6026
9.93	1517	0.6817	V	0.0829	0.4635
10.02	2537	0.7303	V	0.1387	0.4966
10.15	626	1.1053	V	0.0342	0.7516
10.21	1375	0.4083	V	0.0752	0.2777
10.38	3149	0.5033	V	0.1721	0.3422
10.46	541	1.0781	V	0.0296	0.7331
10.48	921	1.4250	V	0.0503	0.9690
10.62	3786	0.3649	V	0.2069	0.2482
10.83	28999	3.5229	V	1.5851	2.3956
11.84		2.7621	V		1.8782
12.16	239219	14.6943	V	13.0756	9.9922
12.89	134385	9.7194	V	7.3454	6.6092
13.15	73018	8.1605	V	3.9911	5.5491
13.47	52070	6.0377	V	2.8461	4.1057
13.83	318919	20.1331	V	17.4319	13.6905
14.48	120206	8.0572	V	6.5704	5.4789
14.70	23726	3.3199	V	1.2968	2.2576
15.05	14249	1.3896	V	0.7788	0.9449
15.46	148133	7.2269	V	8.0969	4.9143
16.00	194728	11.9553	V	10.6437	8.1296
16.54	2742	0.3626	V	0.1499	0.2466
17.06	19773	1.7800	V	1.0808	1.2104
17.44	132983	10.1658	V	7.2688	6.9128
18.29	63048	3.3466	V	3.4462	2.2757
18.81	107789	6.8519	V	5.8917	4.6593
19.61	20947	1.0251	V	1.1450	0.6971
20.09	31145	2.4836	V	1.7023	1.6888
21.33	27169	1.4330	V	1.4850	0.9745
22.00	17990	0.3540		0.4367	0.2407

[illegible] PEAK [illegible] AREA REJECT [illegible] 1829512 TOTAL AREA
[illegible] TOTAL HEIGHT [illegible]

RST

FILE 157 RUN 56 STARTED 21:16.4 80/01/08 24HR RUSHES 1λ Lacquer Std
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

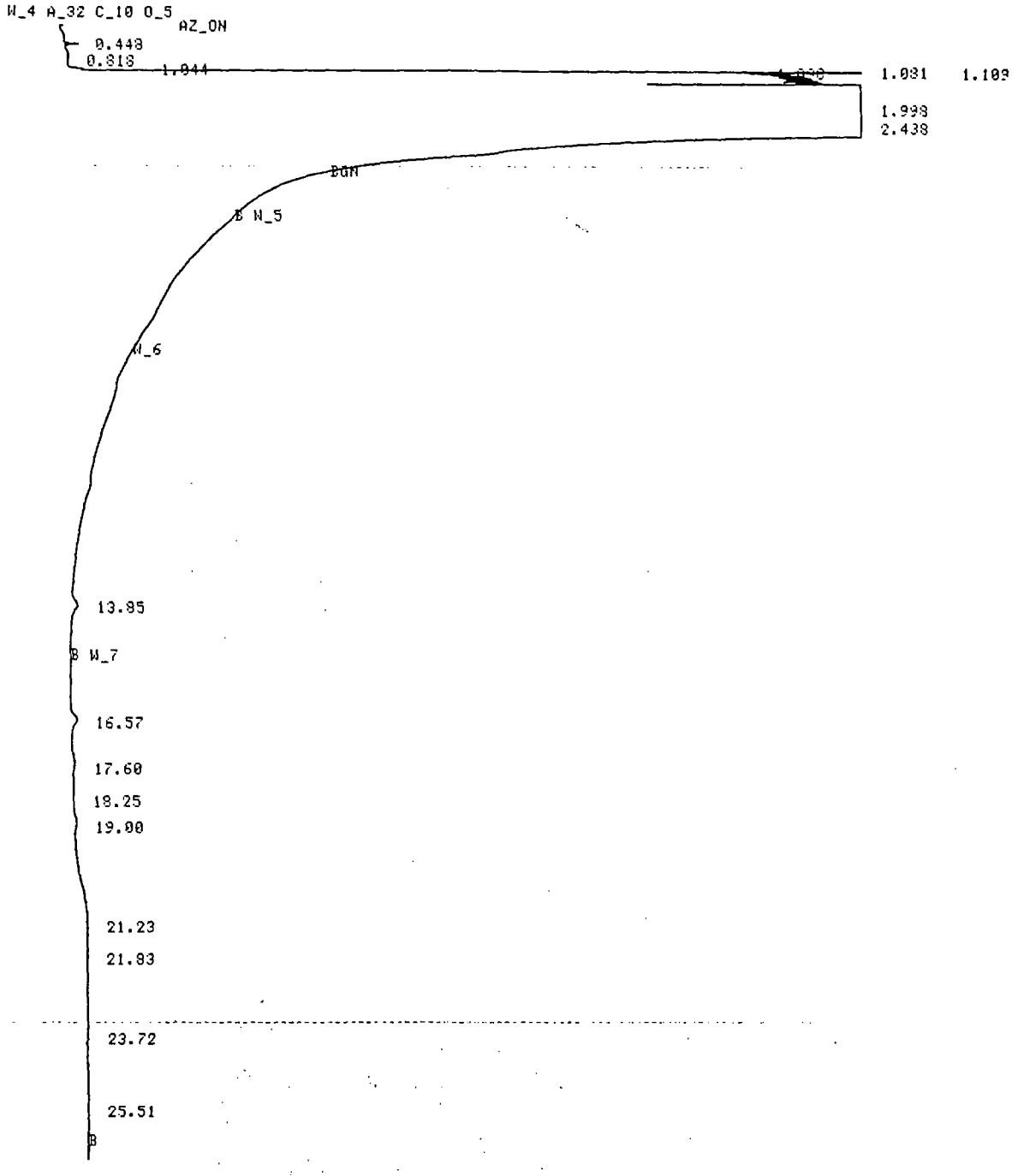


FILE 157 RUN 56 STARTED 21:16.4 80/01/08 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
4.310	146265	11.3551	V	8.9367	13.4928
4.805	380243	28.3201		23.2328	33.6516
5.95	907874	35.0729		55.4710	41.6756
10.98		1.1033			1.3110
13.84	32586	2.3782		1.9910	2.8259
16.56	47261	3.0981	V	2.8876	3.6814
19.04		0.7692	V		0.9140
21.23	104424	1.7375	V	6.3803	2.0646
21.85	18011	0.3225		1.1005	0.3832

7 PEAKS > AREA REJECT 1636663 TOTAL AREA
9 PEAKS > HEIGHT REJECT 84.1570 TOTAL HEIGHT

FILE 121 RUN 20 STARTED 03:52.6 80/01/07 24HR RUSHES 3A 8030514 500:1
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06



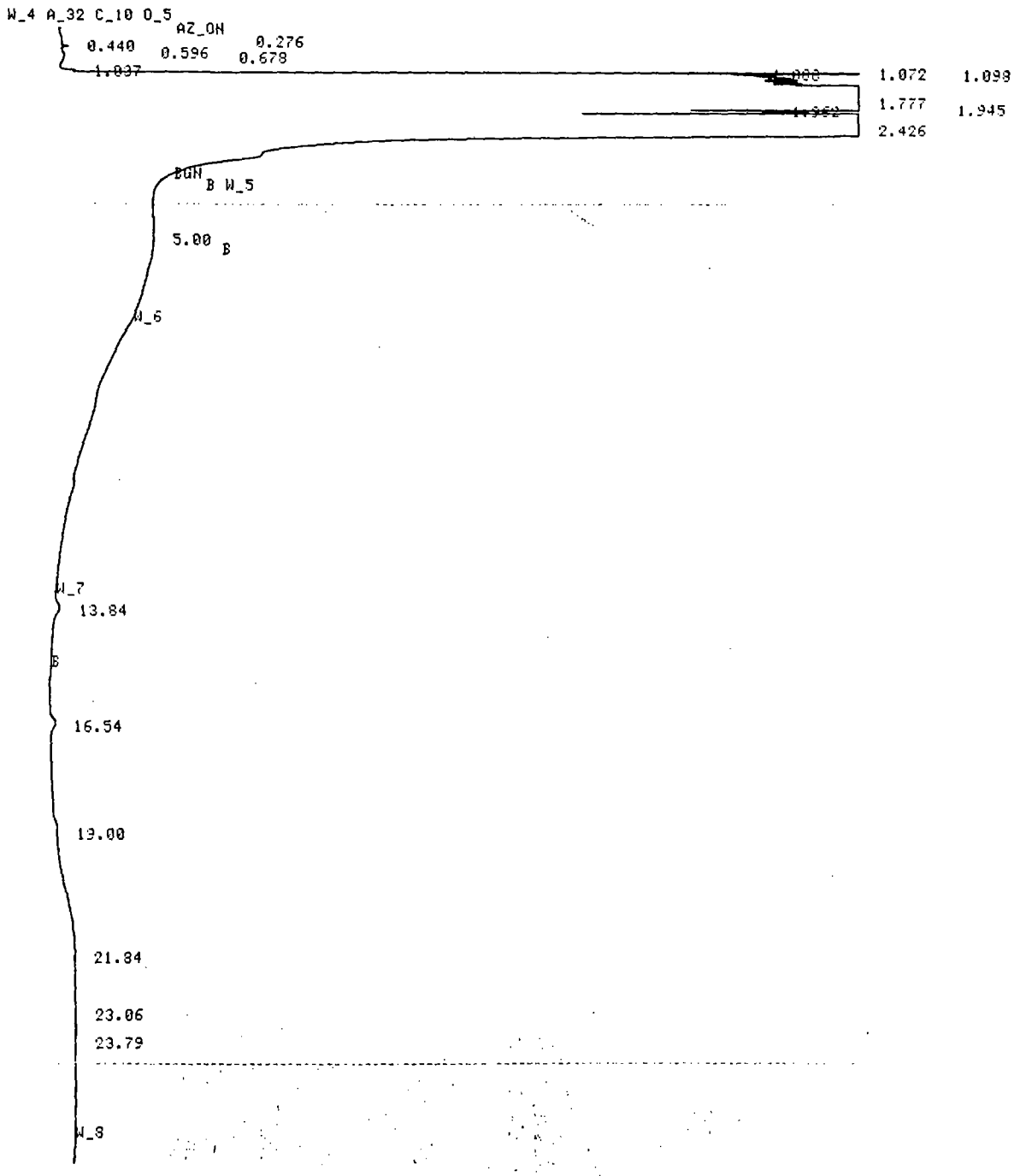
FILE 121 RUN 20 STARTED 03:52.6 80/01/07 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
13.85	35849	2.1972		25.8368	29.9571
16.57	30543	2.2241	V	22.0128	30.3240
17.60	14687	0.7108	V	10.5852	9.6919
18.25	3682	0.1873	V	2.6533	2.5532
19.00	15090	0.9697	V	10.8756	13.2213
21.23	23969	0.6974	V	17.2749	9.5087
21.83	3191	0.0914	V	2.2998	1.2463
23.72	7261	0.1312	V	5.2328	1.7889
25.51	4480	0.1253		3.2288	1.7087

9 PEAKS > AREA REJECT 138752 TOTAL AREA
9 PEAKS > HEIGHT REJECT 7.3344 TOTAL HEIGHT

37 8030614 500:1 Dup.

FILE 122 RUN 21 STARTED 04:25.4 80/01/07 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

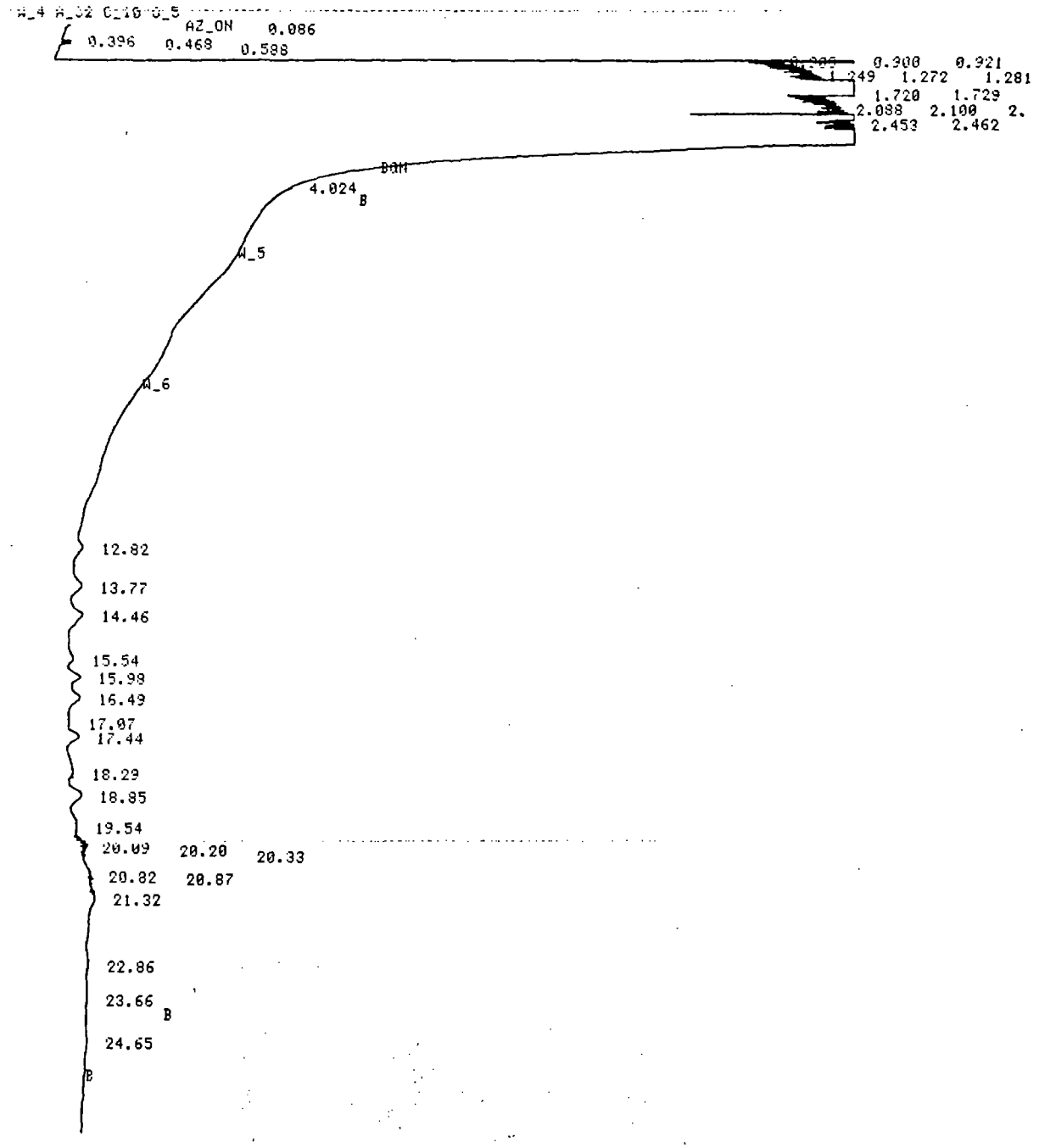


FILE 122 RUN 21 STARTED 04:25.4 80/01/07 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
5.00	1877	0.1317		1.2140	2.3411
13.84	29073	2.0264		18.8042	36.0294
16.54	35200	2.1483	V	22.7671	38.1971
19.00		0.5143	V		9.1443
21.84	78995	0.5332	V	51.0931	9.4795
23.06	5829	0.1301	V	3.7702	2.3140
23.79	3636	0.1403	V	2.3514	2.4946

6 PEAKS > AREA REJECT 154609 TOTAL AREA
7 PEAKS > HEIGHT REJECT 5.6243 TOTAL HEIGHT

FILE 133 RUN 32 STARTED 20:08.9 80/01/07 24HR RUSHES 3λ 8030514 Spike
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

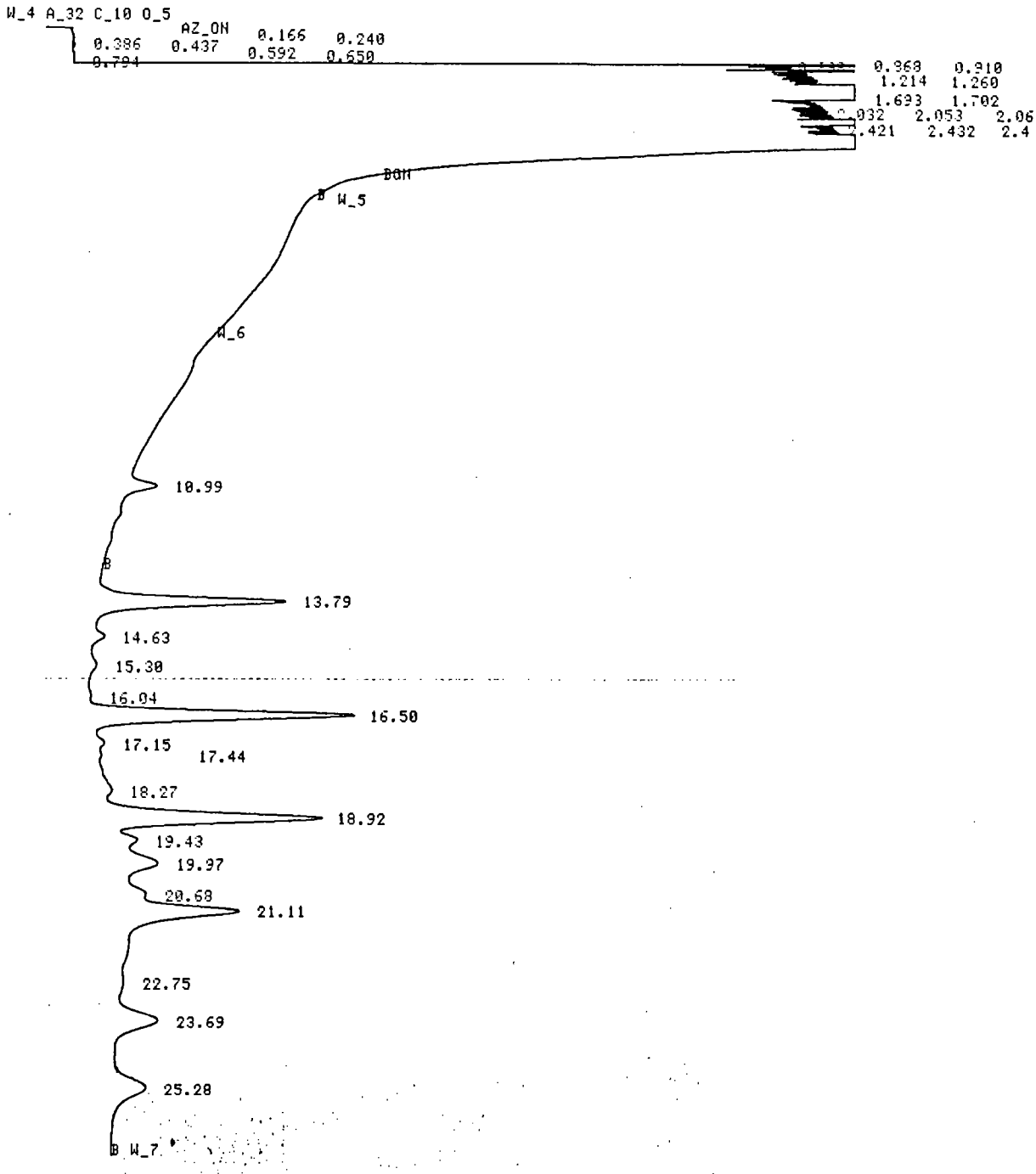


FILE 133 RUN 32 STARTED 20:08.9 80/01/07 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
4.024		1.3078			2.9862
12.82	40814	2.5294	V	5.5726	5.7757
13.77	77919	3.9081	V	10.6388	8.9240
14.46	100893	4.9740	V	13.7756	11.3578
15.54	29409	2.0317	V	4.0154	4.6394
15.98	49196	4.0107	V	6.7171	9.1582
16.49	57948	3.7193	V	7.9120	8.4929
17.07	4393	0.4676	V	0.5998	1.0678
17.44	60609	4.3100	V	8.2754	9.8418
18.29	47686	1.9409	V	6.5109	4.4321
18.85	82611	4.5899	V	11.2795	10.4808
19.54	35526	1.5387	V	4.8506	3.5134
20.09	22662	1.9955	V	3.0942	4.5566
20.20	1437	0.7529	V	0.1962	1.7192
20.33	1489	0.4729	V	0.2033	1.0799
20.82	11899	0.9029	V	1.6246	2.0617
20.87	1152	0.6228	V	0.1572	1.4221
21.32	66388	2.2570	V	9.0644	5.1538
22.86	16802	0.6756	V	2.2941	1.5427
23.66	7274	0.2945		0.9931	0.6724
24.65	16297	0.4911		2.2251	1.1214

20 PEAKS > AREA REJECT 732401 TOTAL AREA
21 PEAKS > HEIGHT REJECT 43.7932 TOTAL HEIGHT

FILE 130 RUN 29 STARTED 17:57.7 80/01/07 24HR RUSHES 3λ 8030515 (500:1)
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

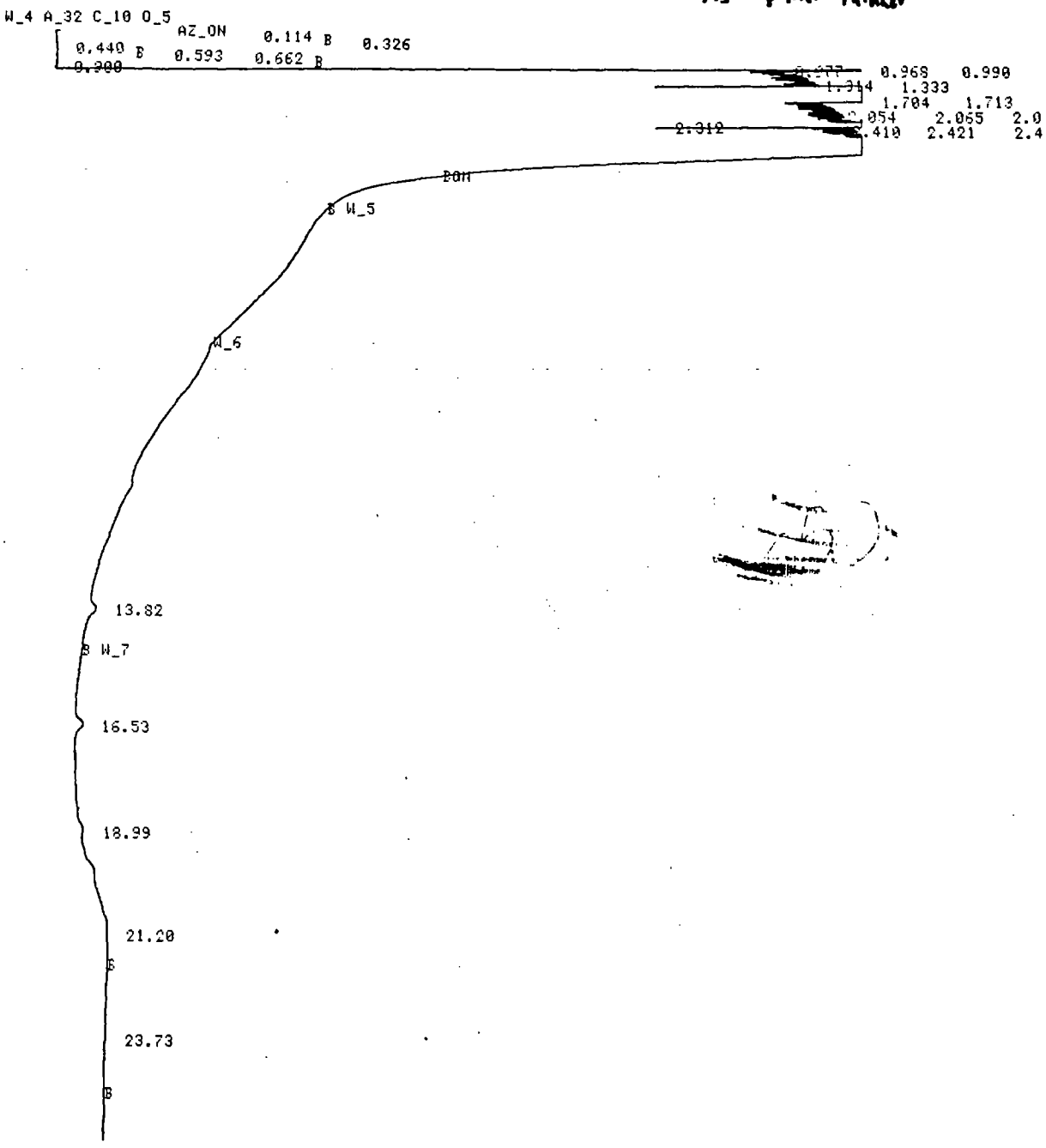


FILE 130 RUN 29 STARTED 17:57.7 80/01/07 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
10.99	127810	11.0023		2.1277	3.0644
13.79	1121686	72.0699	V	18.6728	20.0730
14.63	51185	4.0642	V	0.8521	1.1320
15.30	47589	2.5413	V	0.7922	0.7078
16.04	6125	0.6130	V	0.1020	0.1707
16.50	1507815	99.8720	V	25.1007	27.8164
17.15	26439	2.4113	V	0.4401	0.6716
17.44	6334	0.7671	V	0.1054	0.2136
18.27	56443	2.6939	V	0.9396	0.7503
18.92	1279973	78.9569	V	21.3078	21.9911
19.43	54394	4.6852	V	0.9055	1.3049
19.97	209546	10.9148	V	3.4883	3.0400
20.68	21849	1.9735	V	0.3637	0.5496
21.11	661267	37.8566	V	11.0081	10.5439
22.75	21887	1.0000	V	0.3644	0.2785
23.69	403992	15.3118	V	6.7253	4.2647
25.28	402738	12.3062		6.7044	3.4275

17 PEAKS > AREA REJECT 6007071 TOTAL AREA
17 PEAKS > HEIGHT REJECT 359.0397 TOTAL HEIGHT

FILE 142 RUN 41 STARTED 01:32.7 80/01/08 24HR RUSHES 3λ 8030634 (500:1)
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06 As paint thinner



FILE 142 RUN 41 STARTED 01:32.7 80/01/08 24HR RUSHES
% METHOD 1 HIGHBOIL LAST EDITED 18:01.1 80/01/06

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
13.82	44905	2.9820		10.7765	28.1461
16.53	47179	3.1290	V	11.3221	29.5341
18.99	5028	1.0756	V	1.2067	10.1519
21.20	316889	3.1361		76.0493	30.0728
23.73	2694	0.2220		0.6464	2.0952

5 PEAKS > AREA REJECT 416694 TOTAL AREA
5 PEAKS > HEIGHT REJECT 10.5946 TOTAL HEIGHT

KEYBOARD DIRECTED EVENTS

TIME	EVENT	VALUE
26.220	Stop Data	

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/09/88
Date Received: 03/09/88
Date Reported: 03/14/88
Project: #JCO-104H

Q.C. DATA REPORT

Analyst: E. Hackl
Date of Analysis: 3/10/88
Method of Analysis: Turbidity
Detection Limit: N/A
Units: NTU

Sample Number	Analyte	Original Result	Duplicate Result	% Deviation
8030634	Turbidity	470	470	2.1

Sample Number	Analyte	Sample Contribution	Spike Added	Spike Result	% Recovery
8030634	Turbidity	95	95	200	110

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

ANAMETRIX, INC.
LABORATORY SERVICES
ENVIRONMENTAL • ANALYTICAL CHEMISTRY
2754 AIELLO DRIVE • SAN JOSE, CA 95111 • (408) 629-1132

March 11, 1988
Work Order Number 8803053
Date Received 03/09/88
Project No. JCO-104H

Robert Breynaert
Wahler & Associates
1023 Corporation Way
Palo Alto, CA 94303

Six water samples were received for analysis of volatiles by GC/MS, using the following EPA method(s):

ANAMETRIX I.D.	SAMPLE I.D.	METHOD(S)
8803053-01	JCO-104H V-3	624
-02	" METHOD BAILER	"
-03	" TRAVEL BLANK	"
-04	" V-10	"
-05	" TRAVEL BLANK	"
-06	" METHOD BLANK	"

RESULTS

See enclosed data sheets, Pages 2 thru 7.

EXTRA COMPOUNDS

See enclosed data sheet, Page 8.

QUALITY ASSURANCE REPORTS

See enclosed data sheets, Pages 9 thru 10.

If there is any more that we can do, please give us a call. Thank you for using ANAMETRIX, INC.

Sincerely,

Burt Sutherland

Burt Sutherland
Laboratory Manager

BWS/ltm

ORGANICS ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 629-1132

Sample I.D.	: JCO-104H V-3	Anametrix I.D.	: 8803053-01
Matrix	: WATER	Analyst	: ARL
Date sampled	: 03-09-88	Supervisor	: BWS
Date analyzed	: 03-10-88	Date released	: 03-11-88
Dilution	: NONE	Instrument	: F1

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	BRL
75-01-4	* Vinyl Chloride	10	BRL
74-83-9	* Bromomethane	10	BRL
75-00-3	* Chloroethane	10	BRL
75-69-4	* Trichlorofluoromethane	5	BRL
75-35-4	* 1,1-Dichloroethene	5	BRL
76-13-1	# Trichlorotrifluoroethane	5	BRL
67-64-1	**Acetone	20	BRL
75-15-0	**Carbondisulfide	5	BRL
75-09-2	* Methylene Chloride	5	BRL
156-60-5	* Trans-1,2-Dichloroethene	5	BRL
75-34-3	* 1,1-Dichloroethane	5	7
78-93-3	**2-Butanone	20	BRL
156-59-2	* Cis-1,2-Dichloroethene	5	BRL
67-66-3	* Chloroform	5	BRL
71-55-6	* 1,1,1-Trichloroethane	5	BRL
56-23-5	* Carbon Tetrachloride	5	BRL
71-43-2	* Benzene	5	BRL
107-06-2	* 1,2-Dichloroethane	5	BRL
79-01-6	* Trichloroethene	5	BRL
78-87-5	* 1,2-Dichloropropane	5	BRL
75-27-4	* Bromodichloromethane	5	BRL
110-75-8	* 2-Chloroethylvinylether	5	BRL
108-05-4	**Vinyl Acetate	10	BRL
10061-02-6	* Trans-1,3-Dichloropropene	5	BRL
108-10-1	**4-Methyl-2-Pentanone	10	BRL
108-88-3	* Toluene	5	BRL
10061-01-5	* cis-1,3-Dichloropropene	5	BRL
79-00-5	* 1,1,2-Trichloroethane	5	BRL
127-18-4	* Tetrachloroethene	5	BRL
591-78-6	**2-Hexanone	10	BRL
124-48-1	* Dibromochloromethane	5	BRL
108-90-7	* Chlorobenzene	5	BRL
100-41-4	* Ethylbenzene	5	BRL
1330-20-7	**Total Xylenes	5	BRL
100-42-5	**Styrene	5	BRL
75-25-2	* Bromoform	5	BRL
79-34-5	* 1,1,2,2-Tetrachloroethane	5	BRL
541-73-1	* 1,3-Dichlorobenzene	5	BRL
106-46-7	* 1,4-Dichlorobenzene	5	BRL
95-50-1	* 1,2-Dichlorobenzene	5	BRL

CAS #	Surrogate Compounds	Limits	%Recovery
17060-07-0	1,2-Dichloroethane-d4	84-132%	110%
2037-26-5	Toluene-d8	85-124%	109%
460-00-4	p-Bromofluorobenzene	74-116%	93%

* A Method 624 priority pollutant compound (Federal Register, 10/26/84)
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL)
\# A compound added by Anametrix, Inc. BRL : Below reporting limit.

ORGANICS ANALYSIS DATA SHEET - TENTATIVELY IDENTIFIED COMPOUNDS
ANAMETRIX, INC. (408) 629-1132

Sample I.D.	: JCO-104H V-3	Anametrix I.D.	: 8803053-01
Matrix	: WATER	Analyst	: ARL
Date Sampled	: 03-09-88	Supervisor	: BWS
Analyzed VOA	: 03-10-88	Date Released	: 03-11-88
Dilution VOA	: NONE		
Analyzed SV	: NA		
Dilution SV	: NA		

	CAS #	Scan#	Volatile Fraction Compound Name	Det. Limit ppb	Amt. Found ppb
1	592-84-7	506	formicacid, butylester	5	<5
2				5	
3				5	
4				5	
5				5	
6				5	
7				5	
8				5	
9				5	
10				5	

	CAS #	Scan#	Semivolatile Fraction Compound Name	Det. Limit ppb	Amt. Found ppb
1				10	
2				10	
3				10	
4				10	
5				10	
6				10	
7				10	
8				10	
9				10	
10				10	
11				10	
12				10	
13				10	
14				10	
15				10	
16				10	
17				10	
18				10	
19				10	
20				10	

Tentatively identified compounds are significant chromatographic peaks (TICs) other than priority pollutants. TIC spectra are compared with entries in the National Bureau of Standards mass spectral library. Identification is made by following US EPA guidelines and acceptance criteria. TICs are quantitated by using the area of the nearest internal standard and assuming a response factor of one (1). Values calculated are ESTIMATES ONLY.

ORGANICS ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 629-1132

Sample I.D. : JCO-104H V-10
Matrix : WATER
Date sampled : 03-09-88
Date analyzed: 03-10-88
Dilution : NONE

Anametrix I.D. : 8803053-04
Analyst : ARL
Supervisor : BCDS
Date released : 03-11-88
Instrument : F1

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	BRL
75-01-4	* Vinyl Chloride	10	BRL
74-83-9	* Bromomethane	10	BRL
75-00-3	* Chloroethane	10	BRL
75-69-4	* Trichlorofluoromethane	5	BRL
75-35-4	* 1,1-Dichloroethene	5	BRL
76-13-1	# Trichlorotrifluoroethane	5	BRL
67-64-1	**Acetone	20	BRL
75-15-0	**Carbondisulfide	5	BRL
75-09-2	* Methylene Chloride	5	BRL
156-60-5	* Trans-1,2-Dichloroethene	5	BRL
75-34-3	* 1,1-Dichloroethane	5	BRL
78-93-3	**2-Butanone	20	BRL
156-59-2	* Cis-1,2-Dichloroethene	5	BRL
67-66-3	* Chloroform	5	BRL
71-55-6	* 1,1,1-Trichloroethane	5	BRL
56-23-5	* Carbon Tetrachloride	5	BRL
71-43-2	* Benzene	5	BRL
107-06-2	* 1,2-Dichloroethane	5	BRL
79-01-6	* Trichloroethene	5	BRL
78-87-5	* 1,2-Dichloropropane	5	BRL
75-27-4	* Bromodichloromethane	5	BRL
110-75-8	* 2-Chloroethylvinylether	5	BRL
108-05-4	**Vinyl Acetate	10	BRL
10061-02-6	* Trans-1,3-Dichloropropene	5	BRL
108-10-1	**4-Methyl-2-Pentanone	10	BRL
108-88-3	* Toluene	5	BRL
10061-01-5	* cis-1,3-Dichloropropene	5	BRL
79-00-5	* 1,1,2-Trichloroethane	5	BRL
127-18-4	* Tetrachloroethene	5	BRL
591-78-6	**2-Hexanone	10	BRL
124-48-1	* Dibromochloromethane	5	BRL
108-90-7	* Chlorobenzene	5	BRL
100-41-4	* Ethylbenzene	5	BRL
1330-20-7	**Total Xylenes	5	BRL
100-42-5	**Styrene	5	BRL
75-25-2	* Bromoform	5	BRL
79-34-5	* 1,1,2,2-Tetrachloroethane	5	BRL
541-73-1	* 1,3-Dichlorobenzene	5	BRL
106-46-7	* 1,4-Dichlorobenzene	5	BRL
95-50-1	* 1,2-Dichlorobenzene	5	BRL

CAS #	Surrogate Compounds	Limits	%Recovery
17060-07-0	1,2-Dichloroethane-d4	84-132%	114%
2037-26-5	Toluene-d8	85-124%	110%
460-00-4	p-Bromofluorobenzene	74-116%	92%

* A Method 624 priority pollutant compound (Federal Register, 10/26/84)
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL)
\# A compound added by Anametrix, Inc. BRL : Below reporting limit.

ORGANICS ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 629-1132

Sample I.D. : JCO-104H METHOD BAILER
Matrix : WATER
Date sampled : 03-08-88
Date analyzed: 03-10-88
Dilution : NONE

Anametrix I.D. : 8803053-02
Analyst : LM
Supervisor : BWS
Date released : 03-11-88
Instrument : F1

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	BRL
75-01-4	* Vinyl Chloride	10	BRL
74-83-9	* Bromomethane	10	BRL
75-00-3	* Chloroethane	10	BRL
75-69-4	* Trichlorofluoromethane	5	BRL
75-35-4	* 1,1-Dichloroethene	5	BRL
76-13-1	# Trichlorotrifluoroethane	5	BRL
67-64-1	**Acetone	20	BRL
75-15-0	**Carbondisulfide	5	BRL
75-09-2	* Methylene Chloride	5	BRL
156-60-5	* Trans-1,2-Dichloroethene	5	BRL
75-34-3	* 1,1-Dichloroethane	5	BRL
78-93-3	**2-Butanone	20	BRL
156-59-2	* Cis-1,2-Dichloroethene	5	BRL
67-66-3	* Chloroform	5	BRL
71-55-6	* 1,1,1-Trichloroethane	5	BRL
56-23-5	* Carbon Tetrachloride	5	BRL
71-43-2	* Benzene	5	BRL
107-06-2	* 1,2-Dichloroethane	5	BRL
79-01-6	* Trichloroethene	5	BRL
78-87-5	* 1,2-Dichloropropane	5	BRL
75-27-4	* Bromodichloromethane	5	BRL
110-75-8	* 2-Chloroethylvinylether	5	BRL
108-05-4	**Vinyl Acetate	10	BRL
10061-02-6	* Trans-1,3-Dichloropropene	5	BRL
108-10-1	**4-Methyl-2-Pentanone	10	BRL
108-88-3	* Toluene	5	BRL
10061-01-5	* cis-1,3-Dichloropropene	5	BRL
79-00-5	* 1,1,2-Trichloroethane	5	BRL
127-18-4	* Tetrachloroethene	5	BRL
591-78-6	**2-Hexanone	10	BRL
124-48-1	* Dibromochloromethane	5	BRL
108-90-7	* Chlorobenzene	5	BRL
100-41-4	* Ethylbenzene	5	BRL
1330-20-7	**Total Xylenes	5	BRL
100-42-5	**Styrene	5	BRL
75-25-2	* Bromoform	5	BRL
79-34-5	* 1,1,2,2-Tetrachloroethane	5	BRL
541-73-1	* 1,3-Dichlorobenzene	5	BRL
106-46-7	* 1,4-Dichlorobenzene	5	BRL
95-50-1	* 1,2-Dichlorobenzene	5	BRL

CAS #	Surrogate Compounds	Limits	%Recovery
17060-07-0	1,2-Dichloroethane-d4	84-132%	114%
2037-26-5	Toluene-d8	85-124%	110%
460-00-4	p-Bromofluorobenzene	74-116%	90%

* A Method 624 priority pollutant compound (Federal Register, 10/26/84)
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL)
\# A compound added by Anametrix, Inc. BRL : Below reporting limit.

ORGANICS ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 629-1132

Sample I.D. : JCO-104H TRAVEL BLANK
Matrix : WATER
Date sampled : 03-08-88
Date analyzed: 03-10-88
Dilution : NONE

Anametrix I.D. : 8803053-03
Analyst : ARL
Supervisor : BWS
Date released : 03-11-88
Instrument : F1

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	BRL
75-01-4	* Vinyl Chloride	10	BRL
74-83-9	* Bromomethane	10	BRL
75-00-3	* Chloroethane	10	BRL
75-69-4	* Trichlorofluoromethane	5	BRL
75-35-4	* 1,1-Dichloroethene	5	BRL
76-13-1	# Trichlorotrifluoroethane	5	BRL
67-64-1	**Acetone	20	BRL
75-15-0	**Carbondisulfide	5	BRL
75-09-2	* Methylene Chloride	5	BRL
156-60-5	* Trans-1,2-Dichloroethene	5	BRL
75-34-3	* 1,1-Dichloroethane	5	BRL
78-93-3	**2-Butanone	20	BRL
156-59-2	* Cis-1,2-Dichloroethene	5	BRL
67-66-3	* Chloroform	5	BRL
71-55-6	* 1,1,1-Trichloroethane	5	BRL
56-23-5	* Carbon Tetrachloride	5	BRL
71-43-2	* Benzene	5	BRL
107-06-2	* 1,2-Dichloroethane	5	BRL
79-01-6	* Trichloroethene	5	BRL
78-87-5	* 1,2-Dichloropropane	5	BRL
75-27-4	* Bromodichloromethane	5	BRL
110-75-8	* 2-Chloroethylvinylether	5	BRL
108-05-4	**Vinyl Acetate	10	BRL
10061-02-6	* Trans-1,3-Dichloropropene	5	BRL
108-10-1	**4-Methyl-2-Pentanone	10	BRL
108-88-3	* Toluene	5	BRL
10061-01-5	* cis-1,3-Dichloropropene	5	BRL
79-00-5	* 1,1,2-Trichloroethane	5	BRL
127-18-4	* Tetrachloroethene	5	BRL
591-78-6	**2-Hexanone	10	BRL
124-48-1	* Dibromochloromethane	5	BRL
108-90-7	* Chlorobenzene	5	BRL
100-41-4	* Ethylbenzene	5	BRL
1330-20-7	**Total Xylenes	5	BRL
100-42-5	**Styrene	5	BRL
75-25-2	* Bromoform	5	BRL
79-34-5	* 1,1,2,2-Tetrachloroethane	5	BRL
541-73-1	* 1,3-Dichlorobenzene	5	BRL
106-46-7	* 1,4-Dichlorobenzene	5	BRL
95-50-1	* 1,2-Dichlorobenzene	5	BRL

CAS #	Surrogate Compounds	Limits	%Recovery
17060-07-0	1,2-Dichloroethane-d4	84-132%	110%
2037-26-5	Toluene-d8	85-124%	101%
460-00-4	p-Bromofluorobenzene	74-116%	83%

* A Method 624 priority pollutant compound (Federal Register, 10/26/84)
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL)
\# A compound added by Anametrix, Inc. BRL : Below reporting limit.

ORGANICS ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 629-1132

Sample I.D. : JCO-104H METHOD BLANK
Matrix : WATER
Date sampled : 03-09-88
Date analyzed: 03-10-88
Dilution : NONE

Anametrix I.D. : 8803053-06
Analyst : ARL
Supervisor : BWS
Date released : 03-11-88
Instrument : F1

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	BRL
75-01-4	* Vinyl Chloride	10	BRL
74-83-9	* Bromomethane	10	BRL
75-00-3	* Chloroethane	10	BRL
75-69-4	* Trichlorofluoromethane	5	BRL
75-35-4	* 1,1-Dichloroethene	5	BRL
76-13-1	# Trichlorotrifluoroethane	5	BRL
67-64-1	**Acetone	20	BRL
75-15-0	**Carbondisulfide	5	BRL
75-09-2	* Methylene Chloride	5	BRL
156-60-5	* Trans-1,2-Dichloroethene	5	BRL
75-34-3	* 1,1-Dichloroethane	5	BRL
78-93-3	**2-Butanone	20	BRL
156-59-2	* Cis-1,2-Dichloroethene	5	BRL
67-66-3	* Chloroform	5	BRL
71-55-6	* 1,1,1-Trichloroethane	5	BRL
56-23-5	* Carbon Tetrachloride	5	BRL
71-43-2	* Benzene	5	BRL
107-06-2	* 1,2-Dichloroethane	5	BRL
79-01-6	* Trichloroethene	5	BRL
78-87-5	* 1,2-Dichloropropane	5	BRL
75-27-4	* Bromodichloromethane	5	BRL
110-75-8	* 2-Chloroethylvinylether	5	BRL
108-05-4	**Vinyl Acetate	10	BRL
10061-02-6	* Trans-1,3-Dichloropropene	5	BRL
108-10-1	**4-Methyl-2-Pentanone	10	BRL
108-88-3	* Toluene	5	BRL
10061-01-5	* cis-1,3-Dichloropropene	5	BRL
79-00-5	* 1,1,2-Trichloroethane	5	BRL
127-18-4	* Tetrachloroethene	5	BRL
591-78-6	**2-Hexanone	10	BRL
124-48-1	* Dibromochloromethane	5	BRL
108-90-7	* Chlorobenzene	5	BRL
100-41-4	* Ethylbenzene	5	BRL
1330-20-7	**Total Xylenes	5	BRL
100-42-5	**Styrene	5	BRL
75-25-2	* Bromoform	5	BRL
79-34-5	* 1,1,2,2-Tetrachloroethane	5	BRL
541-73-1	* 1,3-Dichlorobenzene	5	BRL
106-46-7	* 1,4-Dichlorobenzene	5	BRL
95-50-1	* 1,2-Dichlorobenzene	5	BRL

CAS #	Surrogate Compounds	Limits	%Recovery
17060-07-0	1,2-Dichloroethane-d4	84-132%	109%
2037-26-5	Toluene-d8	85-124%	104%
460-00-4	p-Bromofluorobenzene	74-116%	87%

* A Method 624 priority pollutant compound (Federal Register, 10/26/84)
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL)
\# A compound added by Anametrix, Inc. BRL : Below reporting limit.

ORGANICS ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 629-1132

Sample I.D. : JCO-104H TRAVEL BLANK
Matrix : WATER
Date sampled : 03-09-88
Date analyzed: 03-10-88
Dilution : NONE

Anametrix I.D. : 8803053-05
Analyst : ARL
Supervisor : BLDS
Date released : 03-11-88
Instrument : F1

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	BRL
75-01-4	* Vinyl Chloride	10	BRL
74-83-9	* Bromomethane	10	BRL
75-00-3	* Chloroethane	10	BRL
75-69-4	* Trichlorofluoromethane	5	BRL
75-35-4	* 1,1-Dichloroethene	5	BRL
76-13-1	# Trichlorotrifluoroethane	5	BRL
67-64-1	**Acetone	20	BRL
75-15-0	**Carbondisulfide	5	BRL
75-09-2	* Methylene Chloride	5	BRL
156-60-5	* Trans-1,2-Dichloroethene	5	BRL
75-34-3	* 1,1-Dichloroethane	5	BRL
78-93-3	**2-Butanone	20	BRL
156-59-2	* Cis-1,2-Dichloroethene	5	BRL
67-66-3	* Chloroform	5	BRL
71-55-6	* 1,1,1-Trichloroethane	5	BRL
56-23-5	* Carbon Tetrachloride	5	BRL
71-43-2	* Benzene	5	BRL
107-06-2	* 1,2-Dichloroethane	5	BRL
79-01-6	* Trichloroethene	5	BRL
78-87-5	* 1,2-Dichloropropane	5	BRL
75-27-4	* Bromodichloromethane	5	BRL
110-75-8	* 2-Chloroethylvinylether	5	BRL
108-05-4	**Vinyl Acetate	10	BRL
10061-02-6	* Trans-1,3-Dichloropropene	5	BRL
108-10-1	**4-Methyl-2-Pentanone	10	BRL
108-88-3	* Toluene	5	BRL
10061-01-5	* cis-1,3-Dichloropropene	5	BRL
79-00-5	* 1,1,2-Trichloroethane	5	BRL
127-18-4	* Tetrachloroethene	5	BRL
591-78-6	**2-Hexanone	10	BRL
124-48-1	* Dibromochloromethane	5	BRL
108-90-7	* Chlorobenzene	5	BRL
100-41-4	* Ethylbenzene	5	BRL
1330-20-7	**Total Xylenes	5	BRL
100-42-5	**Styrene	5	BRL
75-25-2	* Bromoform	5	BRL
79-34-5	* 1,1,2,2-Tetrachloroethane	5	BRL
541-73-1	* 1,3-Dichlorobenzene	5	BRL
106-46-7	* 1,4-Dichlorobenzene	5	BRL
95-50-1	* 1,2-Dichlorobenzene	5	BRL

CAS #	Surrogate Compounds	Limits	%Recovery
17060-07-0	1,2-Dichloroethane-d4	84-132%	115%
2037-26-5	Toluene-d8	85-124%	116%
460-00-4	p-Bromofluorobenzene	74-116%	94%

* A Method 624 priority pollutant compound (Federal Register, 10/26/84)
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL)
\# A compound added by Anametrix, Inc. BRL : Below reporting limit.

ORGANICS ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 629-1132

Sample I.D. : METHOD BLANK
Matrix : WATER
Date sampled : NA
Date analyzed: 03-10-88
Dilution : NONE

Anametrix I.D. : 1CB0310V001
Analyst : LM
Supervisor : BWS
Date released : 03-11-88
Instrument : F1

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	BRL
75-01-4	* Vinyl Chloride	10	BRL
74-83-9	* Bromomethane	10	BRL
75-00-3	* Chloroethane	10	BRL
75-69-4	* Trichlorofluoromethane	5	BRL
75-35-4	* 1,1-Dichloroethene	5	BRL
76-13-1	# Trichlorotrifluoroethane	5	BRL
67-64-1	**Acetone	20	BRL
75-15-0	**Carbondisulfide	5	BRL
75-09-2	* Methylene Chloride	5	10
156-60-5	* Trans-1,2-Dichloroethene	5	BRL
75-34-3	* 1,1-Dichloroethane	5	BRL
78-93-3	**2-Butanone	20	BRL
156-59-2	* Cis-1,2-Dichloroethene	5	BRL
67-66-3	* Chloroform	5	BRL
71-55-6	* 1,1,1-Trichloroethane	5	BRL
56-23-5	* Carbon Tetrachloride	5	BRL
71-43-2	* Benzene	5	BRL
107-06-2	* 1,2-Dichloroethane	5	BRL
79-01-6	* Trichloroethene	5	BRL
78-87-5	* 1,2-Dichloropropane	5	BRL
75-27-4	* Bromodichloromethane	5	BRL
110-75-8	* 2-Chloroethylvinylether	5	BRL
108-05-4	**Vinyl Acetate	10	BRL
10061-02-6	* Trans-1,3-Dichloropropene	5	BRL
108-10-1	**4-Methyl-2-Pentanone	10	BRL
108-88-3	* Toluene	5	BRL
10061-01-5	* cis-1,3-Dichloropropene	5	BRL
79-00-5	* 1,1,2-Trichloroethane	5	BRL
127-18-4	* Tetrachloroethene	5	BRL
591-78-6	**2-Hexanone	10	BRL
124-48-1	* Dibromochloromethane	5	BRL
108-90-7	* Chlorobenzene	5	BRL
100-41-4	* Ethylbenzene	5	BRL
1330-20-7	**Total Xylenes	5	BRL
100-42-5	**Styrene	5	BRL
75-25-2	* Bromoform	5	BRL
79-34-5	* 1,1,2,2-Tetrachloroethane	5	BRL
541-73-1	* 1,3-Dichlorobenzene	5	BRL
106-46-7	* 1,4-Dichlorobenzene	5	BRL
95-50-1	* 1,2-Dichlorobenzene	5	BRL

CAS #	Surrogate Compounds	Limits	%Recovery
17060-07-0	1,2-Dichloroethane-d4	84-132%	101%
2037-26-5	Toluene-d8	85-124%	102%
460-00-4	p-Bromofluorobenzene	74-116%	87%

* A Method 624 priority pollutant compound (Federal Register, 10/26/84)
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL)
\# A compound added by Anametrix, Inc. BRL : Below reporting limit.

CLP VOLATILE MATRIX SPIKE REPORT -- EPA METHOD 624
ANAMETRIX, INC. (408) 629-1132

Sample I.D. : JCO-104H V-3
Matrix : WATER
Date sampled : 03-09-88
Date analyzed : 03-10-88

Anametrix I.D. : 8803053-01
Analyst : LH
Supervisor : BJS
Date released : 03-11-88

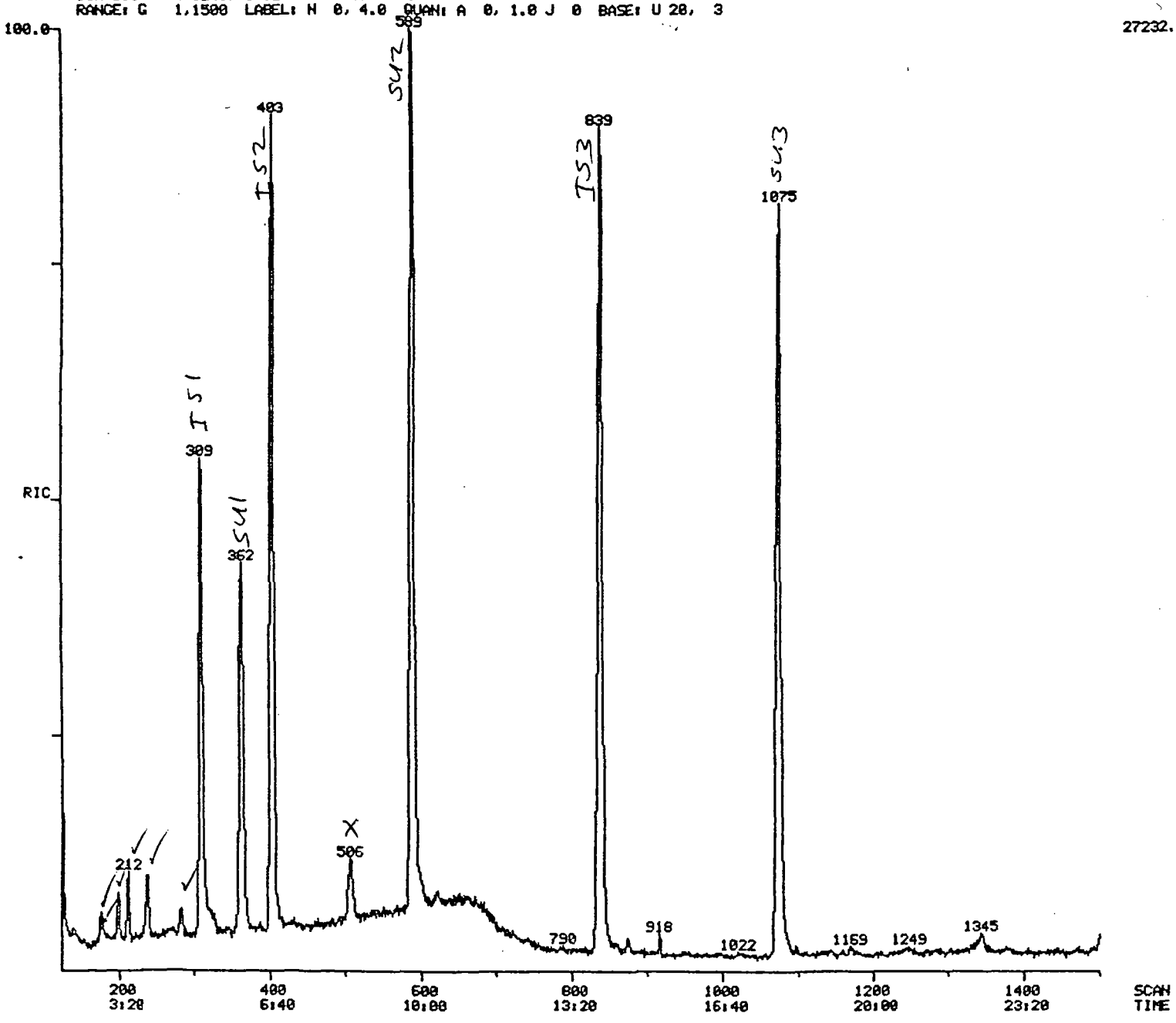
COMPOUND	SPIKE AMT. (UG/L)	8803053 MS (UG/L)	%REC MS	8803053 MSD (UG/L)	%REC MSD	RPD	%REC LIMITS*
1,1-DICHLOROETHENE	50	42	84%	41	82%	-2%	61-131%
FREON 113	50	59	118%	57	114%	-3%	52-150%
METHYLENE CHLORIDE	50	45	90%	43	86%	-5%	55-130%
CHLOROFORM	50	49	98%	47	94%	-4%	70-124%
1,1,1-TRICHLOROETHANE	50	48	96%	46	92%	-4%	69-130%
BENZENE	50	49	98%	45	90%	-9%	69-124%
1,2-DICHLOROETHANE	50	48	96%	44	88%	-9%	65-119%
TRICHLOROETHENE	50	43	86%	38	76%	-12%	61-106%
4-METHYL-2-PENTANONE	50	61	122%	53	106%	-14%	42-147%
TOLUENE	50	51	102%	49	98%	-4%	70-128%
CHLOROBENZENE	50	48	96%	45	90%	-6%	73-123%
1,2-DICHLOROBENZENE	50	46	92%	44	88%	-4%	50-110%

* Limits established by Anametrix, Inc.

RIC
03/10/88 17:54:00
SAMPLE: JCO-104 H ~~W~~ V-3
CONDS.: M624/8240,35-120@4'/MIN.,VOCOL
RANGE: G 1,1500 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

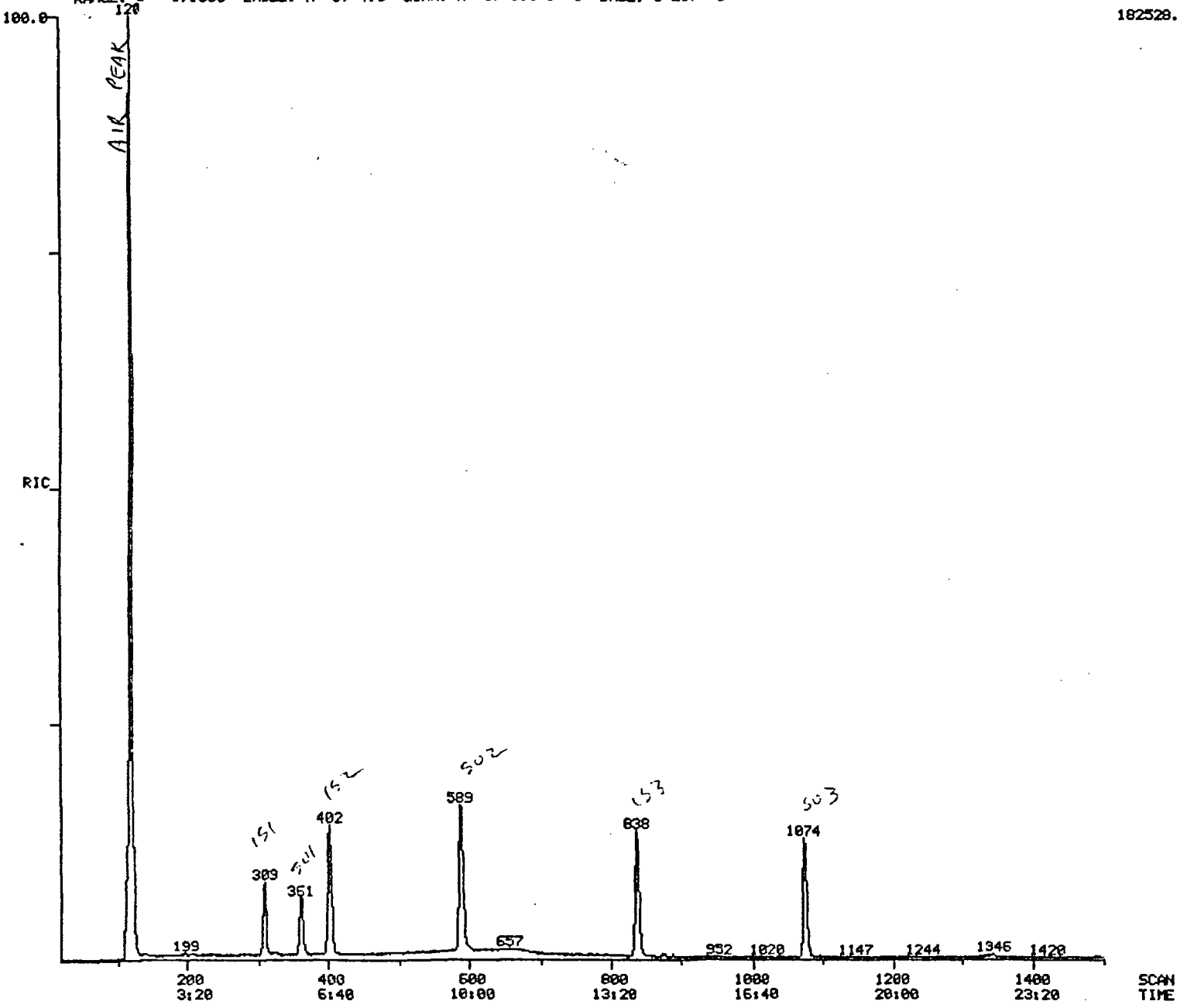
DATA: 1CU03053V01 #1
CALI: CALTAB #2

SCANS 125 TO 1500



RIC
03/10/88 15:55:00
SAMPLE: JCO-104H V-10
CONDS.: M624/8240,35-120@4'/MIN.,VOCOL
RANGE: G 1,1500 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

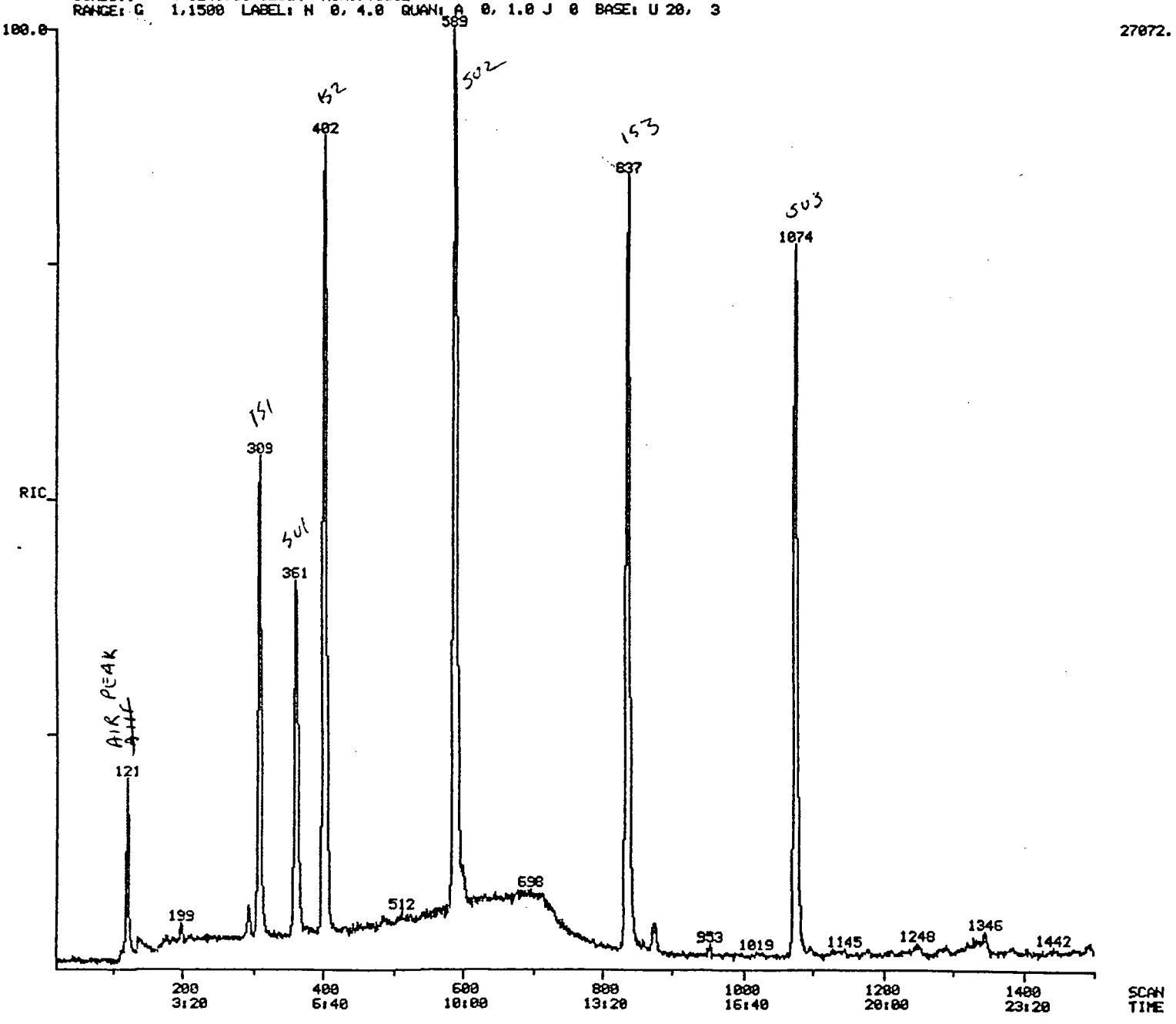
DATA: 1CU03053V04 #1 SCANS 20 TO 1500
CALI: CALTAB #2



RIC
03/10/88 15:25:00
SAMPLE: JCO-104 H METHOD BAILER 3-8-88
CONDS.: M624/8240,35-120@4'/MIN.,VOCOL
RANGE: G 1,1500 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 1CV03053V02 #1
CALI: CALTAB #2

SCANS 20 TO 1500

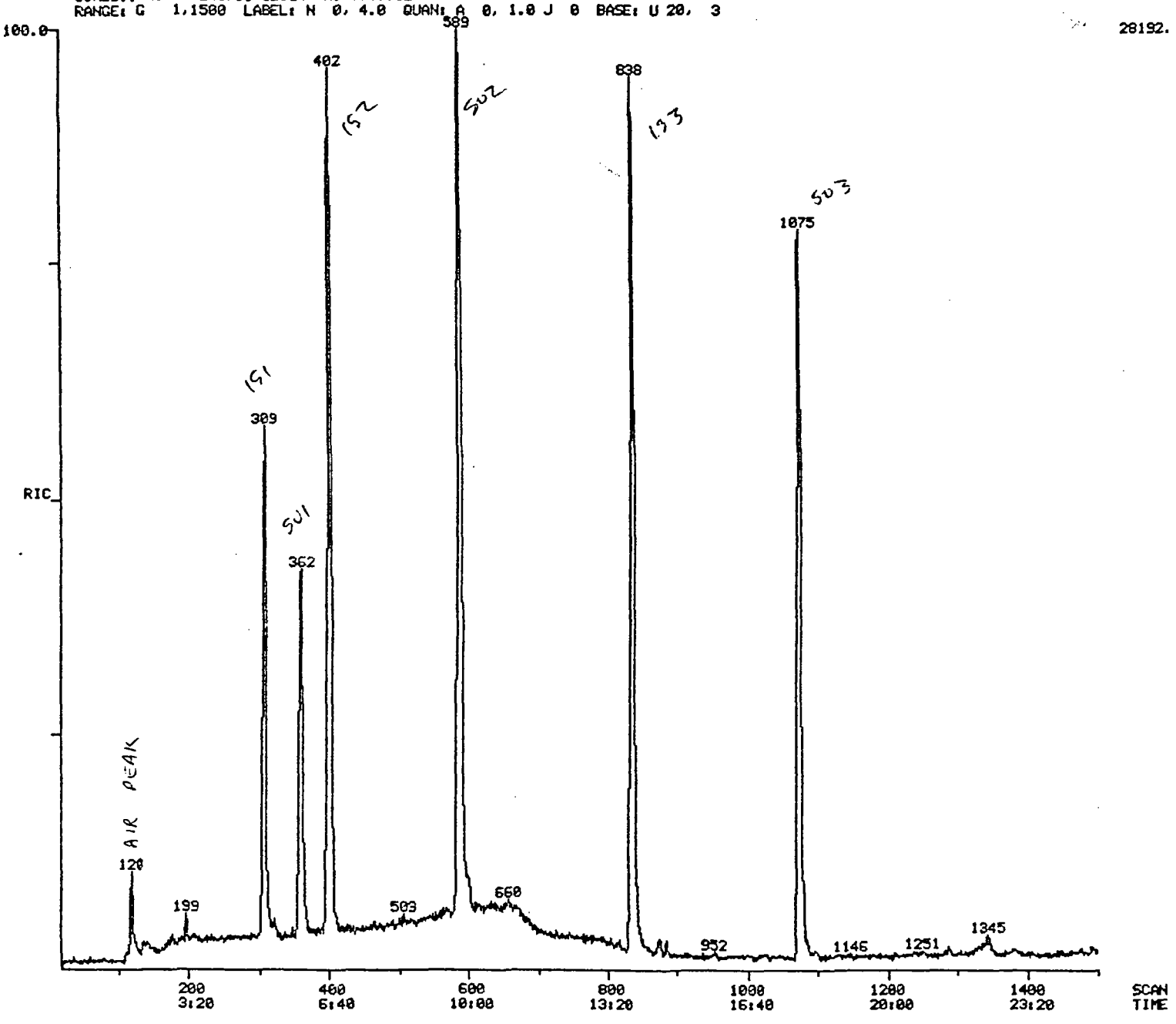


RIC
03/10/88 16:25:00
SAMPLE: JCO-104H TRAVEL BLANK 3-8-88
CONDS.: M524/8240,35-12004'/MIN.,VOCOL
RANGE: G 1,1500 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 1CU03053V03 #1
CALI: CALTAB #2

SCANS 20 TO 1500

28192.

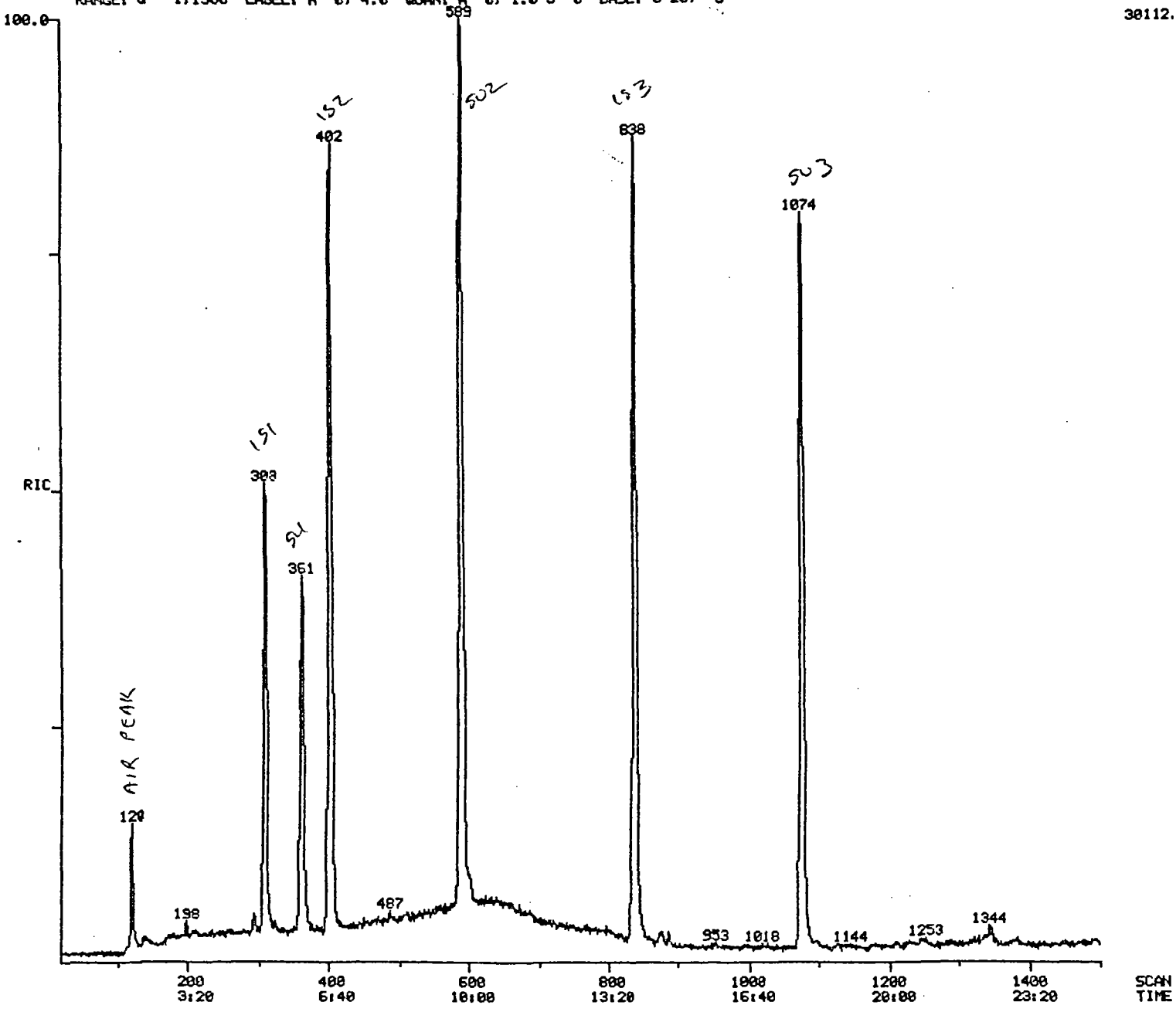


RIC
03/10/88 16:55:00
SAMPLE: JCO-104H TRAVEL BLANK 3-9-88
CONDS.: MS24/8240,35-12004'/MIN.,VOCOL
RANGE: G 1.1500 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 1CU03053V05 #1
CALI: CALTAB #2

SCANS 20 TO 1500

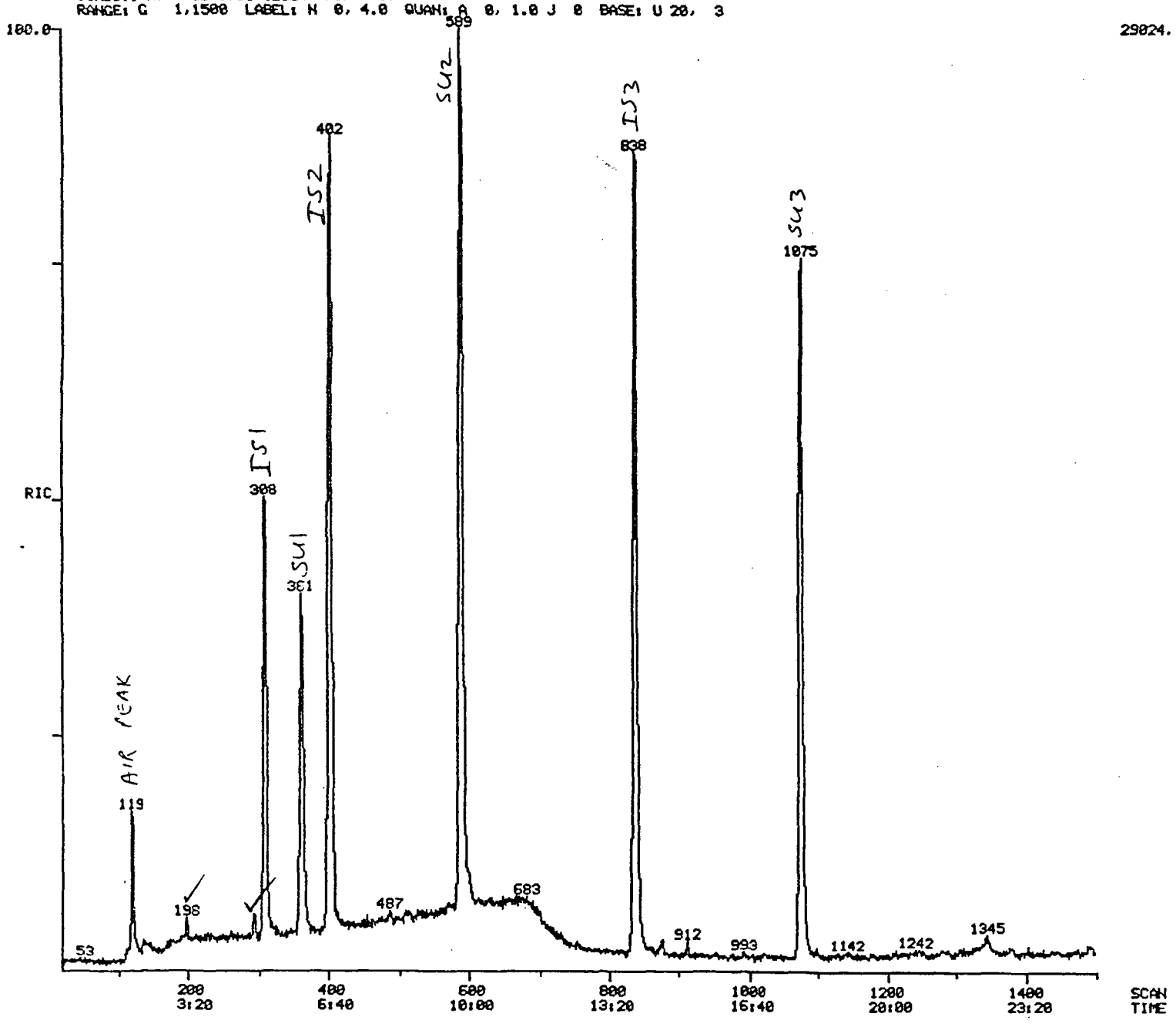
30112.



METHOD BLANK

RIC
03/10/88 17:25:00 JCO-104H
SAMPLE: ~~TRAVEL BLANK~~ 3-9-88
CONDS.: M624/8240,35-120@4'/MIN.,VOCOL
RANGE: G 1,1500 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 1CU03053U06 #1 SCANS 20 TO 1500
CALI: CALTAB #2



SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/22/88
Date Received: 03/22/88
Date Analyzed: 03/24/88
Date Reported: 03/25/88

Project: #JCO-104H

Sample Number	Sample Description
8031566	Water, V-8

PRIORITY POLLUTANTS

PURGEABLE HALOCARBONS & AROMATICS
results in ppb

Benzene	< 0.5	1,2-Dichloropropane	< 0.5
Bromomethane	< 0.5	1,3-Dichloropropane	< 0.5
Bromodichloromethane	< 0.5	Ethylbenzene	< 0.5
Bromoform	< 0.5	Methylene chloride	< 0.5
Carbon tetrachloride	< 0.5	1,1,2,2-Tetrachloroethane	< 0.5
Chlorobenzene	< 0.5	Tetrachloroethene	< 0.5
Chloroethane	< 0.5	1,1,1-Trichloroethane	3.7
2-Chloroethylvinyl ether	< 0.5	1,1,2-Trichloroethane	< 0.5
Chloroform	< 0.5	Trichloroethene	< 0.5
Chloromethane	< 0.5	Toluene	< 0.5
Dibromochloromethane	< 0.5	Vinyl chloride	< 0.5
1,1-Dichloroethane	0.69	1,2-Dichlorobenzene	< 0.5
1,2-Dichloroethane	< 0.5	1,3-Dichlorobenzene	< 0.5
1,1-Dichloroethene	0.65	1,4-Dichlorobenzene	< 0.5
trans-1,2-Dichloroethene	< 0.5		

Method of Analysis: EPA 8010/8020

SEQUOIA ANALYTICAL LABORATORY

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Laboratory Director

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1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/22/88
Date Received: 03/22/88
Date Analyzed: 03/24/88
Date Reported: 03/25/88

Project: #JCO-104H

Sample Number	Sample Description
8031566	Water, V-8

NON-PRIORITY POLLUTANTS
PURGEABLE AROMATICS
results in ppb

Xylene	< 1
Methyl Ethyl Ketone	< 1
Methyl Isobutyl Ketone	< 1

Method of Analysis: EPA 8020

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Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/22/88
Date Received: 03/22/88
Date Reported: 03/25/88
Project: #JCO-104H

Sample Number	Sample Description
8031566	Watern, V-8

ANALYSIS

Acetone, ppb	< 10
Turbidity, NTU	40

SEQUOIA ANALYTICAL LABORATORY

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Date Sampled: 03/22/88
Date Received: 03/22/88
Date Analyzed: 03/24/88
Date Reported: 03/25/88

Project: #JCO-104H

Sample Number	Sample Description
8031567	Water, V-9

PRIORITY POLLUTANTS

PURGEABLE HALOCARBONS & AROMATICS
results in ppb

Benzene	< 0.5	1,2-Dichloropropane	< 0.5
Bromomethane	< 0.5	1,3-Dichloropropane	< 0.5
Bromodichloromethane	< 0.5	Ethylbenzene	< 0.5
Bromoform	< 0.5	Methylene chloride	< 0.5
Carbon tetrachloride	< 0.5	1,1,2,2-Tetrachloroethane	< 0.5
Chlorobenzene	< 0.5	Tetrachloroethene	< 0.5
Chloroethane	< 0.5	1,1,1-Trichloroethane	2.2
2-Chloroethylvinyl ether	< 0.5	1,1,2-Trichloroethane	< 0.5
Chloroform	< 0.5	Trichloroethene	< 0.5
Chloromethane	< 0.5	Toluene	< 0.5
Dibromochloromethane	< 0.5	Vinyl chloride	< 0.5
1,1-Dichloroethane	3.9	1,2-Dichlorobenzene	< 0.5
1,2-Dichloroethane	< 0.5	1,3-Dichlorobenzene	< 0.5
1,1-Dichloroethene	< 0.5	1,4-Dichlorobenzene	< 0.5
trans-1,2-Dichloroethene	< 0.5		

Method of Analysis: EPA 8010/8020

SEQUOIA ANALYTICAL LABORATORY

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Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/22/88
Date Received: 03/22/88
Date Analyzed: 03/24/88
Date Reported: 03/25/88

Project: #JCO-104H

Sample Number	Sample Description
8031567	Water, V-9

NON-PRIORITY POLLUTANTS
PURGEABLE AROMATICS
results in ppb

Xylene	< 1
Methyl Ethyl Ketone	< 1
Methyl Isobutyl Ketone	< 1

Method of Analysis: EPA 8020

SEQUOIA ANALYTICAL LABORATORY

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Date Sampled: 03/22/88
Date Received: 03/22/88
Date Reported: 03/25/88

Project: #JCO-104H

Sample Number	Sample Description
8031567	Water, V-9

ANALYSIS

Acetone, ppb	< 10
Turbidity, NTU	130

SEQUOIA ANALYTICAL LABORATORY

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Attn: Bob Breynaert

Date Sampled: 03/22/88
Date Received: 03/22/88
Date Analyzed: 03/24/88
Date Reported: 03/25/88

Project: #JCO-104H

Sample Number	Sample Description
8031568	Water, V-10

PRIORITY POLLUTANTS

PURGEABLE HALOCARBONS
results in ppb

Bromomethane	< 0.5	1,2-Dichloropropane	< 0.5
Bromodichloromethane	< 0.5	1,3-Dichloropropene	< 0.5
Bromoform	< 0.5	Methylene chloride	< 0.5
Carbon Tetrachloride	< 0.5	1,1,2,2-Tetrachloroethane	< 0.5
Chloroethane	< 0.5	Tetrachloroethene	< 0.5
2-Chloroethylvinyl ether	< 0.5	1,1,1-Trichloroethane	0.96
Chloroform	< 0.5	1,1,2-Trichloroethane	< 0.5
Chloromethane	< 0.5	Trichloroethene	< 0.5
Dibromochloromethane	< 0.5	Vinyl chloride	< 0.5
1,1-Dichloroethane	< 0.5	1,2-Dichlorobenzene	< 0.5
1,2-Dichloroethane	< 0.5	1,3-Dichlorobenzene	< 0.5
1,1-Dichloroethene	< 0.5	1,4-Dichlorobenzene	< 0.5
trans-1,2-Dichloroethene	< 0.5		

Method of Analysis: EPA 8010

SEQUOIA ANALYTICAL LABORATORY

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Attn: Bob Breynaert

Date Sampled: 03/22/88
Date Received: 03/22/88
Date Reported: 03/25/88

Project: #JCO-104H

TOTAL PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Detection Limit ppb	(Diesel) High Boiling Point Hydrocarbons ppb
	Water,		
8031568	V-10	50	< 50

Method of Analysis: EPA 3510/8015

SEQUOIA ANALYTICAL LABORATORY

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Attn: Bob Breynaert

Date Sampled: 03/22/88
Date Received: 03/22/88
Date Reported: 03/25/88

Project: #JCO-104H

BTX DISTINCTION

Sample Number	Sample Description
8031568	Water, V-10

	Detection Limit ppb	Sample Results ppb
Benzene	0.5	< 0.5
Toluene	0.5	< 0.5
Xylenes	0.5	< 0.5

Method of Analysis: EPA 5030/602

SEQUOIA ANALYTICAL LABORATORY

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Attn: Bob Breynaert

Date Sampled: 03/22/88
Date Received: 03/22/88
Date Reported: 03/25/88
Project: #JCO-104H

Sample Number	Sample Description
8031568	Water, V-10

ANALYSIS

Turbidity, NTU	660

SEQUOIA ANALYTICAL LABORATORY

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Attn: Bob Breynaert

Date Sampled: 03/22/88
Date Received: 03/22/88
Date Reported: 03/25/88
Project: #JCO-104H

Q.C. DATA REPORT

Analyst: M. Giles
Date of Analysis: 3/24/88
Method of Analysis: EPA 8010/8020
Detection Limit: 0.5
Units: ppb

Sample Number	Analyte	Original Result	Duplicate Result	% Deviation
8031568	111TCA	0.96	0.74	13

Sample Number	Analyte	Sample Contribution	Spike Added	Spike Result	% Recovery
8031567	111TCA	2.2	2.0	4.1	95

SEQUOIA ANALYTICAL LABORATORY

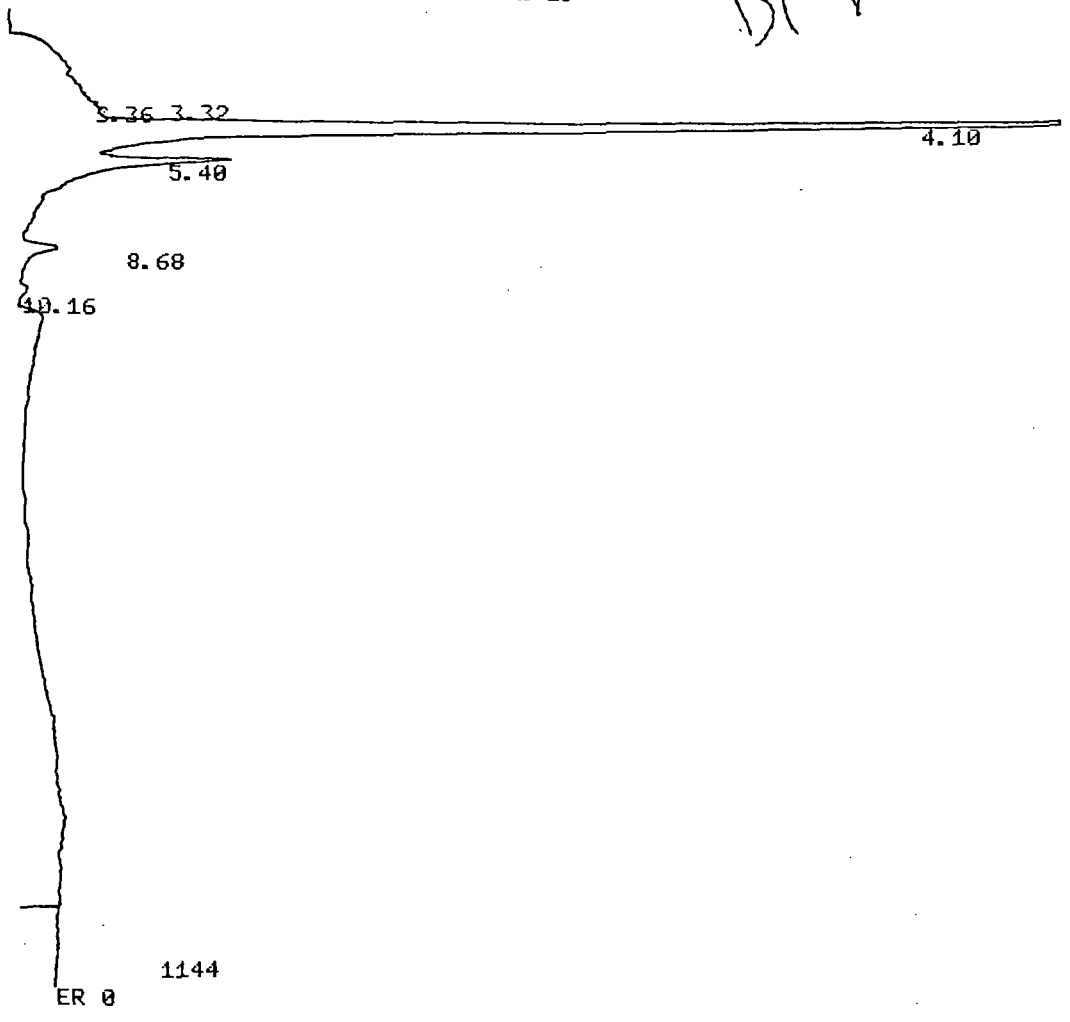
Scot Cocanour

Arthur G. Burton
Laboratory Director

1	0.	19.84	23128	01
TOTALS	0.		23128	

CHANNEL A INJECT 15:51:19

DI Blank



HALL 15:51:19 CH= "A" PS= 1.

FILE 1. METHOD 5. RUN 16 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	3.32	464123	02	
2	0.	3.36	2489	03	
3	0.	4.1	6545925	08	
4	0.	5.4	624568	05	
5	0.	8.68	163105	01	
6	0.	10.16	44799	03	
TOTALS	0.		7845009		

INPUT OVERRANGE AT RT= 5.38

PID 15:51:19 CH= "B" PS= 1.

FILE 1. METHOD 5. RUN 5 INDEX 1

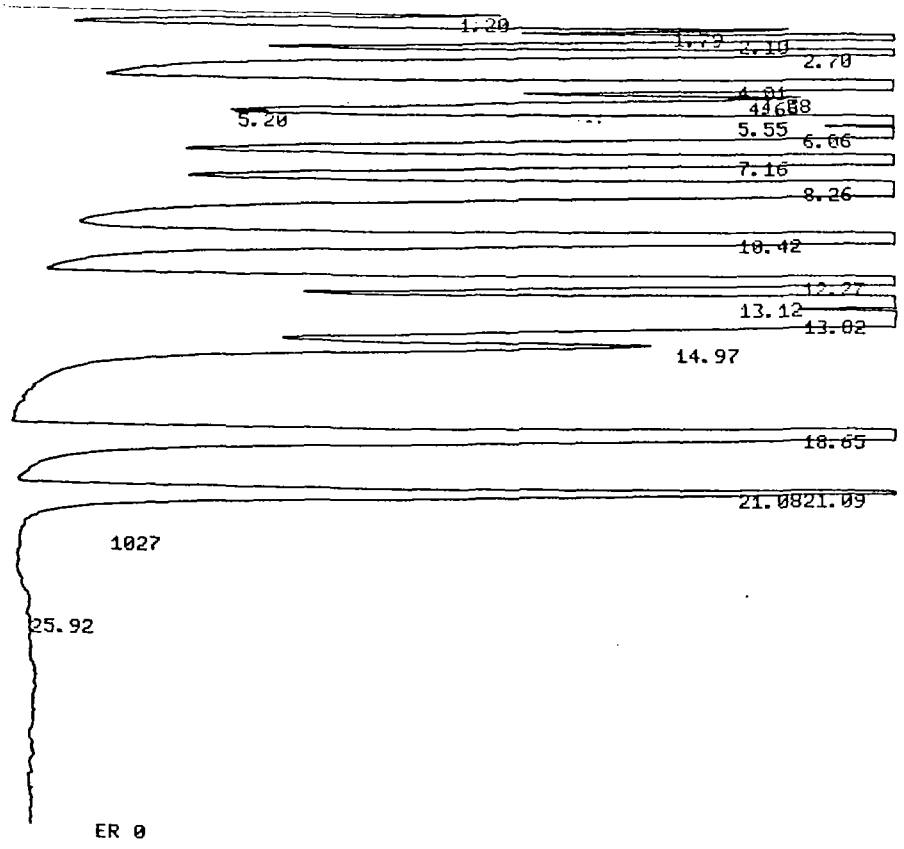
ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
TOTALS	0.				

CHANNEL A INJECT 16:37:06

070

071



074

HALL 18:05:07 CH= "A" PS= 1.

FILE 1. METHOD 5. RUN 19 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	1.2	2137932	02	
2	0.	1.79	3001376	02	
3	0.	2.1	8418832	02	
4	0.	2.7	10158507	02	
5	0.	4.01	19730943	02	
6	0.	4.58	2476282	02	
7	0.	4.66	3870282	02	
8	0.	5.2	450562	02	
9	0.	5.55	13968850	02	
10	0.	6.06	17539326	02	
11	0.	7.16	16956552	02	
12	0.	8.26	31691026	08	
13	0.	10.42	19163859	05	
14	0.	12.27	12954797	06	
15	0.	13.12	17161546	06	
16	0.	13.82	23935950	06	
17	0.	14.97	6167616	07	
18	0.	18.65	20355173	01	
19	0.	21.08	2603766	02	
20	0.	21.09	4336822	03	
21	0.	25.92	701809	01	
TOTALS	0.		237781808		

075

INPUT OVERRANGE AT RT= 5.23

PID 18:05:07 CH= "B" PS= 1.

FILE 1. METHOD 5. RUN 8 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	5.97	62116	01	
2	0.	8.05	50216	01	
3	0.	8.94	25711	01	
4	0.	10.3	112771	01	
5	0.	13.	74869	01	
6	0.	14.88	41935	01	
7	0.	18.52	69009	01	
8	0.	19.84	45337	01	
9	0.	20.94	162634	01	
10	0.	25.42	469907	01	
TOTALS	0.		1114795		

5ppb Purge A & C

PID 23:05:37 CH= "B" PS= 1.

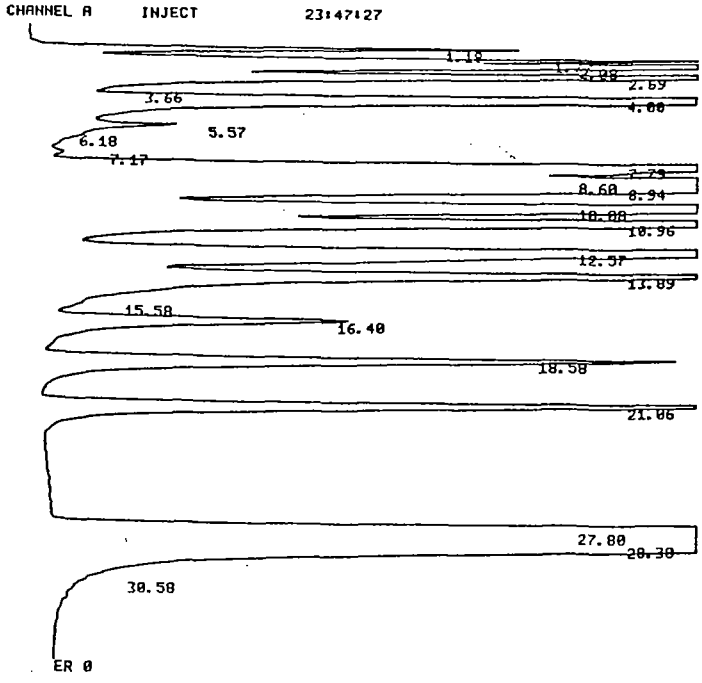
FILE 1. METHOD 5. RUN 15 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	0.62	181287	01	
TOTALS	0.		181287		

5ppb B, C
DCB's
Aromatics

CHANNEL A INJECT 23:47:27



085

HALL 23:47:27 CH= "A" PS= 1.

FILE 1. METHOD 5. RUN 27 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	1.18	2575486	02	
2	0.	1.77	3422314	02	
3	0.	2.08	9132683	02	
4	0.	2.69	18001204	02	
5	0.	3.66	180222	02	
6	0.	4.	22595100	08	
7	0.	5.57	525706	06	
8	0.	6.18	28655	07	
9	0.	7.17	65430	06	
10	0.	7.79	15481135	06	
11	0.	8.6	11995404	06	
12	0.	8.94	18431518	06	
13	0.	10.08	18071113	06	
14	0.	10.96	13832579	06	
15	0.	12.57	16866074	06	
16	0.	13.89	11298059	06	
17	0.	15.58	221976	06	
18	0.	16.4	3445170	07	
19	0.	18.58	6593030	01	
20	0.	21.06	7478067	01	
21	0.	27.8	16836773	02	
22	0.	28.38	56619623	08	
23	0.	30.58	740	05	
TOTALS	0.		245698861		

INPUT OVERRANGE AT RT= 5.58

PID 23:47:27 CH= "B" PS= 1.

FILE 1. METHOD 5. RUN 16 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	0.46	3476	01	
2	0.	7.66	156130	02	
3	0.	8.04	115964	03	
4	0.	8.94	32740	01	
5	0.	10.29	154882	01	
6	0.	11.06	33339	01	
7	0.	12.56	105764	01	
8	0.	13.48	424704	01	
9	0.	14.93	243325	01	
10	0.	19.81	827225	01	
11	0.	20.93	177727	01	
12	0.	22.68	414045	01	
13	0.	24.46	50924	02	
14	0.	25.42	172116	02	
15	0.	25.9	116820	03	
16	0.	27.65	324296	02	
17	0.	28.32	607214	03	
18	0.	31.55	752816	01	
TOTALS	0.		4713515		

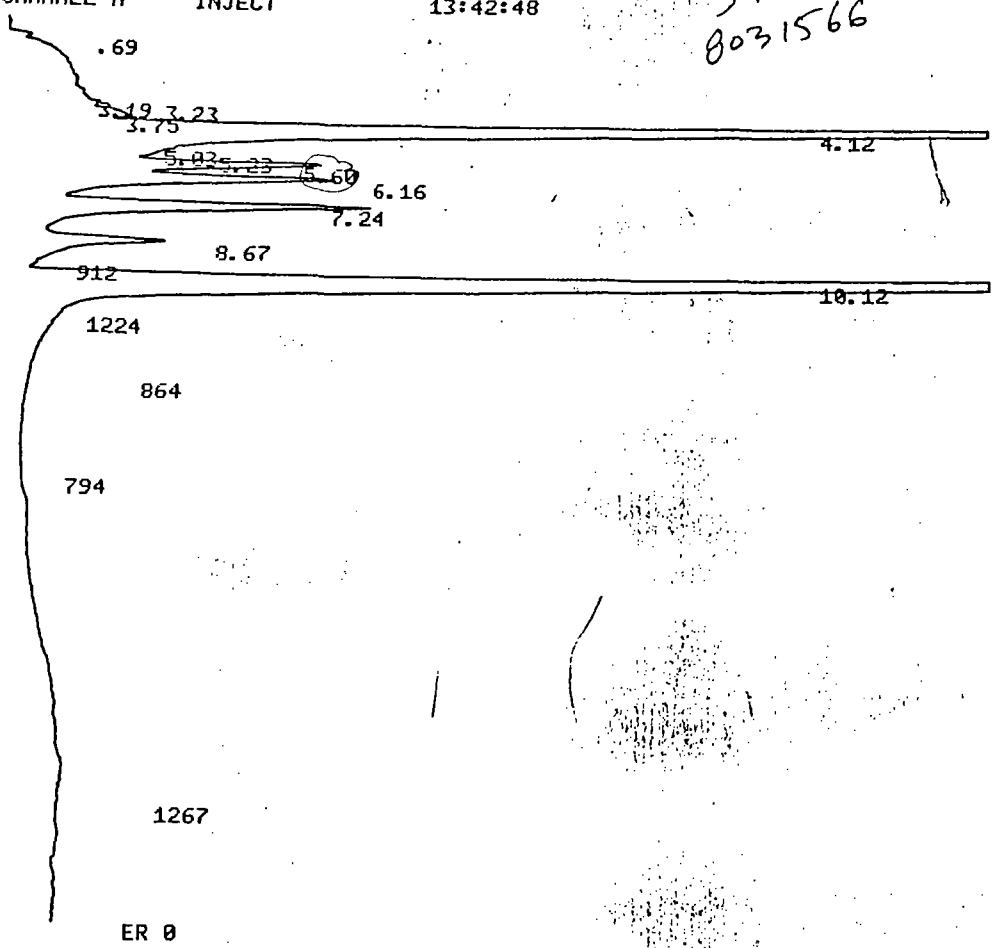
086

not #1

1. 0. 0.

CHANNEL A INJECT 13:42:48

5ml 8031566



HALL 13:42:48 CH= "A" PS= 1.

FILE 1. METHOD 5. RUN 13 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	0.69	80128	02	
2	0.	3.19	2022276	02	
3	0.	3.23	309699	02	
4	0.	3.75	696835	02	
5	0.	4.12	10574251	02	
6	0.	5.03	354510	02	
7	0.	5.23	448490	02	
8	0.	5.6	1727202	02	
9	0.	6.16	2280638	02	
10	0.	7.24	2347790	02	
11	0.	8.67	1013781	02	
12	0.	10.12	13462734	03	
TOTALS	0.		35318334		

INPUT OVERRANGE AT RT= 5.54

PID 13:42:49 CH= "B" PS= 1.

FILE 1. METHOD 5. RUN 2 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	0.6	202677	01	
TOTALS	0.		202677		

5ml 8031567

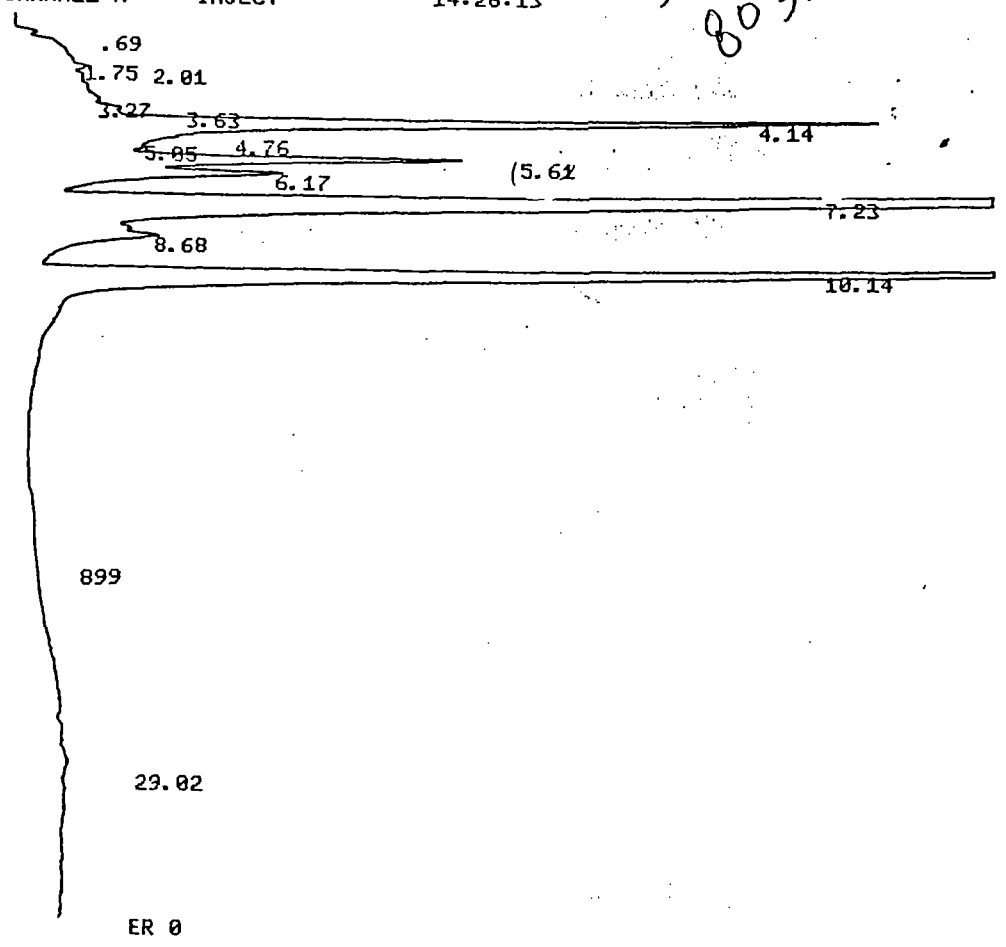
CHANNEL A INJECT 14:26:13

066

067

5ml 8031567

CHANNEL A INJECT 14:26:13



HALL 14:26:13 CH= "A" PS= 1.

FILE 1. METHOD 5. RUN 14 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	0.69	50615	02	
2	0.	1.75	385199	02	
3	0.	2.01	117211	02	
4	0.	3.27	165498	02	
5	0.	3.63	91585	02	
6	0.	4.14	3789157	02	
7	0.	4.76	116198	02	
8	0.	5.05	5589	03	
9	0.	5.61	1492396	02	
10	0.	6.17	904599	03	
11	0.	7.23	13222277	08	
12	0.	8.68	338900	05	
13	0.	10.14	7804349	01	
14	0.	29.02	223644	01	
TOTALS	0.		28707217		

INPUT OVERRANGE AT RT= 5.57

PID 14:26:13 CH= "B" PS= 1.

FILE 1. METHOD 5. RUN 3 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	0.6	248718	01	
TOTALS	0.		248718		

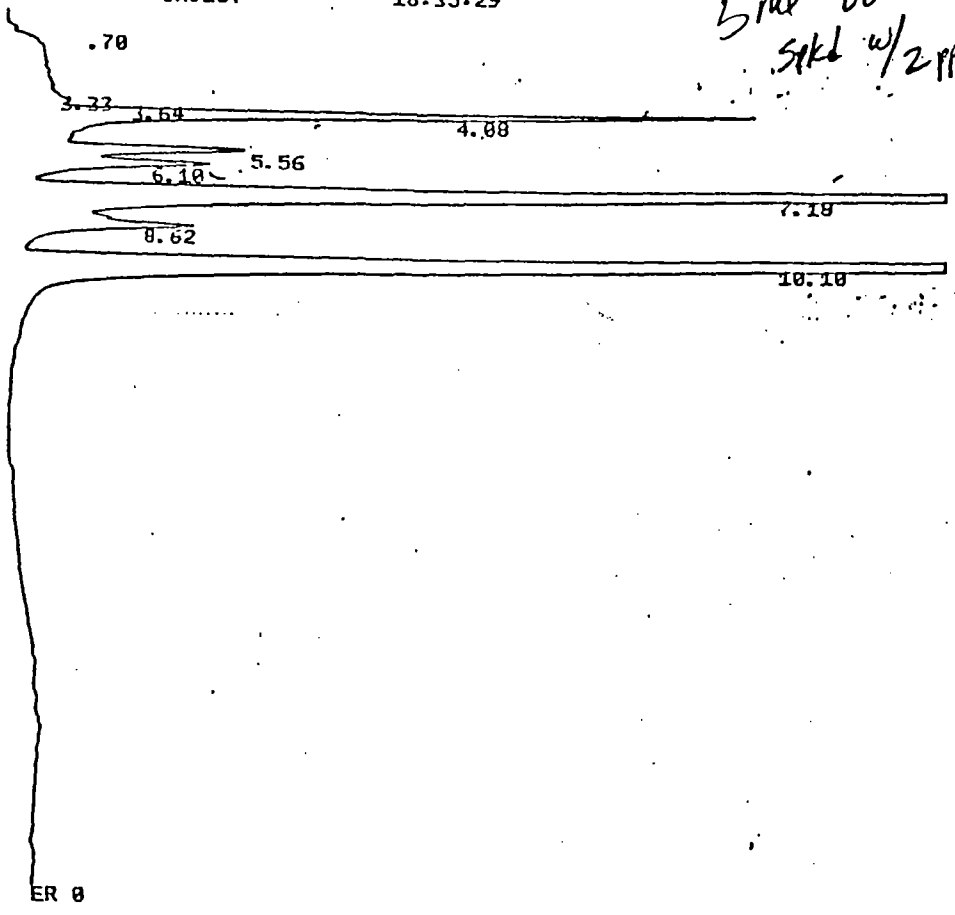
50ml 8031511

CHANNEL A INJECT 15:09:05

068

5ml 8031567
Spkd w/2 ppb 111TCB

CHANNEL A INJECT 18:35:29



HALL 18:35:29 CH= "A" PS= 1.

FILE 1. METHOD 5. RUN 46 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	0.7	32771	02	
2	0.	3.33	1300989	02	
3	0.	3.64	379508	02	
4	0.	4.08	5730132	08	
5	0.	5.56	910166	06	
6	0.	6.1	877760	06	
7	0.	7.18	12435374	06	
8	0.	8.62	1405389	06	
9	0.	10.1	14765190	07	
TOTALS	0.		37837279		

INPUT OVERRANGE AT RT= 5.49

PID 18:35:29 CH= "B" PS= 1.

FILE 1. METHOD 5. RUN 35 INDEX 1

ANALYST: MRG

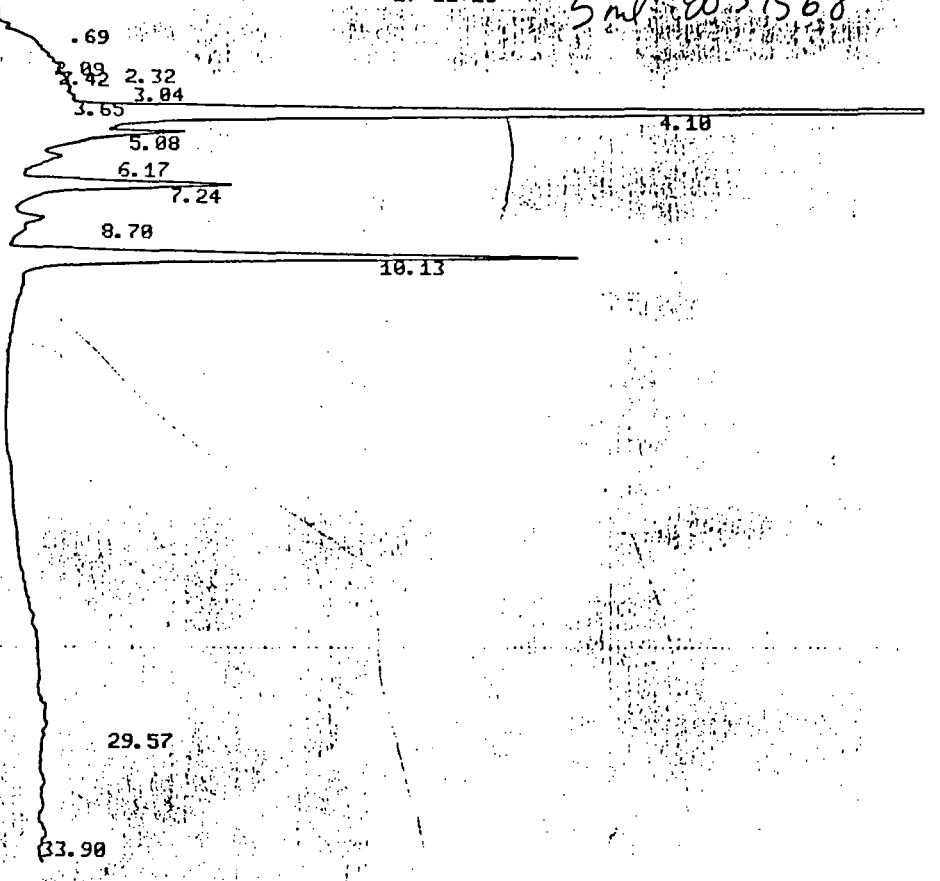
NAME	PPB	RT	AREA	BC	RF
1	0.	0.6	238358	01	
2	0.	8.99	20982	01	
3	0.	16.85	45675	01	
4	0.	19.84	20202	01	
5	0.	22.72	366454	02	
6	0.	25.44	517236	03	
TOTALS	0.		1208907		

112

113

NAME	PPB	RT	AREA	BC	RF
TOTALS	0.				

CHANNEL A INJECT 17:21:10 5ml 8031568



HALL 17:21:10 CH= "A" PS= 1.

FILE 1. METHOD 5. RUN 18 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	0.69	42723	02	
2	0.	2.09	713911	02	
3	0.	2.32	193963	02	
4	0.	2.42	336376	02	
5	0.	3.04	944312	02	
6	0.	3.65	321810	02	
7	0.	4.1	8048346	02	
8	0.	5.08	1509497	02	
9	0.	6.17	554989	02	
10	0.	7.24	1565330	02	
11	0.	8.7	350930	02	
12	0.	10.13	3465279	03	
13	0.	29.57	84147	01	
14	0.	33.9	61979	01	
TOTALS	0.		18193592		

INPUT OVERRANGE AT RT= 5.07

PID 17:21:11 CH= "B" PS= 1.

FILE 1. METHOD 5. RUN 7 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	0.6	235296	01	
TOTALS	0.		235296		

5ppb AC

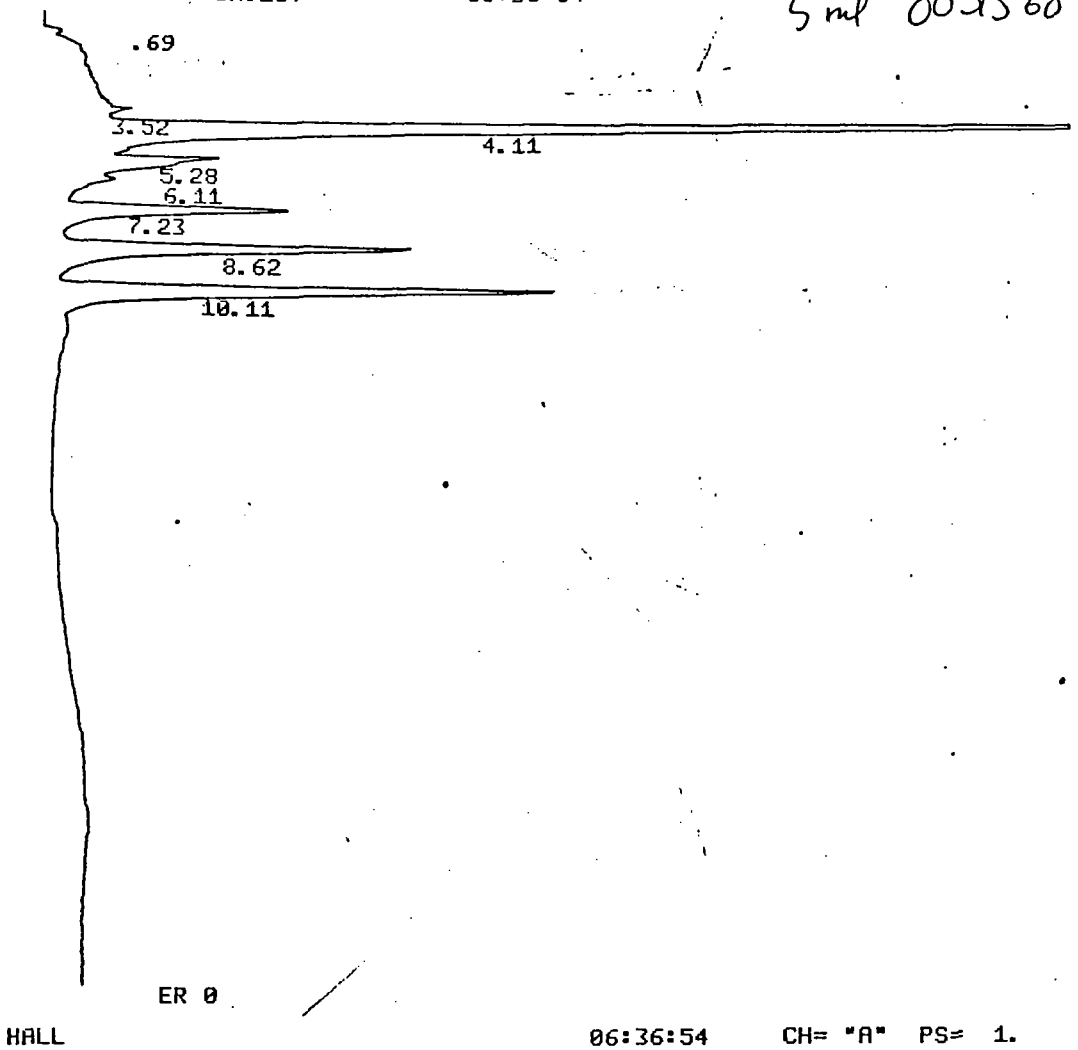
CHANNEL A INJECT 18:05:07

073

TOTALS 0. 274090

#9
5ml 803568

CHANNEL A INJECT 06:36:54



HALL 06:36:54 CH= "A" PS= 1.

FILE 1. METHOD 5. RUN 36 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	0.69	33155	03	
2	0.	3.52	502947	02	
3	0.	4.11	6279501	02	
4	0.	5.28	1021663	02	
5	0.	6.11	221404	02	
6	0.	7.23	1140010	08	
7	0.	8.62	1884795	06	
8	0.	10.11	2658014	07	
TOTALS	0.		13741489		

INPUT OVERRANGE AT RT= 5.33

PID 06:36:54 CH= "B" PS= 1.

FILE 1. METHOD 5. RUN 25 INDEX 1

ANALYST: MRG

NAME	PPB	RT	AREA	BC	RF
1	0.	0.51	26132	02	
2	0.	0.61	250166	03	
3	0.	18.88	41818	01	
TOTALS	0.		318116		

#10

097

098

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/22/88
Date Received: 03/22/88
Date Reported: 03/25/88
Project: #JCO-104H

Q.C. DATA REPORT

Analyst: G. Brock
Date of Analysis: 3/24/88
Method of Analysis: Alcohols by G.C.
Detection Limit: 10
Units: ppb

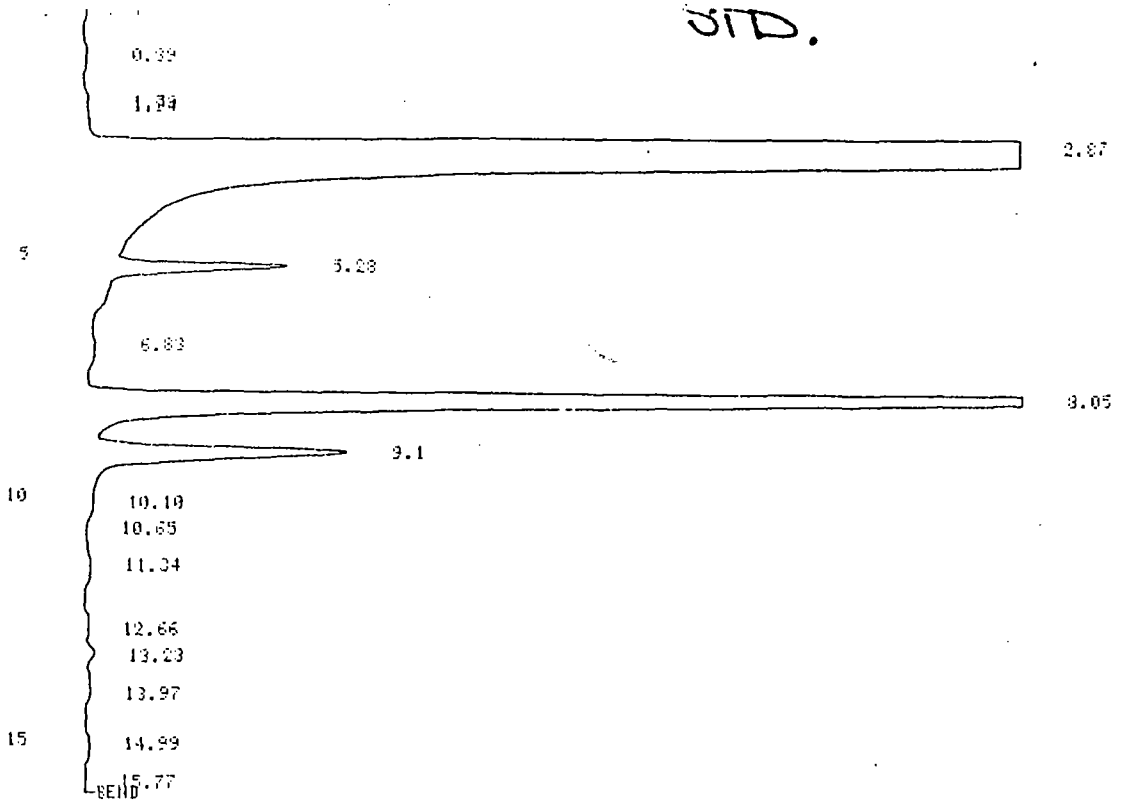
Sample Number	Analyte	Original Result	Duplicate Result	% Deviation
8031566	Acetone	< 10	< 10	0.0

Sample Number	Analyte	Sample Contribution	Spike Added	Spike Result	% Recovery
8031566	Acetone	< 10	200	205	103

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

JID.



RUN 4 9:42 88/03/24

METHOD 3 MODIFIED CALCULATION: %

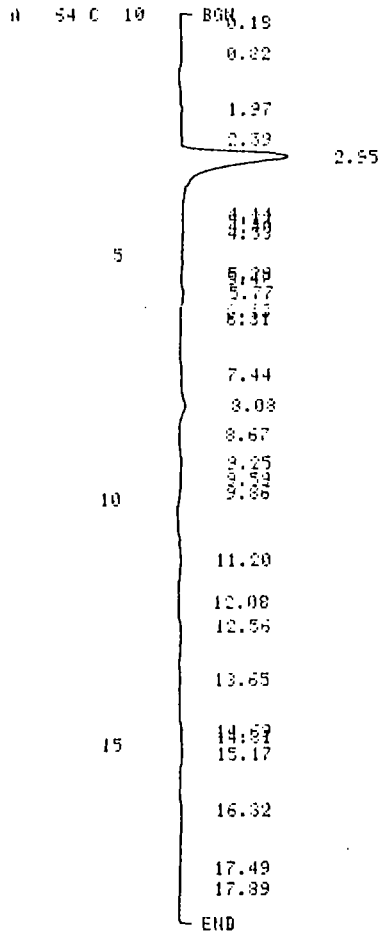
RT	AREA	BC	AREA %
0.89	0.9659	V	0.0521
1.79	0.4815	T	0.0260
1.94	0.1521	T	0.0082
2.87	1625.5749	T	87.8290
5.28	25.2283	T	1.3630
6.83	2.6743	T	0.1444
8.05	157.9862	T	8.5359
9.13	31.1696	T	1.6840
10.10	1.2814	T	0.0692
10.65	0.0319	V	0.0017
11.34	0.8178	V	0.0441
12.66	0.9804	T	0.0529
13.23	1.2330	T	0.0666
13.97	1.2219	T	0.0660
14.99	0.9261	T	0.0500
15.77	0.1138		0.0061

16 PEAKS > AREA/HT REJECT

Gmls # 8031566

RUN 1 11:02 88/03/24

METHOD 5 MODIFIED



RUN 1 11:02 88/03/24

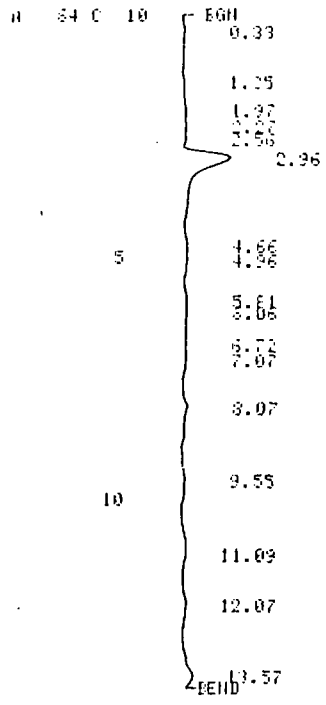
METHOD 5 MODIFIED CALCULATION: %

RT	AREA	BC	AREA %
0.18	0.0475	V	0.1366
0.82	0.2894	V	0.8326
1.97	0.0875	V	0.2518
2.39	0.1236	V	0.3555
2.95	26.6473	V	76.6474
4.14	0.0230	V	0.0661
4.22	0.0090	V	0.0260
4.40	0.0118	V	0.0341
4.53	0.1632	V	0.4696
5.36	0.0204	V	0.0587
5.47	0.0116	V	0.0334
5.77	0.3943	V	1.1344
6.13	0.0131	V	0.0377
6.31	0.2745	V	0.7897
7.44	0.0316	V	0.0908
8.08	1.3125	V	3.7754
8.67	0.0341	V	0.0983
9.25	0.5824	V	1.6759
9.59	0.0085	V	0.0244
9.86	0.3713	V	1.0699
11.20	2.9529	V	8.4937
12.08	0.0069	V	0.0200
12.56	1.2076	V	3.4736
13.65	0.1404		0.4039

24 PEAKS > AREA/HT REJECT

METHOD 5 MODIFIED

Smls # 8031567



RUN 2 11:51 88/03/24

METHOD 5 MODIFIED CALCULATION: %

RT	AREA	BC	AREA %
0.33	0.7034	V	2.7645
1.35	0.2077	V	0.8106
1.97	0.0380	V	0.1486
2.27	0.0960	V	0.3746
2.56	0.1087	V	0.4242
2.96	14.8120	V	57.7965
4.66	0.1632	V	0.6370
4.96	0.2344	V	0.9148
6.06	0.0945	V	0.3690
6.72	0.0256	V	0.1002
7.07	0.4047	V	1.5794
8.07	2.1947	V	8.5638
9.55	1.4004	V	5.4646
11.09	1.6133	V	6.2950
12.07	1.2358	V	4.8220
13.57	2.2897		8.9345

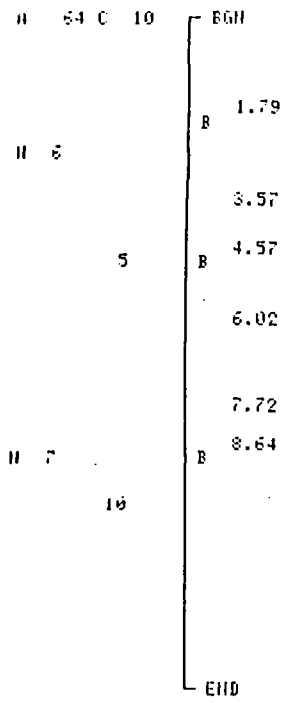
16 PEAKS > AREA/HT REJECT

21 PEAKS > AREA/HT REJECT

5mls # 8031566 (Dup).

RUN 4 12:49 88/03/24

METHOD 5 MODIFIED



RUN 4 12:49 88/03/24

METHOD 5 MODIFIED CALCULATION: %

RT	AREA	BC	AREA %
1.79	0.0202		9.9883
3.57	0.0406	V	20.0012
4.57	0.0266		13.1331
6.02	0.0617	V	30.4080
7.72	0.0299	V	14.7209
8.64	0.0238		11.7484

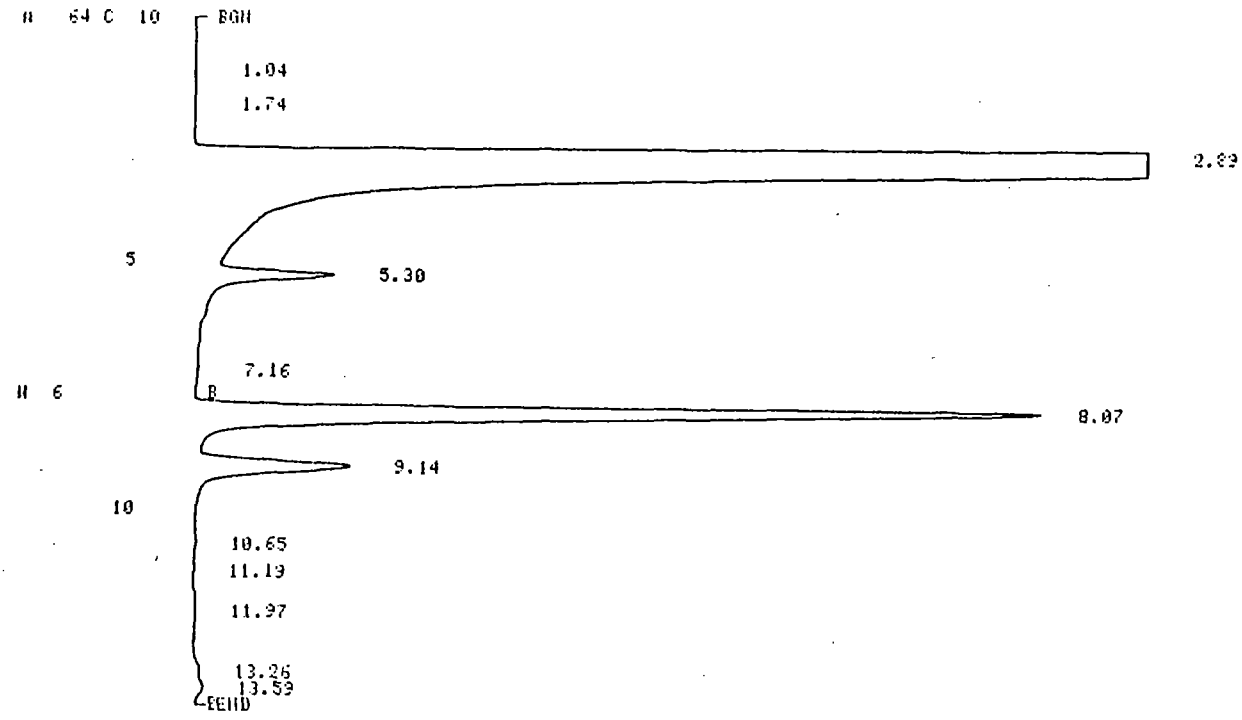
6 PEAKS > AREA/HT REJECT

21 PEAKS > AREA/HT REJECT

5mls # 8031566 xsp.

RUN 6 13:59 88/03/24

METHOD 5 MODIFIED



RUN 6 13:59 88/03/24

METHOD 5 MODIFIED CALCULATION: %

RT	AREA	BC	AREA %
1.04	0.1687	V	0.0066
1.74	0.1624	V	0.0063
2.89	2331.7695	V	91.6708
5.30	15.3502	V	0.6034
7.16	0.2981		0.0117
8.07	162.2553	V	6.3788
9.14	31.1585	V	1.2249
10.65	0.2985	V	0.0117
11.19	0.1031	V	0.0040
11.97	0.8222	V	0.0323
13.26	0.0663	V	0.0026
13.59	1.1782		0.0463

12 PEAKS > AREA/HT REJECT

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/22/88
Date Received: 03/22/88
Date Reported: 03/25/88
Project: #JCO-104H

Q.C. DATA REPORT

Analyst: G. Brock
Date of Analysis: 3/24/88
Method of Analysis: EPA 3510/8015
Detection Limit: 50
Units: ppb

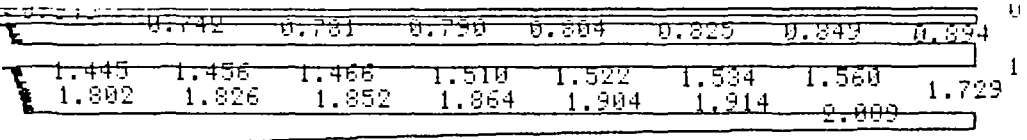
Sample Number	Analyte	Original Result	Duplicate Result	% Deviation
8031568	Diesel	< 50	< 50	0.0

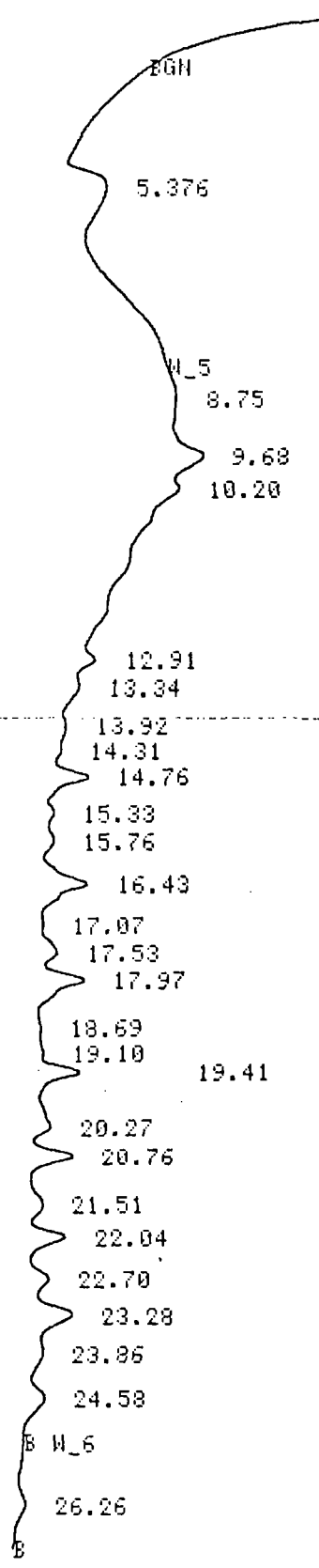
Sample Number	Analyte	Sample Contribution	Spike Added	Spike Result	% Recovery
8031568	Diesel	< 50	2,000	1790	89.5

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

DIESEL STD.





FILE 192 RUN 8 STARTED 00:34.4 80/01/11 HIGH BOILERS
% METHOD 1 DIESELS LAST EDITED 20:06.0 80/01/10

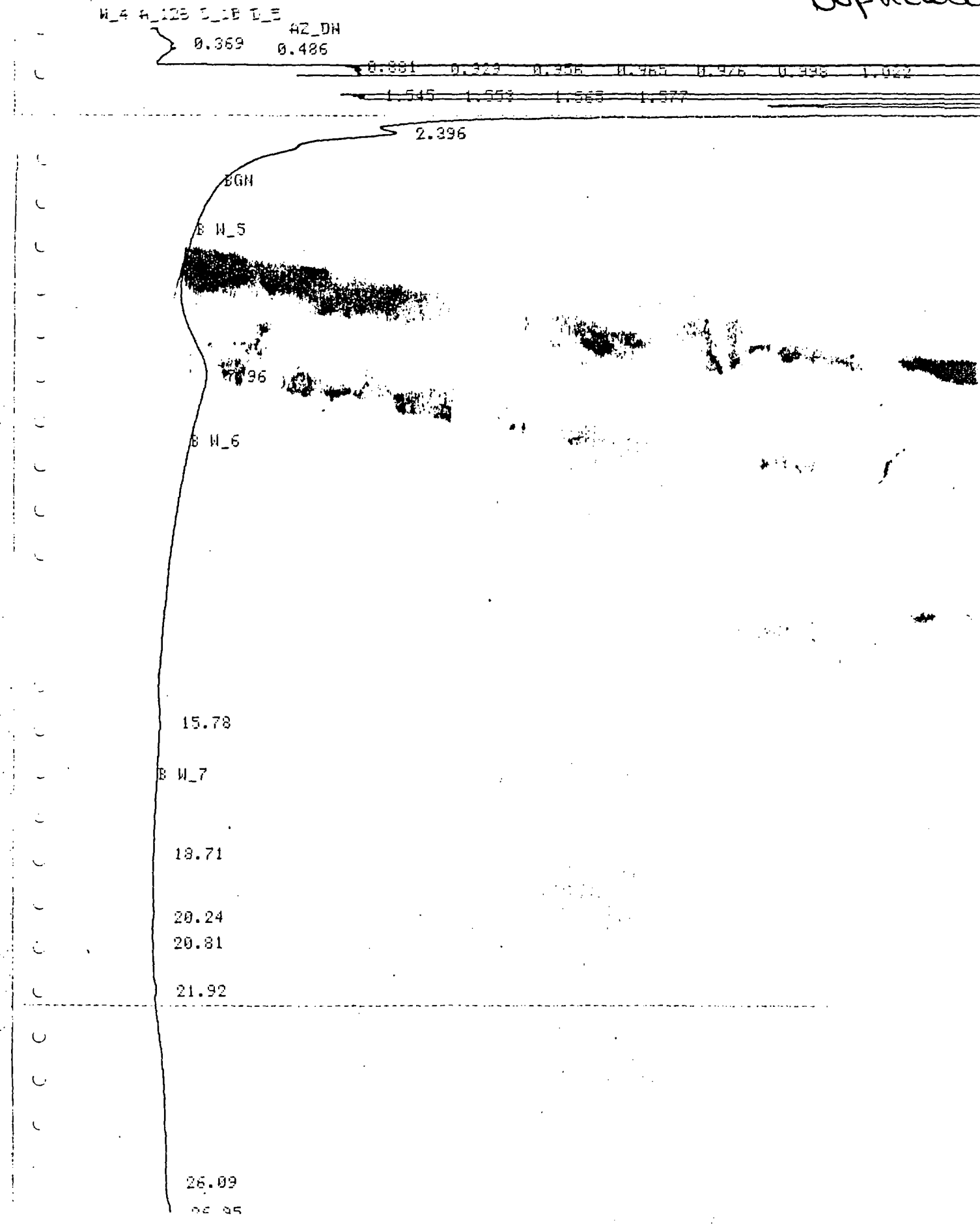
RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
5.376	1329487	34.2342	V	15.6656	7.1543
8.75	164197	5.6431	V	1.9348	1.1793

11.692 A/Z UN

8031569

FILE 188 RUN 4 STARTED 22:18.5 80/01/10 HIGH BOILERS
% METHOD 1 DIESELS LAST EDITED 20:06.0 80/01/10

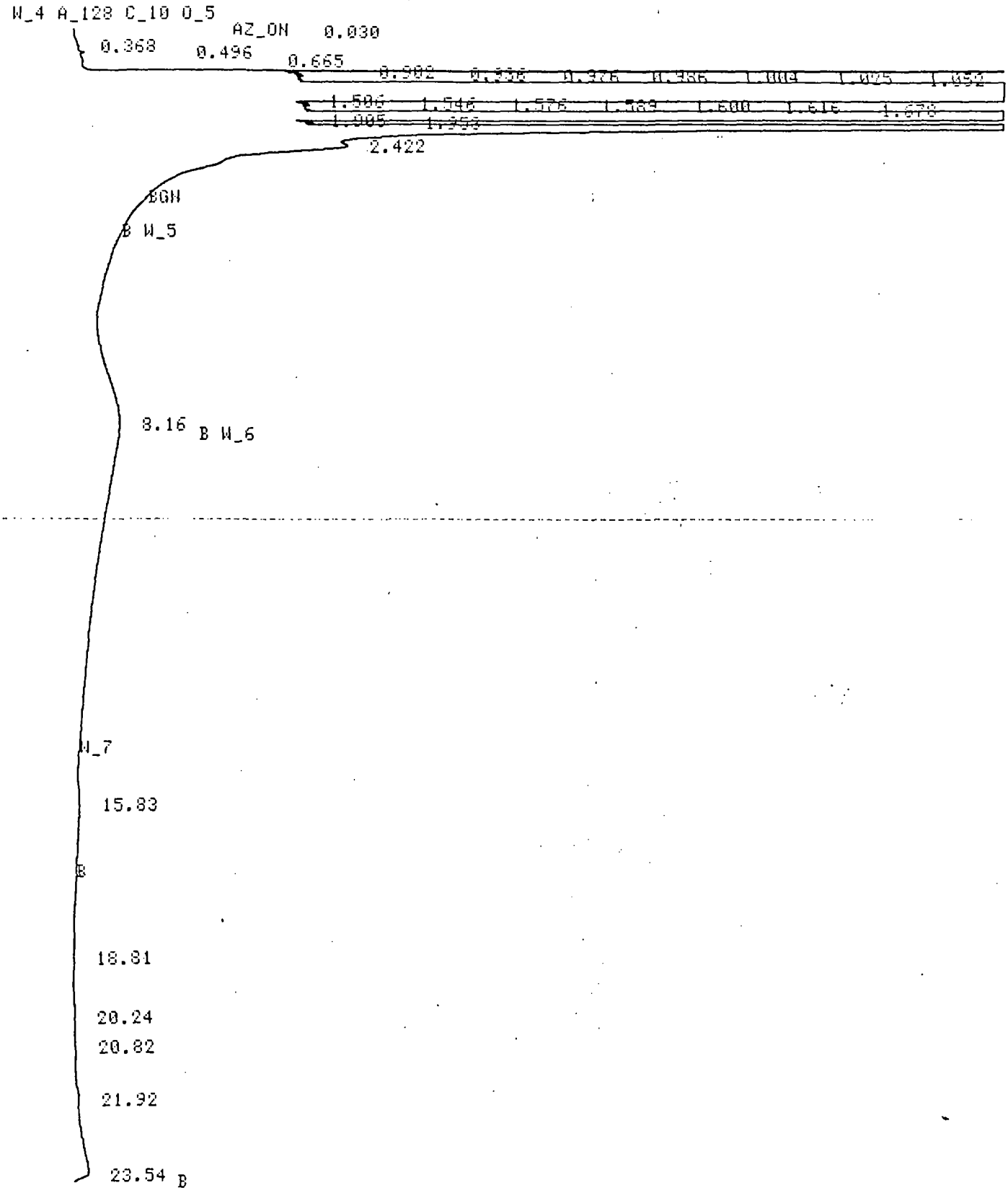
3λ # 8030
Duplicate



3) # 80315

8031568

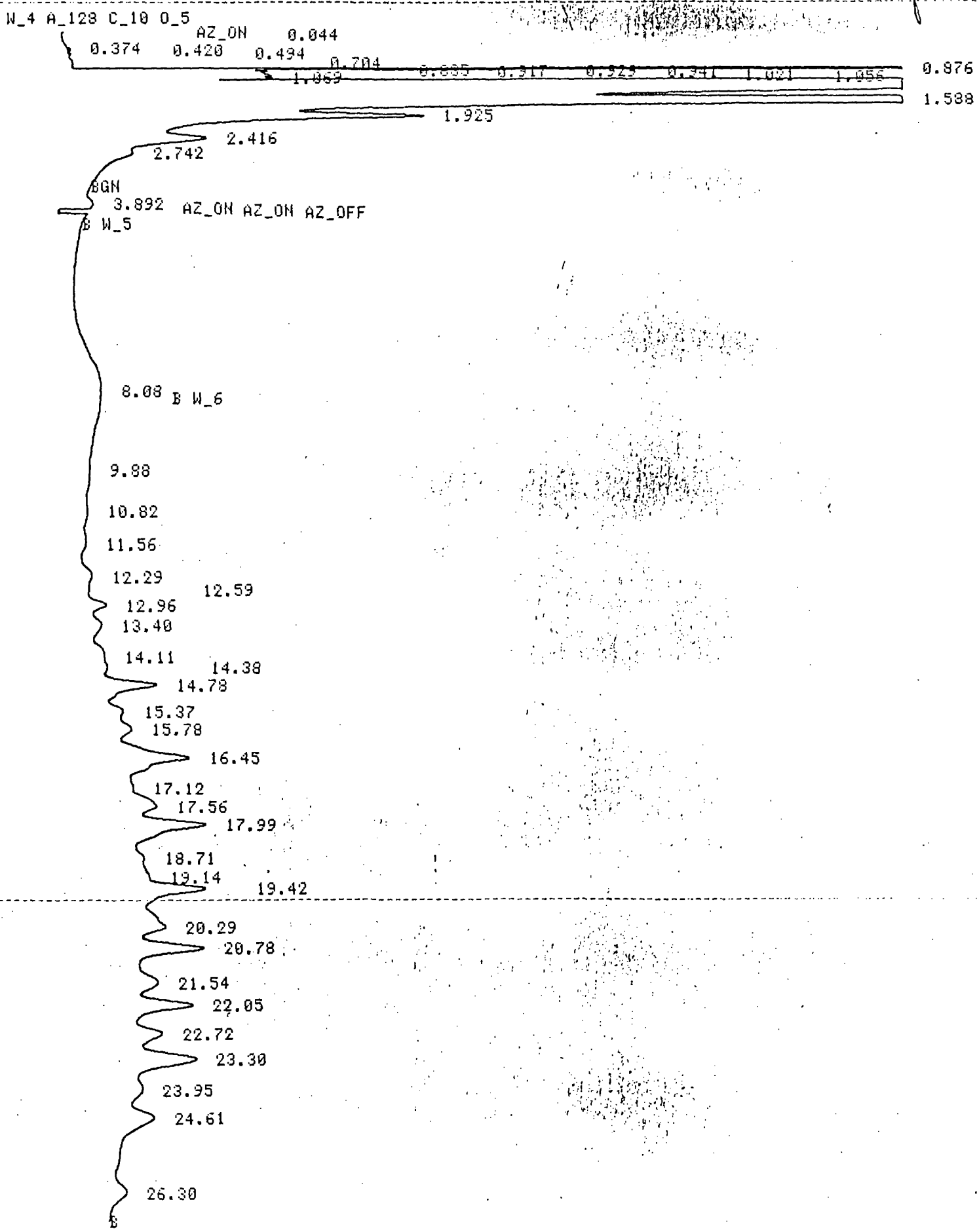
FILE 191 RUN 7 STARTED 00:08.2 80/01/11 HIGH BOILERS
% METHOD 1 DIESELS LAST EDITED 20:06.0 80/01/10



FILE 191 RUN 7 STARTED 00:08.2 80/01/11 HIGH BOILERS
% METHOD 1 DIESELS LAST EDITED 20:06.0 80/01/10

RT	AREA	HEIGHT	BC	AREA PERCENT	HEIGHT PERCENT
8.16	188260	9.6156		15.1160	[illegible]

FILE 189 RUN 5 STARTED 22:51.5 80/01/10 HIGH BOILERS 3> # 8031568 8030668 + spike
% METHOD 1 DIESELS LAST EDITED 20:06.0 80/01/10



SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Wahler Associates
1023 Corporation Way
Palo Alto, CA 94303
Attn: Bob Breynaert

Date Sampled: 03/22/88
Date Received: 03/22/88
Date Reported: 03/25/88
Project: #JCO-104H

Q.C. DATA REPORT

Analyst: E. Hackl
Date of Analysis: 3/24/88
Method of Analysis: #214A Standard Method
Detection Limit: 0.01
Units: NTU

Sample Number	Analyte	Original Result	Duplicate Result	% Deviation
8031544	-	0.06	0.06	0

Sample Number	Analyte	Sample Contribution	Spike Added	Spike Result	% Recovery
8031544	-	0.048	0.042	0.090	100

SEQUOIA ANALYTICAL LABORATORY

Scot Cocanour

Arthur G. Burton
Laboratory Director

ANAMETRIX, INC.
LABORATORY SERVICES
ENVIRONMENTAL • ANALYTICAL CHEMISTRY
2754 AIELLO DRIVE • SAN JOSE, CA 95111 • (408) 629-1132

March 25, 1988
Work Order Number 8803125
Date Received 03/22/88
Project No. JCO-104H

Bob Breynaert
Wahler & Associates
1023 Corporation Way
Palo Alto, CA 94303

Four water samples were received for analysis of volatiles by GC/MS, using the following EPA method(s):

ANAMETRIX I.D.	SAMPLE I.D.	METHOD(S)
8803125-01	JCO-104H V-8	8240
-02	" V-4	"
-03	" MB-1	"
-04	" TB-1	"

RESULTS

See enclosed data sheets, Pages 2 thru 5.

EXTRA COMPOUNDS

None detected.

QUALITY ASSURANCE REPORTS

See enclosed data sheet, Page 6 thru 7.

If there is any more that we can do, please give us a call. Thank you for using ANAMETRIX, INC.

Sincerely,

Burt Sutherland

Burt Sutherland
Laboratory Manager

BWS/da

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 629-1132

Sample I.D.	:JCO-104H V-8	Anametrix I.D.	: 8803125-01
Matrix	: WATER	Analyst	: TC
Date sampled	: 03-22-88	Supervisor	: PG
Date analyzed	: 03-23-88	Date released	: 03-24-88
Dilution	: NONE	Instrument ID	: F1

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	BRL
75-01-4	* Vinyl Chloride	10	BRL
74-83-9	* Bromomethane	10	BRL
75-00-3	* Chloroethane	10	BRL
75-69-4	* Trichlorofluoromethane	5	BRL
75-35-4	* 1,1-Dichloroethene	5	BRL
76-13-1	# Trichlorotrifluoroethane	5	BRL
67-64-1	**Acetone	20	BRL
75-15-0	**Carbondisulfide	5	BRL
75-09-2	* Methylene Chloride	5	BRL
156-60-5	* Trans-1,2-Dichloroethene	5	BRL
75-34-3	* 1,1-Dichloroethane	5	BRL
78-93-3	**2-Butanone	20	BRL
156-59-2	* Cis-1,2-Dichloroethene	5	BRL
67-66-3	* Chloroform	5	BRL
71-55-6	* 1,1,1-Trichloroethane	5	7
56-23-5	* Carbon Tetrachloride	5	BRL
71-43-2	* Benzene	5	BRL
107-06-2	* 1,2-Dichloroethane	5	BRL
79-01-6	* Trichloroethene	5	BRL
78-87-5	* 1,2-Dichloropropane	5	BRL
75-27-4	* Bromodichloromethane	5	BRL
110-75-8	* 2-Chloroethylvinylether	5	BRL
108-05-4	**Vinyl Acetate	10	BRL
10061-02-6	* Trans-1,3-Dichloropropene	5	BRL
108-10-1	**4-Methyl-2-Pentanone	10	BRL
108-88-3	* Toluene	5	BRL
10061-01-5	* cis-1,3-Dichloropropene	5	BRL
79-00-5	* 1,1,2-Trichloroethane	5	BRL
127-18-4	* Tetrachloroethene	5	BRL
591-78-6	**2-Hexanone	10	BRL
124-48-1	* Dibromochloromethane	5	BRL
108-90-7	* Chlorobenzene	5	BRL
100-41-4	* Ethylbenzene	5	BRL
1330-20-7	**Total Xylenes	5	BRL
100-42-5	**Styrene	5	BRL
75-25-2	* Bromoform	5	BRL
79-34-5	* 1,1,2,2-Tetrachloroethane	5	BRL
541-73-1	* 1,3-Dichlorobenzene	5	BRL
106-46-7	* 1,4-Dichlorobenzene	5	BRL
95-50-1	* 1,2-Dichlorobenzene	5	BRL

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-133%	114%
2037-26-5	Toluene-d8	80-123%	106%
460-00-4	p-Bromofluorobenzene	63-125%	98%

* A Method 624 priority pollutant compound (Federal Register, 10/26/84)
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL)
\# A compound added by Anametrix, Inc. BRL : Below reporting limit.

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 629-1132

Sample I.D. : JC0-104H MB-1
Matrix : WATER
Date sampled : 03-22-88
Date analyzed: 03-24-88
Dilution : NONE

Anametrix I.D. : 8803125-03
Analyst : TC
Supervisor : PG
Date released : 03-24-88
Instrument ID : F1

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	BRL
75-01-4	* Vinyl Chloride	10	BRL
74-83-9	* Bromomethane	10	BRL
75-00-3	* Chloroethane	10	BRL
75-69-4	* Trichlorofluoromethane	5	BRL
75-35-4	* 1,1-Dichloroethene	5	BRL
76-13-1	# Trichlorotrifluoroethane	5	BRL
67-64-1	**Acetone	20	BRL
75-15-0	**Carbondisulfide	5	BRL
75-09-2	* Methylene Chloride	5	BRL
156-60-5	* Trans-1,2-Dichloroethene	5	BRL
75-34-3	* 1,1-Dichloroethane	5	BRL
78-93-3	**2-Butanone	20	BRL
156-59-2	* Cis-1,2-Dichloroethene	5	BRL
67-66-3	* Chloroform	5	BRL
71-55-6	* 1,1,1-Trichloroethane	5	BRL
56-23-5	* Carbon Tetrachloride	5	BRL
71-43-2	* Benzene	5	BRL
107-06-2	* 1,2-Dichloroethane	5	BRL
79-01-6	* Trichloroethene	5	BRL
78-87-5	* 1,2-Dichloropropane	5	BRL
75-27-4	* Bromodichloromethane	5	BRL
110-75-8	* 2-Chloroethylvinylether	5	BRL
108-05-4	**Vinyl Acetate	10	BRL
10061-02-6	* Trans-1,3-Dichloropropene	5	BRL
108-10-1	**4-Methyl-2-Pentanone	10	BRL
108-88-3	* Toluene	5	BRL
10061-01-5	* cis-1,3-Dichloropropene	5	BRL
79-00-5	* 1,1,2-Trichloroethane	5	BRL
127-18-4	* Tetrachloroethene	5	BRL
591-78-6	**2-Hexanone	10	BRL
124-48-1	* Dibromochloromethane	5	BRL
108-90-7	* Chlorobenzene	5	BRL
100-41-4	* Ethylbenzene	5	BRL
1330-20-7	**Total Xylenes	5	BRL
100-42-5	**Styrene	5	BRL
75-25-2	* Bromoform	5	BRL
79-34-5	* 1,1,2,2-Tetrachloroethane	5	BRL
541-73-1	* 1,3-Dichlorobenzene	5	BRL
106-46-7	* 1,4-Dichlorobenzene	5	BRL
95-50-1	* 1,2-Dichlorobenzene	5	BRL

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-133%	114%
2037-26-5	Toluene-d8	80-123%	100%
460-00-4	p-Bromofluorobenzene	63-125%	89%

* A Method 624 priority pollutant compound (Federal Register, 10/26/84)
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL)
\# A compound added by Anametrix, Inc. BRL : Below reporting limit.

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 629-1132

Sample I.D.	: JCO-104H TB-1	Anametrix I.D.	: 8803125-04
Matrix	: WATER	Analyst	: TC
Date sampled	: 03-22-88	Supervisor	: PG
Date analyzed	: 03-23-88	Date released	: 03-24-88
Dilution	: NONE	Instrument ID	: F1

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	BRL
75-01-4	* Vinyl Chloride	10	BRL
74-83-9	* Bromomethane	10	BRL
75-00-3	* Chloroethane	10	BRL
75-69-4	* Trichlorofluoromethane	5	BRL
75-35-4	* 1,1-Dichloroethene	5	BRL
76-13-1	# Trichlorotrifluoroethane	5	BRL
67-64-1	**Acetone	20	BRL
75-15-0	**Carbondisulfide	5	BRL
75-09-2	* Methylene Chloride	5	BRL
156-60-5	* Trans-1,2-Dichloroethene	5	BRL
75-34-3	* 1,1-Dichloroethane	5	BRL
78-93-3	**2-Butanone	20	BRL
156-59-2	* Cis-1,2-Dichloroethene	5	BRL
67-66-3	* Chloroform	5	BRL
71-55-6	* 1,1,1-Trichloroethane	5	BRL
56-23-5	* Carbon Tetrachloride	5	BRL
71-43-2	* Benzene	5	BRL
107-06-2	* 1,2-Dichloroethane	5	BRL
79-01-6	* Trichloroethene	5	BRL
78-87-5	* 1,2-Dichloropropane	5	BRL
75-27-4	* Bromodichloromethane	5	BRL
110-75-8	* 2-Chloroethylvinylether	5	BRL
108-05-4	**Vinyl Acetate	10	BRL
10061-02-6	* Trans-1,3-Dichloropropene	5	BRL
108-10-1	**4-Methyl-2-Pentanone	10	BRL
108-88-3	* Toluene	5	BRL
10061-01-5	* cis-1,3-Dichloropropene	5	BRL
79-00-5	* 1,1,2-Trichloroethane	5	BRL
127-18-4	* Tetrachloroethene	5	BRL
591-78-6	**2-Hexanone	10	BRL
124-48-1	* Dibromochloromethane	5	BRL
108-90-7	* Chlorobenzene	5	BRL
100-41-4	* Ethylbenzene	5	BRL
1330-20-7	**Total Xylenes	5	BRL
100-42-5	**Styrene	5	BRL
75-25-2	* Bromoform	5	BRL
79-34-5	* 1,1,2,2-Tetrachloroethane	5	BRL
541-73-1	* 1,3-Dichlorobenzene	5	BRL
106-46-7	* 1,4-Dichlorobenzene	5	BRL
95-50-1	* 1,2-Dichlorobenzene	5	BRL

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-133%	103%
2037-26-5	Toluene-d8	80-123%	107%
460-00-4	p-Bromofluorobenzene	63-125%	97%

* A Method 624 priority pollutant compound (Federal Register, 10/26/84)
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL)
\# A compound added by Anametrix, Inc. BRL : Below reporting limit.

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 629-1132

Sample I.D.	: METHOD BLANK	Anametrix I.D.	: 1CB0323V000
Matrix	: WATER	Analyst	: TC
Date sampled	: NA	Supervisor	: PG
Date analyzed	: 03-23-88	Date released	: 03-24-88
Dilution	: NONE	Instrument ID	: F1

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	BRL
75-01-4	* Vinyl Chloride	10	BRL
74-83-9	* Bromomethane	10	BRL
75-00-3	* Chloroethane	10	BRL
75-69-4	* Trichlorofluoromethane	5	BRL
75-35-4	* 1,1-Dichloroethene	5	BRL
76-13-1	# Trichlorotrifluoroethane	5	BRL
67-64-1	**Acetone	20	BRL
75-15-0	**Carbondisulfide	5	BRL
75-09-2	* Methylene Chloride	5	BRL
156-60-5	* Trans-1,2-Dichloroethene	5	BRL
75-34-3	* 1,1-Dichloroethane	5	BRL
78-93-3	**2-Butanone	20	BRL
156-59-2	* Cis-1,2-Dichloroethene	5	BRL
67-66-3	* Chloroform	5	BRL
71-55-6	* 1,1,1-Trichloroethane	5	BRL
56-23-5	* Carbon Tetrachloride	5	BRL
71-43-2	* Benzene	5	BRL
107-06-2	* 1,2-Dichloroethane	5	BRL
79-01-6	* Trichloroethene	5	BRL
78-87-5	* 1,2-Dichloropropane	5	BRL
75-27-4	* Bromodichloromethane	5	BRL
110-75-8	* 2-Chloroethylvinylether	5	BRL
108-05-4	**Vinyl Acetate	10	BRL
10061-02-6	* Trans-1,3-Dichloropropene	5	BRL
108-10-1	**4-Methyl-2-Pentanone	10	BRL
108-88-3	* Toluene	5	BRL
10061-01-5	* cis-1,3-Dichloropropene	5	BRL
79-00-5	* 1,1,2-Trichloroethane	5	BRL
127-18-4	* Tetrachloroethene	5	BRL
591-78-6	**2-Hexanone	10	BRL
124-48-1	* Dibromochloromethane	5	BRL
108-90-7	* Chlorobenzene	5	BRL
100-41-4	* Ethylbenzene	5	BRL
1330-20-7	**Total Xylenes	5	BRL
100-42-5	**Styrene	5	BRL
75-25-2	* Bromoform	5	BRL
79-34-5	* 1,1,2,2-Tetrachloroethane	5	BRL
541-73-1	* 1,3-Dichlorobenzene	5	BRL
106-46-7	* 1,4-Dichlorobenzene	5	BRL
95-50-1	* 1,2-Dichlorobenzene	5	BRL

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-133%	111%
2037-26-5	Toluene-d8	80-123%	104%
460-00-4	p-Bromofluorobenzene	63-125%	93%

* A Method 624 priority pollutant compound (Federal Register, 10/26/84)
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL)
\# A compound added by Anametrix, Inc. BRL : Below reporting limit.

CLP VOLATILE MATRIX SPIKE REPORT -- EPA METHOD 624
ANAMETRIX, INC. (408) 629-1132

Sample I.D. : JCO-104H V-8
Matrix : WATER
Date sampled : 03-22-88
Date analyzed : 03-23-88

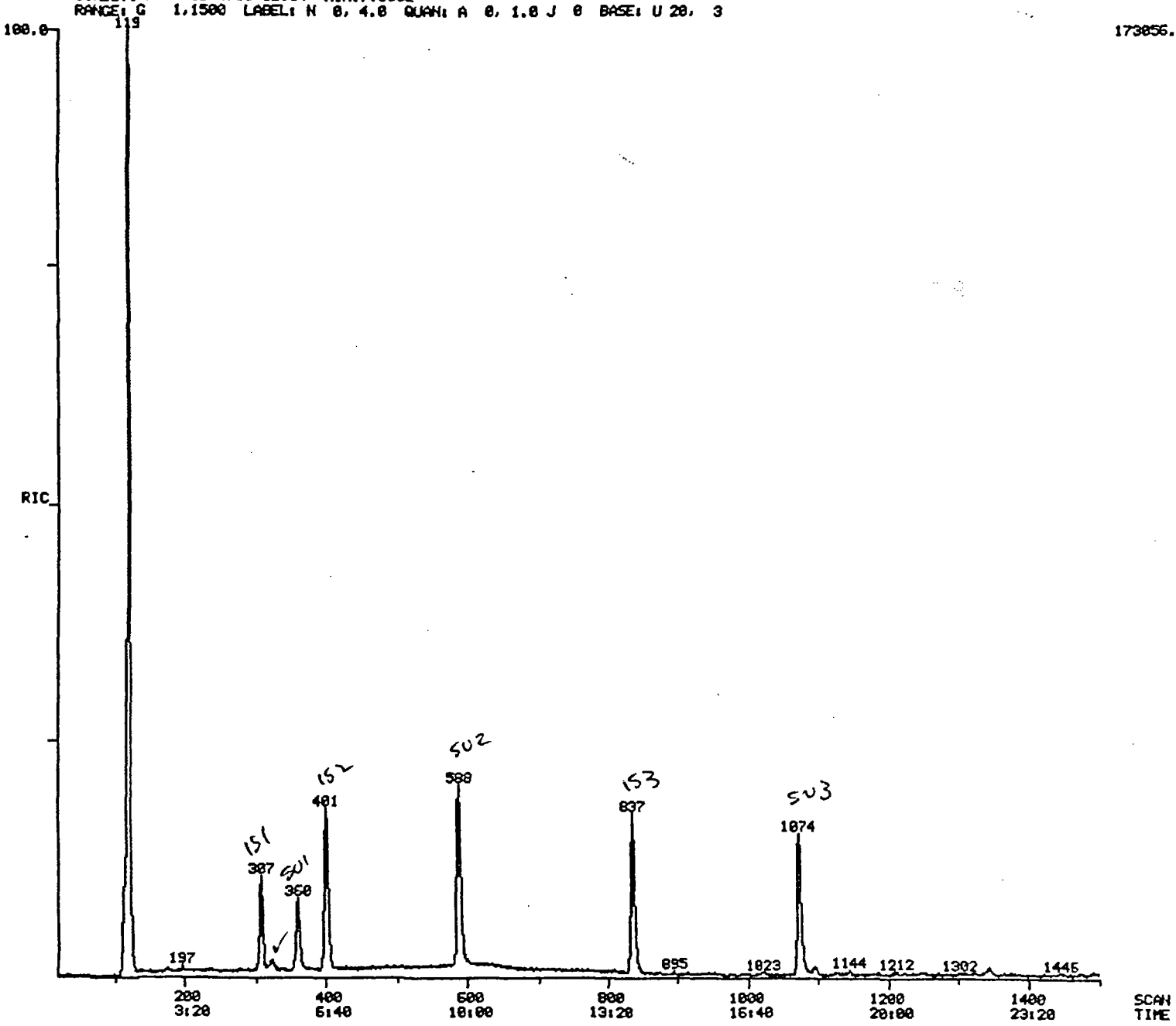
Anametrix I.D. : 8803125-01
Analyst : TC
Supervisor : PG
Date released : 03-24-88

COMPOUND	SPIKE AMT. (UG/L)	8803125 MS (UG/L)	%REC MSD	8803125 MSD (UG/L)	%REC MSD	RPD	%REC LIMITS*
1,1-DICHLOROETHENE	50	39	78%	39	78%	0%	61-131%
FREON 113	50	48	96%	48	96%	0%	52-150%
METHYLENE CHLORIDE	50	45	90%	45	90%	0%	55-130%
CHLOROFORM	50	48	96%	48	96%	0%	70-124%
1,1,1-TRICHLOROETHANE	50	43	86%	43	86%	0%	69-130%
BENZENE	50	45	90%	45	90%	0%	69-124%
1,2-DICHLOROETHANE	50	45	90%	45	90%	0%	65-119%
TRICHLOROETHENE	50	39	78%	39	78%	0%	61-106%
4-METHYL-2-PENTANONE	50	42	84%	40	80%	5%	42-147%
TOLUENE	50	47	94%	47	94%	0%	70-128%
CHLOROBENZENE	50	50	100%	48	96%	4%	73-123%
1,2-DICHLOROBENZENE	50	46	92%	46	92%	0%	50-110%

* Limits established by Anametrix, Inc.

RIC
03/23/88 12:52:00
SAMPLE: JCO-104H V-8
CONDS.: M624/8240,35-120@4'/MIN.,VOCOL
RANGE: G 1,1500 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

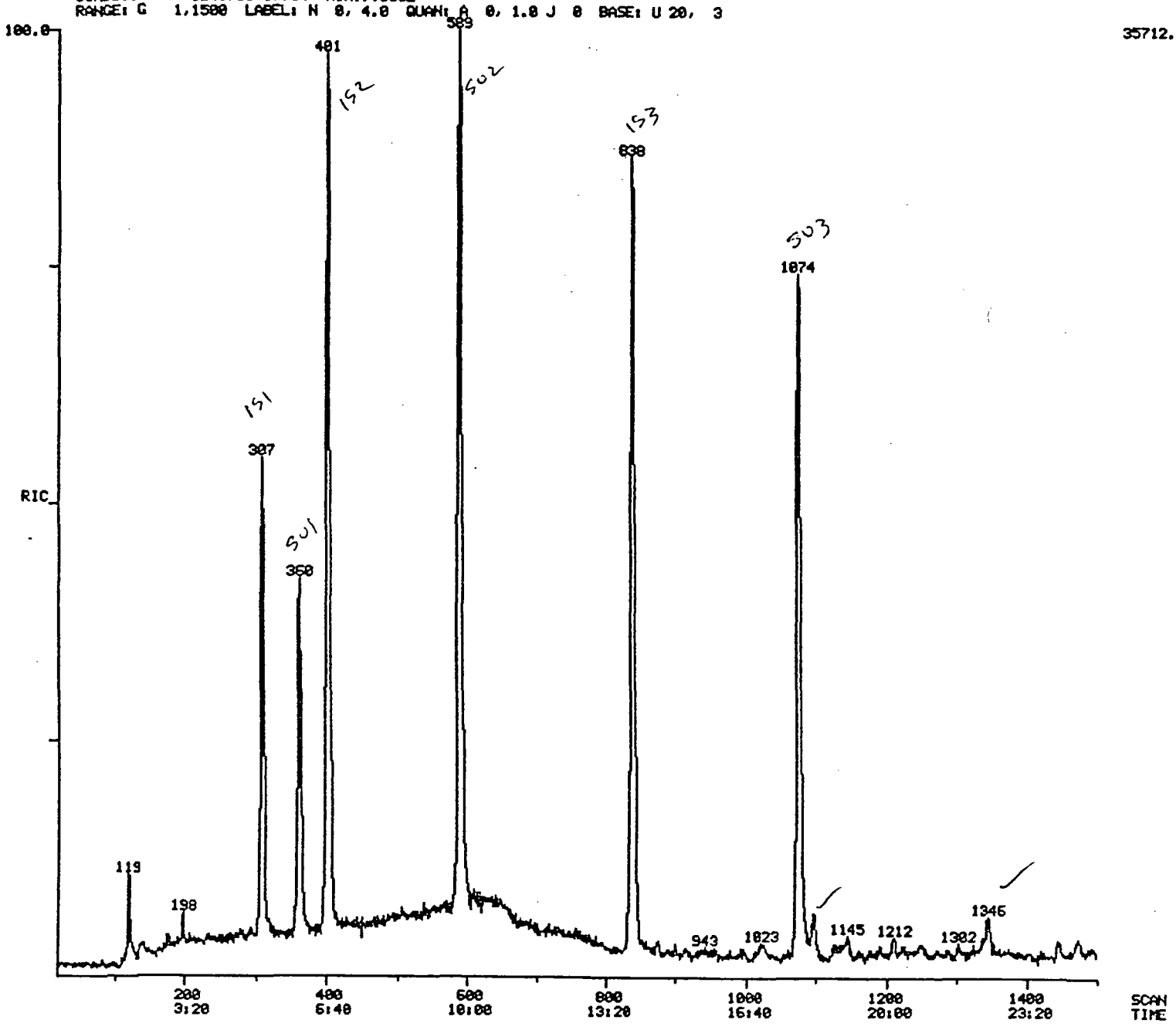
DATA: 1CU03125V01 #1 SCANS 20 TO 1500
CALI: CALTAB #2



RIC
03/23/88 11:19:00
SAMPLE: JCO-104H MB-1
CONDS.: MS24/8240,35-12004'/MIN.,VOCOL
RANGE: G 1,1500 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 1CU03125V03 #1
CALI: CALTAB #2

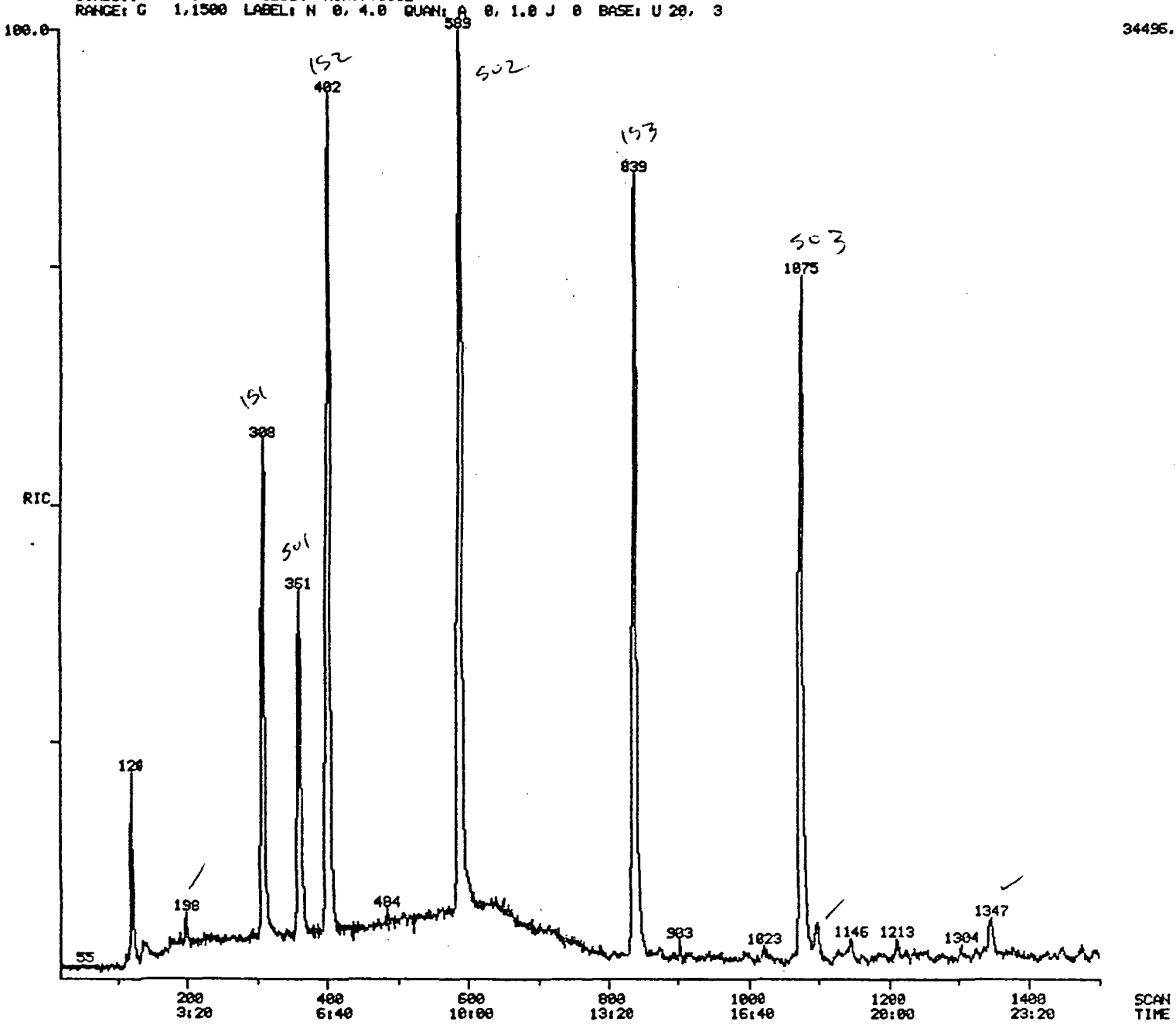
SCANS 20 TO 1500



RIC
03/23/88 11:50:00
SAMPLE: JCO-104H TB-1
CONDS.: M624/8240,35-12004'/MIN.,VOCOL
RANGE: G 1,1500 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 1CU03125V04 #1 SCANS 20 TO 1500
CALI: CALTAB #2

34496.



APPENDIX C

0000123

Serial Number 021
WA Project Number JCO-1041H
Page 1 of 1

O. K. Amy Chau

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Date Sample Shipped 3-8-88
Name of Laboratory Sequoia Analytical
Lab Project Manager SCOTT COCANOUR
Turnaround Time 48 HOURS
Report to Robert Breynaert

Collector Paul Schmidt
Affiliation Wahler Assoc
Address 1023 Corporation way P.A.
Phone (415) 968-6250

Sample Information

Your Sample I.D.	Date Collected	Matrix	Container	Analysis Requested (DO Following analyses on all soil Samp)
R-3	3-4-88	SOIL	Steel Liner	(1) TPH as Diesel
R-4	3-4-88	SOIL	Steel Liner	(2) EPA method 8020
R-6	3-4-88	SOIL	Steel Liner	
R-7	3-4-88	SOIL	Steel Liner	
R-8	3-4-88	SOIL	Steel Liner	
R-9	3-4-88	SOIL	Steel Liner	

Comments Oral results by Thursday afternoon 3-10-88

Wahler Contact Person Bob Breynaert Phone (415) 968-6250

Chain of Possession

	Relinquished by (Sign. & affiliation)	Date	Time	Received by (Sign. & affiliation)	Date	Time
1.	Amy Chau Wahler	3/8/88	5:00pm	[illegible]	3/8/88	17:00
		/ /			/ /	
2.		/ /			/ /	
		/ /			/ /	
3.		/ /			/ /	
		/ /			/ /	

Wahler Associates

0000123

Serial Number 022
WA Project Number JCO-104H
Page 1 of 1.

O.K. Amy Chau

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Date Sample Shipped 3-8-88
Name of Laboratory Sequoia labs
Lab Project Manager SCOTT Cocanour
Turnaround Time 48 Hours
Report to Robert Braynaert

Collector GREG SMART / GREG JONES
Affiliation Wahler Assoc
Address 1023 Corporation Way PA
Phone (415) 968-6250

Sample Information

Your Sample I.D.	Date Collected	Matrix	Container	Analysis Requested
V-8	3-8-88	H_2O	(2) VOA	EPA 624 Open Scan
V-8	3-8-88	H_2O	(2) VOA	Alcohols / Acetone
V-8	3-8-88	H_2O	(2) ambers	EPA-604 / Turbidity
V-8	3-8-88	H_2O	(2) ambers	TPH as Paint Thinner
V-9	3-8-88	H_2O	(2) VOA	EPA 624 Open Scan
V-9	3-8-88	H_2O	(2) VOA	Alcohols / Acetone
V-9	3-8-88	H_2O	(2) ambers	EPA 604
V-9	3-8-88	H_2O	(2) ambers	TPH as Paint Thinner

Comments Please include JCO-104H data package / Quantify TPH as
oral results by Thursday 3-10-88 / Paint Thinner using
written results by Friday 3-11-88 / enclosed Paint Thinner sample
+ Also, Report MEK and Xylenes results on report forms for both wells.

Wahler Contact Person Bob Breynaert Phone (415) 968-6250

Chain of Possession

	Relinquished by (Sign. & affiliation)	Date	Time	Received by (Sign. & affiliation)	Date	Time
1.	[signature]	3/8/88	4:50	[signature]	3/8/88	4:45p
		/ /			/ /	
2.		/ /			/ /	
		/ /			/ /	
3.		/ /			/ /	
		/ /			/ /	

Wahler Associates

0000123

Serial Number 026
WA Project Number JCU-1041A
Page 1 of 2

O.K. Amy Chau

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Date Sample Shipped 3-9-88
Name of Laboratory Sequoia labs
Lab Project Manager Scott Cocanour
Turnaround Time 48 Hours
Report to Robert Breynaert

Collector Greg Smart / Greg Jones
Affiliation Wahler Assoc
Address 1023 Corporation way A4.
Phone (415) 968-6250

Sample Information

Your Sample I.D.	Date Collected	Matrix	Container	Analysis Requested
U-10	3-9-88	H_2O	(2) VOA	EPA 624 open Scan
U-10	"	"	(2) VOA	Alcohols / Acetone
U-10	"	"	(2) Ambers	EPA 604, Turbidity
U-10	"	"	(2) ambers	TPH as Paint Thinner
U-10	"	"	(2) ambers	TPH as Diesel
U-3	"	"	(2) VOA	EPA 624 open scan
U-3	"	"	(2) ambers	TPH as Paint Thinner
U-3	"	"	(2) ambers	TPH as Lacquer Thinner

Comments Quantify TPH scans using solvent samples delivered to Sequoia on 3-8-88. Report MEK and xylenes results on report forms for all wells. Written results by Friday 3-11-88

Wahler Contact Person Bob Breynaert Phone (415) 968-6250

Chain of Possession

	Relinquished by (Sign. & affiliation)	Date	Time	Received by (Sign. & affiliation)	Date	Time
1.	Greg Jones	3/9/88	1:40	Pat Bruske Sequoia lab	3/9/88	1:40
		/ /			/ /	
2.		/ /			/ /	
		/ /			/ /	
3.		/ /			/ /	
		/ /			/ /	

Wahler Associates

0000123

Serial Number 026
WA Project Number JCO-1041H
Page 2 of 2

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM (Cont'd)

Sample Information

Your Sample I.D.	Date Collected	Matrix	Container	Analysis Requested
V-3	3-5-98	H_2O	(2) ambers	TPH as Kerosene
V-3	"	H_2O	(2) ambers	TPH as Diesel
V-3	"	H_2O	—	Turbidity

Comments

Wahler Contact Person Bob Breynaert

Phone (415) 968-6250

Wahler Associates

0000123

Serial Number 023
WA Project Number JCO-104H
Page 1 of 1

O.K. Amy Chau

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Date Sample Shipped 3-9-88
Name of Laboratory Anametrix
Lab Project Manager Sarah Schoen
Turnaround Time 48 Hours
Report to Robert Breynaert

Collector Greg Smart / Greg Jones
Affiliation Wahler Assoc
Address 1023 Corporation Way PA
Phone (415) 968-6250

Sample Information

Your Sample I.D.	Date Collected	Matrix	Container	Analysis Requested	
V-3	3-9-88	H_2O	(2) VOA	EPA-624 *	ok NS
Travel Blank	3-8-88	H_2O	1 (2) VOA	EPA-624 *	1x40ml
Method Blank	3-8-88	H_2O	1 (2) VOA	EPA-624 *	1x40ml
V-10	3-9-88	H_2O	(2) VOA	EPA-624 *	ok
Travel Blank	3-9-88	H_2O	1 (2) VOA	EPA-624 *	1x40ml
Method Blank	3-9-88	H_2O	1 (2) VOA	EPA-624 *	1x40ml
V-8 method Bailer	3-8-88	H_2O	1 VOA	EPA 624	1x40ml
T.B.	3-8-88	H_2O	1 VOA	EPA 624	1x40ml

Comments * quantify any and all non-priority peaks. Please include sample and internal QC chromatograms (ie System blanks etc) Call if you have questions. Written Results by Early Friday afternoon 3-10-88 Also, make sure MEK and Xylenes are reported on analysis sheets!

Wahler Contact Person Bob Breynaert Phone (415) 968-6250

Chain of Possession

	Relinquished by (Sign. & affiliation)	Date	Time	Received by (Sign. & affiliation)	Date	Time
1.	Greg Jones	3/9/88	2:40	Marine Sylv	3/9/88	14:45
		/ /			/ /	
2.		/ /			/ /	
		/ /			/ /	
3.		/ /			/ /	
		/ /			/ /	

Wahler Associates

0000123

Serial Number 032
WA Project Number JCO-1044
Page 1 of 2

Checked by Amy Chau

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Date Sample Shipped
Name of Laboratory Sequoia Cass
Lab Project Manager SCOTT Cocanour
Turnaround Time 48 HOURS !
Report to Bob Breynaert

Collector Michelle Stay / Mike Chin
Affiliation Wahler Associates
Address 1023 Corporation Way PA
Phone (415) 968-6250

Sample Information

Your Sample I.D.	Date Collected	Matrix	Container	Analysis Requested
V-8	3-22-88	H_2O	(2) VOA	EPA 8010 plus acetone, MEK and xylenes
V-8	3-22-88	H_2O	(2) Vial	Turbidity
V-9	3-22-88	H_2O	(2) VOA	EPA 8010 plus acetone, MEK and xylenes
V-9	3-22-88	H_2O	2 VOA	Turbidity

Comments Please include QA/QC Data package. Results no later than 3-24-88!

Wahler Contact Person Bob Breynaert Phone (415) 968-6250

Chain of Possession

	Relinquished by (Sign. & affiliation)	Date	Time	Received by (Sign. & affiliation)	Date	Time
1.	Mike Chin	3/22/88	6:15	S. Cocanour	3/22	1815
		/ /			/ /	
2.		/ /			/ /	
		/ /			/ /	
3.		/ /			/ /	
		/ /			/ /	

Wahler Associates

0000123

Serial Number 032
WA Project Number
Page 2 of 2

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM (Cont'd)

Sample Information

Your Sample I.D.	Date Collected	Matrix	Container	Analysis Requested
U-10	3-22-88	H_2O	2 VOA	EPA 8010
U-10	3-22-88	H_2O	2 amber	TPHas Diesel including B,T,X
U-10	3-22-88	H_2O	2 VOA	Turbidity

Comments Same as on Page 1

Wahler Contact Person Bob Breynaert Phone (415) 968-6250

Wahler Associates

0000123

Serial Number 033
WA Project Number JC0704H
Page 1 of 1

Checked by Amy Chau

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Date Sample Shipped 3-22-88
Name of Laboratory Anametrix Inc.
Lab Project Manager Sarah Schoen
Turnaround Time 48 HOURS
Report to Bob Breynaert

Collector Michelle Stay / Mike Chin
Affiliation Wahler Associates
Address 1023 Corporation Way P.A.
Phone (415) 968-6250

Sample Information

Your Sample I.D.	Date Collected	Matrix	Container	Analysis Requested
V-8	3-22-88	H_2O	(2) VOA	Perform following analysis on all four samples: EPA 8240 including acetone, MEK and xylenes
V-4	3-22-88	H_2O	(2) VOA	
MB-1	3-22-88	H_2O	(2) VOA	
TB-1	3-22-88	H_2O	(2) VOA	

Comments Perform EPA 8240 plus analysis for acetone, MEK, and xylenes on samples V-8, V-4, MB-1 and TB-1. Please have results delivered by Thursday 3-24-88! Include sample chromatograms, internal blanks, and volatile matrix spike report.

Wahler Contact Person Bob Breynaert Phone (415) 968-6250

Chain of Possession

	Relinquished by (Sign. & affiliation)	Date	Time	Received by (Sign. & affiliation)	Date	Time
1.	Michelle Stay Wahler	3/22/88	7:10pm	Paul Howan ANAMETRIX, INC	3/22/88	19:10
2.		/ /			/ /	
		/ /			/ /	
3.		/ /			/ /	
		/ /			/ /	

Wahler Associates

APPENDIX D

WATER SAMPLING PARAMETERS

0000123

DATE: 3-8-88

PROJECT NO.: JCO-1041

LOCATION: Central Expressway - JASCO

SAMPLERS: GPS - G.J.

SAMPLE ID: V-8

~~3BV:~~ 5BV: 11 gal.

WATER LEVEL	GALLONS REMOVED	TIME	TEMP. C°	pH	Eh (mV)	COND. (micromhos)	DO mg/l	Q GPM	BOH
24.24	~~0~~	2:47							
	~~0~~	2:59	19.5	6.94	-004	2.07ms	- Condt	NOT	reading?
	2	3:02	19.1	6.88	-002	19.82	- "	reading	now?
	4	3:05	19.0	6.89	001	1836			
	6	3:09	19.0	6.94	-001	1924			
	8	3:14	19.3	6.98	-003	1919			
	10	3:20	18.9	6.92	-000	1911			
	12	3:23	20.7	6.78	-003	1954			

TIME SAMPLED: 3:25 p.m.

COMMENTS: HANNA CONDO. METER P.O.S.?

SAMPLES TAKEN	
2	EPA 624 VOA's
	EPA 625
	EPA 608
	METALS
	CYANIDE
✓2	VOA's / Alcohols / Acetone
2	Ambers EPA 604
2	" TPH as paint thinner

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WATER SAMPLING PARAMETERS

0000123

DATE: 3-8-88

PROJECT NO.: JCO.1041f

LOCATION: Beatrice & Meridian JASCO-chem

SAMPLERS: GPS + G.J.

SAMPLE ID: V-9

~~3BV~~: 5BV = 3gal.

WATER LEVEL	GALLONS REMOVED	TIME	TEMP. C°	pH	Eh (mV)	COND. (micromhos)	DO mg/l	Q GPM	BOH
23.62	~~0~~	2:06p	19.5	7.14	-010	1792			
	1	2:14	19.1	7.06	-008	1497			
	2	2:17	19.0	7.10	-010	1380			
	3	2:19	19.0	7.05	-008	1445			
	4	2:21	19.0	7.07	-008	1347			

TIME SAMPLED: 2:30

COMMENTS:

SAMPLES TAKEN	
2	EPA 624 VOAS
	EPA 625
	EPA 608
	METALS
	CYANIDE
~~2~~	~~VOAS~~
2	VOA'S / Alcohols / Acetone
2	Ambers / 604
2	" / TPH as Paint thinner

Wahler Associates

WATER SAMPLING PARAMETERS

0000123

DATE: 3-9-88

PROJECT NO.: JCO-1044

LOCATION: JASCO

SAMPLERS: GPS + GJ,

SAMPLE ID: V-10

~~3~~BV: 5BV 6gal.

WATER LEVEL	GALLONS REMOVED	TIME	TEMP. C°	pH	Eh (mV)	COND. (micromhos)	DO mg/l	Q GPM	BOH
25.07	~~0~~	10:27							
	~~0~~	11:07	18.1	7.04	-006	1412			
	2	11:10	18.3	7.03	-006	1404			
	4	11:15	18.2	6.98	-003	1404			
	6	11:20	18.0	7.02	-007	1378			

TIME SAMPLED: 11:30 AM.

COMMENTS:

SAMPLES TAKEN	
4	EPA 624 VOA's
	EPA 625
	EPA 608
	METALS
	CYANIDE
2	VOA Alcohol/Acetone
2	Amb. 604 - tuvb.
2	" TPH as Paint T.
2	" " " Diesel
1	travel VOA
1	Method "

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WATER SAMPLING PARAMETERS

0000123

DATE: 3-22-88

PROJECT NO.: JCO-104H

LOCATION: Central Exp.

SAMPLERS: MS-MC

SAMPLE ID: V-8

~~TBV:~~ 5BV 11 gal

WATER LEVEL	GALLONS REMOVED	TIME	TEMP. C°	pH	Eh (mV)	COND. (micromhos)	DO mg/l	Q GPM	BOH
24.30	Ø	1:20							
	1		19.3	7.04		2.41			
	4	1:37	19.3	7.08		2.24			
	7	1:41	18.9	7.01		2.14			
	11	1:47	18.8	7.03		2.13			

TIME SAMPLED: 1:48pm $205

COMMENTS:

SAMPLES TAKEN	
	EPA 624
	EPA 625
	EPA 608
	METALS
	CYANIDE
6	VOA'S

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WATER SAMPLING PARAMETERS

0000123

DATE: 3-22-88

PROJECT NO.: JCO-104H

LOCATION: Jasco

SAMPLERS: MS-MC

SAMPLE ID: V-9

~~3BV~~ 5BV: 5gal

WATER LEVEL	GALLONS REMOVED	TIME	TEMP. C°	pH	Eh (mV)	COND. (micromhos)	DO mg/l	Q GPM	BOH
23.65	Ø	11:45							
	1	12:00	19.3	7.24		1732			
	3	12:03	19.4	7.11		1481			
	5	12:06	19.2	7.14		1492			

TIME SAMPLED: 12:07

COMMENTS:

	SAMPLES TAKEN
	EPA 624
	EPA 625
	EPA 608
	METALS
	CYANIDE
4	VOA'S

Wahler Associates

WATER SAMPLING PARAMETERS 0000123

DATE: 3-22-88

PROJECT NO.: JCO-104H

LOCATION:

SAMPLERS: MS & MC

SAMPLE ID: V-10

~~3BV~~ 5BV: 6gal

WATER LEVEL	GALLONS REMOVED	TIME	TEMP. C°	pH	Eh (mV)	COND. (micromhos)	DO mg/l	Q GPM	BOH
25.0	~~0~~	10:05		from	christy	box			
24.73	~~0~~	10:05		from	top of	locking	device		
	2	1035	17.7	7.16		1373			
	4	10:45	18.1	7.07		1335			
	6	10:50	18.1	7.24		1353			

TIME SAMPLED: 11:00

COMMENTS:

	SAMPLES TAKEN
	EPA 624
	EPA 625
	EPA 608
	METALS
	CYANIDE
2	turbidity vials
2	EPA 8010 vials
2	TPH w/BTX ambers (2

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