

**LIMITED SUBSURFACE SAMPLING AND TESTING**

Kirkland Nissan (Former Vehicle Parking Area)  
11932 - 124<sup>th</sup> Avenue Northeast  
Kirkland, Washington

**SOUND FORD**

# ENVIRONMENTAL ASSOCIATES, INC.

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February 27, 2020

JN-22175-1

Mr. Rich Snyder  
Sound Ford  
101 Southwest Grady Way  
Renton, Washington 98055

Subject: **LIMITED SUBSURFACE SAMPLING AND TESTING**  
**Kirkland Nissan (Former Vehicle Parking Area)**  
**11932 - 124<sup>th</sup> Avenue Northeast**  
**Kirkland, Washington**

Dear Mr. Snyder:

Environmental Associates, Inc. (EAI) has performed sampling and testing of subsurface soils and groundwater at select localities on the subject property. The purpose of this current work was to attempt to characterize the extent of gasoline impacted soils beneath the eastern portion of the subject site as discovered by Dixon Environmental Services in November 2019. This report, prepared in accordance with the terms of our proposal dated February 6, 2020, summarizes our approach to the project along with results and conclusions.

The contents of this report are confidential and are intended solely for your use and the use of your representatives. No other distribution or discussion of this report will take place without your prior approval in writing.

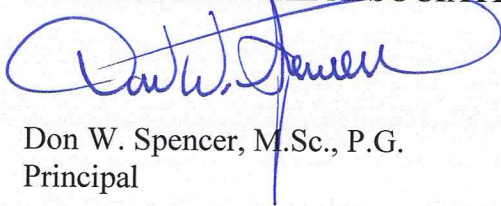


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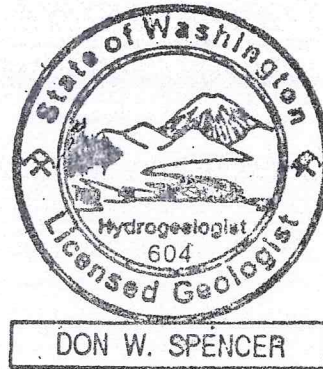
We appreciate the opportunity to be of service on this assignment. If you have any questions or if we may be of additional service, please do not hesitate to contact us.

Respectfully submitted,  
**ENVIRONMENTAL ASSOCIATES, INC.**



Don W. Spencer, M.Sc., P.G.  
Principal

License: 604	(Washington)
License: 11464	(Oregon)
License: 876	(California)
License: 5195	(Illinois)
License: 0327	(Mississippi)
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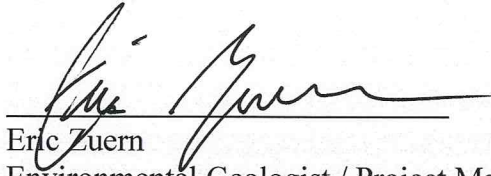
# LIMITED SUBSURFACE SAMPLING AND TESTING

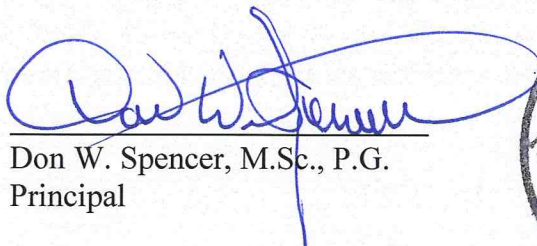
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Kirkland, Washington

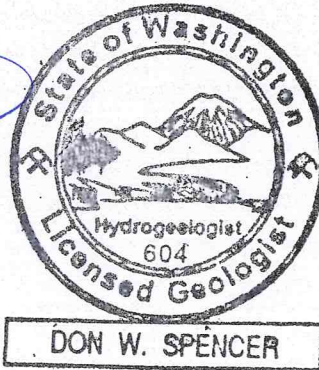
Prepared for:

Sound Ford  
101 Southwest Grady Way  
Renton, Washington 98055

Questions regarding this investigation, the conclusions reached should be addressed to one of the following undersigned.

  
Eric Zuern  
Environmental Geologist / Project Manager

  
Don W. Spencer, M.Sc., P.G.  
Principal



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License: 5195	(Illinois)
License: 0327	(Mississippi)
REPA: 418290	

Reference Job Number: JN 22175-1

February 27, 2020

*ENVIRONMENTAL ASSOCIATES, INC.*

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## **INTRODUCTION/SCOPE OF WORK**

### **SITE/PROJECT DESCRIPTION**

The subject property includes a generally rectangular-shaped parcel covering approximately 3.33 acres of land. Improvements to the property include a single story auto showroom building which was reportedly erected in 1997. Additional improvements include paved parking which covers much of the parcel. The property is currently occupied by Kirkland Nissan. The approximate location of the site is shown on the Vicinity/Topographic Map, Plate 1, appended herewith.

### **Background**

Environmental Associates, Inc. (EAI) was recently furnished with a report titled "Phase II Environmental Site Assessment: Subsurface Investigation Report" dated December 12, 2019, prepared by Dixon Environmental Services (Dixon) for the subject property. Dixon's work consisted of subsurface soil sampling and testing at five (5) localities across the central and eastern portion of the on-site parking lot relating to historic vehicle parking in those areas. The results of that work concluded that total petroleum hydrocarbons (TPH) in the boiling range of gasoline were detected at Dixon's locations B-4 and B-5 (eastern portion of the site) at a depth of approximately 3 feet below ground surface (bgs). The gasoline was reportedly confined to a layer approximately 6 to 12 inches thick. Additional testing from those localities at a depth of 7 feet bgs reported no detections of gasoline. No additional contaminants such as diesel/oil TPH or benzene, toluene, ethylbenzene, or xylenes (BTEX) were detected in the soil samples except for various metals which were reportedly below their respective MTCA Method A cleanup levels.

Dixon concluded that historic staging of automobiles had resulted in the gasoline impacts to soils and opined that since the contamination is capped with asphalt to prevent direct contact, and that the contamination did not appear to have migrated to a depth where groundwater would be impacted, and that the contamination did not appear to present a threat of vapor encroachment, the gasoline contamination was not an immediate threat to human health or the environment. We (EAI) would note that "perched" groundwater was apparent in borings at the property however no groundwater testing was conducted in Dixon's study. Dixon estimated a lateral area of gasoline impacted soils at 17,500 square feet.

The reader is referred to the above report for further details.

## **Current Study**

Your expressed interests to conduct further evaluation of subsurface soil and groundwater conditions to assess the extent of gasoline impacts at the subject site as memorialized in EAI's proposal dated February 6, 2020, formed the basis for the following scope of work:

- Drill and sample eight (8) borings along the eastern half of the site in the vicinity of the previously encountered petroleum impacts. Soil samples were obtained from each boring and a log of subsurface conditions encountered was prepared for each boring by the EAI project geologist. Groundwater, as encountered, was sampled within six of the eight borings.
- Laboratory analysis of selected soil and groundwater samples for gasoline range total petroleum hydrocarbons (TPH) as well as benzene, toluene, ethylbenzene, xylenes (BTEX).
- Preparation of this summary report documenting the methodology and results of the investigation.

# **FINDINGS**

## **SUBSURFACE INVESTIGATION**

### **Soil Boring Sampling**

Referring to the attached Site Plan, Plate 2, eight (8) borings were made on February 13, 2020 at the approximate locations noted as EAI B-1 through EAI B-8 along the eastern half of the subject parcel. The borings were extended to depths of approximately ten (10) feet below ground surface (bgs). Recoverable "perched" groundwater was encountered within the temporary borings between approximately 6.5 to 8.5 feet bgs except for EAI B-3 and EAI B-4 where no recoverable groundwater was observed.

### **Soil and Groundwater Sampling Procedure**

Under the observation of the EAI field geologist, a push probe drill rig was brought into position over the borings locations. Following set-up preparations, the push-probe sampling technique consisted of advancing a plastic lined sampler into the ground. The sampler was then withdrawn and the liner was removed and cut open for examination and transfer of the soil sample to laboratory prepared glassware by EPA Method 5035.

As groundwater was encountered in select borings, after soil sampling within the borings had been completed, a temporary well screen was installed in an attempt to sample the groundwater. Small diameter plastic tubing was extended from a peristaltic pump into each temporary well screen to recover groundwater samples.

Soil and groundwater samples were transferred directly to sterilized laboratory prepared glassware which were then stored in an iced chest maintained at approximately 4 degrees centigrade at the site and taken to the laboratory in this condition in an effort to preserve sample integrity.

Each sample container was clearly labeled as to boring and sample number/depth, project, etc. EPA-recommended sample-management protocol was observed at each stage of the project. During drilling, a field log was made by EAI for each boring. Information recorded versus corresponding depth included soil classification (Unified Soil Classification System), color, texture, relative moisture, odors (if present), etc.

### **Subsurface Conditions**

Soils encountered within the borings generally consisted of several feet of grey/brown sand/silt mixtures with occasional wood debris which transition to a denser brown silt between approximately three (3) to four (4) or five (5) feet bgs. Brown sands became prominent below five (5) feet bgs. The sands showed occasional small amounts of silt and/or gravels as well as some grey coloration at deeper depths however such color transition did not appear indicative of staining but rather natural occurrence. Select borings displayed silts approximately ten (10) feet bgs. As mentioned earlier, groundwater was encountered between approximately 6.5 to 8.5 feet bgs in all but two (2) of the borings depending upon locality. While Dixon had noted a "hydrocarbon" odor associated with the gasoline detections found at a depth of three (3) feet bgs in their B-4 and B-5 locations, no petroleum odors were observed in EAI's borings with the exception of a faint petroleum odor at five (5) feet bgs in EAI B-3. Alternatively, many of the boring locations exhibited an odor resembling vegetative decay between approximately 2 to 3 feet bgs.

### **LABORATORY ANALYSIS**

Laboratory analysis of soil and groundwater samples was conducted by ESN Northwest (ESN) of Olympia, Washington, a WDOE-accredited analytical laboratory. Select soil and groundwater samples were submitted for analysis of gasoline range total petroleum hydrocarbons (TPH) as well as benzene, toluene, ethylbenzene, xylenes (BTEX).

As summarized in Table 1 attached to this report, gasoline TPH was reported at a concentration of 12 parts per million (ppm) in soils from boring EAI B-2 at a depth of seven (7) feet bgs. That level is well below (i.e. compliant with) the MTCA Method-A compliance limit established for that analyte. No other detections of gasoline TPH or BTEX were reported in the other soil samples analyzed.

As trace organic/ammonia-like odors were noted in some of the shallow samples analyzed, EAI inquired with the laboratory staff at ESN whether any other contaminants appeared to be present in the laboratory chromatograms (graphical representation of testing analysis) generated during the testing methods NWTPH-G/8260. ESN laboratory staff advised "the chromatograms of the soil samples from the Kirkland Nissan project do not suggest any additional contamination in the soil samples presented". That written statement is attached in the appended laboratory data.

As summarized in Table 2 attached to this report, toluene was found in groundwater sampled from boring EAI B-2 at concentrations ranging from 1.7 to 2.1 parts per billion (ppb). Those concentrations are far below (i.e. compliant with) the MTCA Method-A compliance limit for that analyte. No other detections of gasoline TPH or BTEX were reported in the other groundwater samples analyzed.

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## CONCLUSIONS

Relying upon the results of limited soil and groundwater sampling and laboratory testing documented in this effort, soils and groundwater at the locations and depths tested were compliant for gasoline TPH and BTEX constituents. The sampling and testing data developed by us (EAI) thus far does not support the original estimated area of contamination as presented by others. Viewed in the context of our current findings, the detections of TPH reported by Dixon may simply reflect localized or isolated occurrences of relatively limited extent. Such a finding would not be inconsistent with reported historical land use in the study area.

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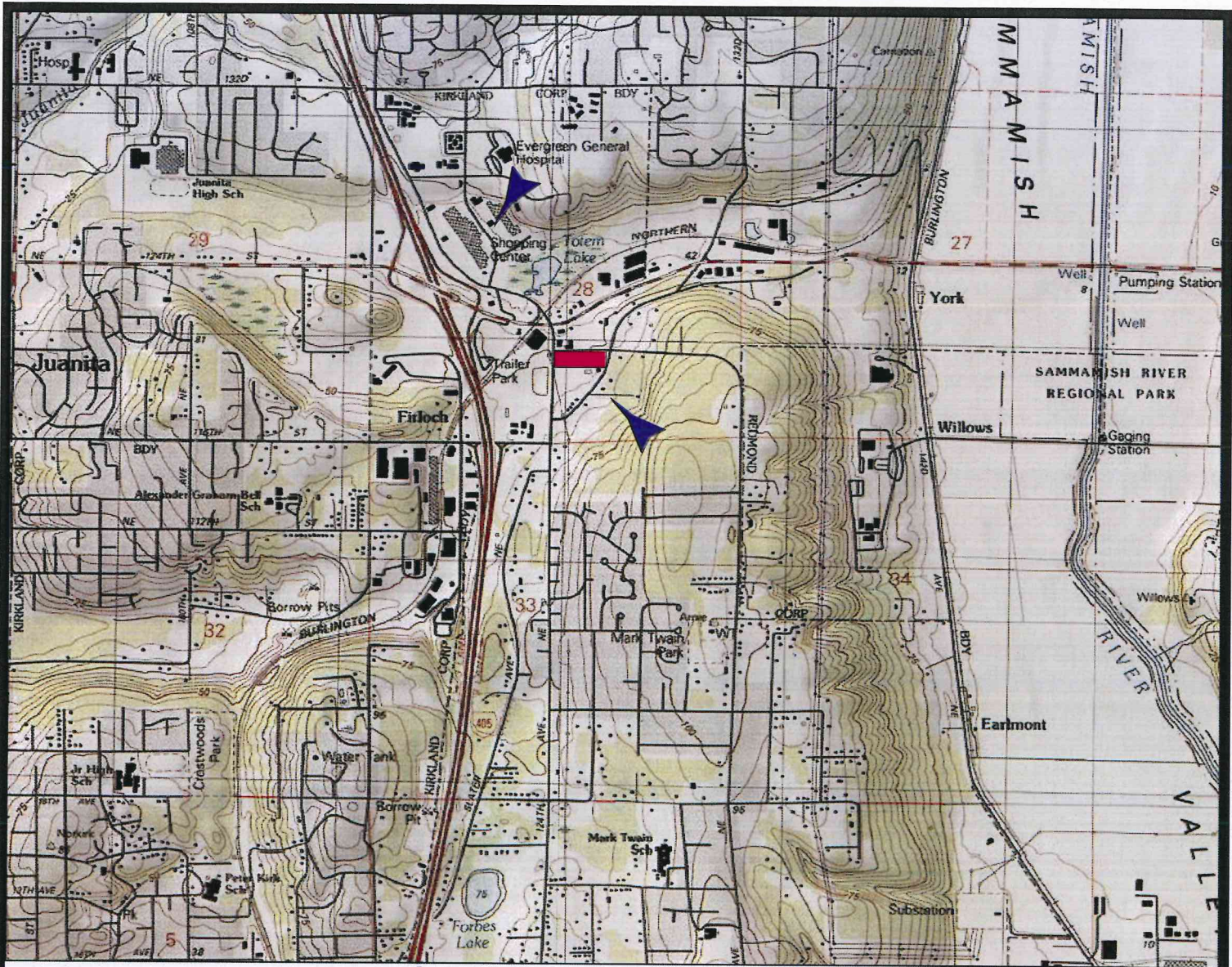
## LIMITATIONS

This report has been prepared for the exclusive use of Sound Ford and their several representatives for specific application to this site. Our work for this project was conducted in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area, and in accordance with the terms and conditions set forth in our proposal dated February 6, 2020. The findings and conclusions of this study are based upon the results of laboratory testing of selected samples obtained from separated boring localities and conditions may vary between those localities or at other locations, depths, media, or date. No other warranty, expressed or implied, is made. If new information is developed in future site work which may include excavations, borings, studies, etc., Environmental Associates, Inc., must be retained to reevaluate the conclusions of this report and to provide amendments as required.

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## REFERENCES

Dixon Environmental Services, December 12, 2019, Phase II Environmental Site Assessment: Subsurface Investigation Report, 11932 124<sup>th</sup> Avenue Northeast, Kirkland, Washington 98034.



0 1000 FEET 0 500 1000 METERS  
 Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)



**Approximate Site Location**



**Inferred Approximate Direction of Groundwater Flow at Subject**



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## VICINITY/TOPOGRAPHIC MAP

**Kirkland Nissan (Former Vehicle Parking Area)  
 11932 - 124th Avenue Northeast  
 Kirkland, Washington**

Job Number:

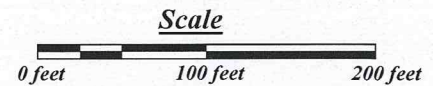
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Plate:

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**Approximate Site Boundary**



**Approximate Dixon Boring Location (2019)**



**Approximate EAI Boring Location (2020)**



**Inferred Approximate Direction of Groundwater Flow at Subject**



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## SITE PLAN

**Kirkland Nissan (Former Vehicle Parking Area)  
11932 - 124th Avenue Northeast  
Kirkland, Washington**

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*Date:*  
**February 2020**

*Plate:*  
**2**

# BORING EAI-B1

Depth/ Sample	Well Design	Moisture/ Water Table	Blows / Foot	USCS	DESCRIPTION
0					
2.5		Dry		SM/ ML	Brown silt, little sands, dry, no odors or discolorations, PID=0 ppm
5				SP	Brown sand, no odors or discolorations
7.5		Moist		SP	Brown sand, moist, no odors or discolorations, PID=0 ppm
10	temporary screen 6' to 10'	Wet		SM	Brown sand with small lense of silt, wet, no odors or discolorations, PID=0 ppm
Boring terminated at 10 feet below grade on February 13, 2020.					
12.5					
15					
17.5					
20					



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## Boring: EAI-B1

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Kirkland, Washington

Job Number:

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Date:

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Plate:

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# BORING EAI-B2

Depth/ Sample	Well Design	Moisture/ Water Table	Blows / Foot	USCS	DESCRIPTION
0					Brown silts and sands
2.5		Dry		SM/ ML	Brown silt transitioning to brown sand, dry, no odors or discolorations, PID=0 ppm
5		Dry		SP	Brown sand, dry, no odors or discolorations
7.5		Moist ▽		SP	Brown sand, moist, no odors or discolorations, PID=0 ppm
10	temporary screen 6' to 10'	Moist		SM	Brown dense silt and gravels, moist, no odors or discolorations, PID=0 ppm
Boring terminated at 10 feet below grade on February 13, 2020.					
12.5					
15					
17.5					
20					



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## Boring: EAI-B2

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Plate:

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# BORING EAI-B3

Depth/ Sample	Well Design	Moisture/ Water Table	Blows / Foot	USCS	DESCRIPTION
0	temporary screen 6' to 10'	Dry		SM	Light grey silt and sand, dry, ammonia/organic smell, PID=1.0 ppm
2.5				ML	Brown silt with little gravels, dry, no odors or discolorations, PID=0 ppm
5				ML	Brown silt with little gravels, dry, slight petroleum/organic odor, PID=0.8 ppm
7.5				SM	Brown silt transitioning to brown sand, dry, no odors or discolorations, PID=0.2 ppm
10		Moist		ML	Brown silt, moist, no odors or discolorations, PID=0 ppm
12.5					Boring terminated at 10 feet below grade on February 13, 2020.
15					
17.5					
20					



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## Boring: EAI-B3

Kirkland Nissan (Former Vehicle Parking Area)  
11932 - 124th Avenue Northeast  
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# BORING EAI-B4

Depth/ Sample	Well Design	Moisture/ Water Table	Blows / Foot	USCS	DESCRIPTION
0					
2.5		Dry		SM	Brown silty sand and gravels transitionning to dense brown silt, dry, ammonia/organic odor, PID=0.3 ppm
5				ML	Brown silt, dry, no odors or discolorations
7.5	none	Dry		SP	Brown sand, dry, no odors or discolorations, PID=0.4 ppm
10		Dry		SP	Brown sand, dry, no odors or discolorations, PID=0.4 ppm
12.5					Boring terminated at 10 feet below grade on February 13, 2020.
15					
17.5					
20					



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## Boring: EAI-B4

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11932 - 124th Avenue Northeast  
Kirkland, Washington

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# BORING EAI-B5

Depth/ Sample	Well Design	Moisture/ Water Table	Blows / Foot	USCS	DESCRIPTION
0					
1					Light brown/grey silt, wood, dry, ammonia/organic odor, PID=1.2 ppm
2.5		Dry		SM	Brown silt transitioning to brown sand, dry, ammonia/organic odor, PID=0.5 ppm
5		Dry		ML	Brown silt, dry, no odors or discolorations
7.5		Dry		SP	Brown sand, dry, no odors or discolorations, PID=0.9 ppm
10	temporary screen 6' to 10'	Wet		SP	Brown sand, wet, no odors or discolorations, PID=0.8 ppm
12.5					Boring terminated at 10 feet below grade on February 13, 2020.
15					
17.5					
20					



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## Boring: EAI-B5

Kirkland Nissan (Former Vehicle Parking Area)  
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Kirkland, Washington

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# BORING EAI-B6

Depth/ Sample	Well Design	Moisture/ Water Table	Blows / Foot	USCS	DESCRIPTION
0					
2.5		Dry		OL ML	Brown silt, wood debris, gravels, dry, ammonia/organic odor, PID=2.7 ppm
5		Dry		SP	Darker brown silt, dry no odors or discolorations
7.5		Dry		SP	Brown sand, dry, no odors or discolorations
10	temporary screen 6' to 10'	Wet		SP	Brown sand, dry, no odors or discolorations, PID=2.1 ppm
					Grey sand, wet, no odors or discolorations, PID=2.2 ppm
					Boring terminated at 10 feet below grade on February 13, 2020.
12.5					
15					
17.5					
20					



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## Boring: EAI-B6

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# BORING EAI-B7

Depth/ Sample	Well Design	Moisture/ Water Table	Blows / Foot	USCS	DESCRIPTION
0					
2.5		Dry		GM	Brown/grey silt and gravels, dry, ammonia/organic odor, PID=2.5 ppm
					Darker brown silt, dry no odors or discolorations
5		Dry		SP	Brown sand, dry, no odors or discolorations
7.5		Dry ▽		SP	Brown sand, dry, no odors or discolorations, PID=2.4 ppm
10	temporary screen 6' to 10'	Wet		SP	Grey sand, wet, no odors or discolorations, PID=2.2 ppm
					Boring terminated at 10 feet below grade on February 13, 2020.
12.5					
15					
17.5					
20					



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## Boring: EAI-B7

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# BORING EAI-B8

Depth/ Sample	Well Design	Moisture/ Water Table	Blows / Foot	USCS	DESCRIPTION
0					
2.5		Dry		SM/ GM	Brown/grey silty sand, gravels, dry, faint ammonia/organic odor, PID=2.3 ppm
					Darker brown silt, dry no odors or discolorations
5		Dry		SP	Brown sand, dry, no odors or discolorations
7.5		Moist		SP	Brown sand, moist, no odors or discolorations, PID=2.2 ppm
10	temporary screen 6' to 10'	Dry		ML	Compact brown silts, dry, no odors or discolorations, PID=2.2-3 ppm (losing calibration)
					Boring terminated at 10 feet below grade on February 13, 2020.
12.5					
15					
17.5					
20					



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## Boring: EAI-B8

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**TABLE 1 - Petroleum Hydrocarbons, BTEX - Soil Sampling Results**  
**All results and limits in parts per million (ppm)**

Sample Name and Depth	Gasoline (TPH)	Benzene	Toluene	Ethylbenzene	Total Xylenes
EAI B1-3 @ 3' BGS	ND	ND	ND	ND	ND
EAI B1-7 @ 7' BGS	ND	ND	ND	ND	ND
EAI B1-7 @ 7' BGS DUPLICATE	ND	ND	ND	ND	ND
EAI B2-3 @ 3' BGS	ND	ND	ND	ND	ND
EAI B2-7 @ 7' BGS	12	ND	ND	ND	ND
EAI B3-1.5 @ 1.5' BGS	ND	ND	ND	ND	ND
EAI B3-3 @ 3' BGS	ND	ND	ND	ND	ND
EAI B3-5 @ 5' BGS	ND	ND	ND	ND	ND
EAI B4-3 @ 3' BGS	ND	ND	ND	ND	ND
EAI B4-7 @ 7' BGS	ND	ND	ND	ND	ND
EAI B4-7 @ 7' BGS DUPLICATE	ND	ND	ND	ND	ND
EAI B5-2 @ 2' BGS	ND	ND	ND	ND	ND
EAI B5-3 @ 3' BGS	ND	ND	ND	ND	ND
EAI B5-7 @ 7' BGS	ND	ND	ND	ND	ND
EAI B6-2.5-3 @ 2.5'-3' BGS	ND	ND	ND	ND	ND
EAI B6-7 @ 7' BGS	ND	ND	ND	ND	ND
EAI B7-2.5-3 @ 2.5'-3' BGS	ND	ND	ND	ND	ND
EAI B7-7 @ 7' BGS	ND	ND	ND	ND	ND
EAI B8-2-3 @ 2'-3' BGS	ND	ND	ND	ND	ND
EAI B8-7 @ 7' BGS	ND	ND	ND	ND	ND
Reporting Limit <sup>3</sup>	10	0.02	0.05	0.05	0.15
<b>WDOE Target Compliance Level<sup>4</sup></b>	<b>30 or 100 <sup>5</sup></b>	<b>0.03</b>	<b>7</b>	<b>6</b>	<b>9</b>

## Notes:

1 - "ND" denotes analyte not detected at or above listed Reporting Limit.

2 - "NA" denotes sample not analyzed for specific analyte.

3 - "Reporting Limit" represents the laboratory lower quantitation limit.

4 - Soil samples were field screened using a GasTech combustible gas meter to measure the concentration of combustible gas, such as petroleum VOCs.

Headspace VOC concentrations were measured after placing the soil sample in a sealed plastic bag and allowing soil and air inside the bag to equilibrate.

5 - The MTCA gasoline TPH cleanup level is 30 ppm for soils with benzene or toluene, ethylbenzene, and xylenes = less than 1% if gas detections otherwise it is 100 ppm.

Bold and Italics denotes concentrations above MTCA Method A soil cleanup levels.

**TABLE 2- Petroleum Hydrocarbons & BTEX - Groundwater Sampling Results**  
**All results and limits in parts per billion (ppb)**

Sample	Gasoline (TPH)	Benzene	Toluene	Ethylbenzene	Total Xylenes
EAI B1-Water	ND	ND	ND	ND	ND
EAI B2-Water	ND	ND	2.1	ND	ND
EAI B2-Water DUPLICATE	ND	ND	1.7	ND	ND
EAI B5-Water	ND	ND	ND	ND	ND
EAI B6-Water	ND	ND	ND	ND	ND
EAI B7-Water	ND	ND	ND	ND	ND
EAI B8-Water	ND	ND	ND	ND	ND
Reporting Limit <sup>3</sup>	100	1	1	1	3
<b>MTCA-Method-A Cleanup Levels<sup>4</sup></b>	<b>800 or 1000<sup>5</sup></b>	<b>5</b>	<b>1000</b>	<b>700</b>	<b>1000</b>

## Notes:

- 1 - "ND" denotes analyte not detected at or above listed Reporting Limit.
- 2 - "NA" denotes sample not analyzed for specific analyte.
- 3 - "Reporting Limit" represents the laboratory lower quantitation limit.
- 4 - Method A groundwater cleanup levels as published in the Model Toxics Control Act (MTCA) 173-340-WAC.
- 5 - The MTCA gasoline TPH cleanup level is 800 ppb for groundwater with benzene. Otherwise, the cleanup level is 1000 ppb.

Bold and Italics denotes concentrations above existing or proposed MTCA Method A groundwater cleanup levels.

## **APPENDIX A**

### **Laboratory Data**

February 25, 2020

Eric Zuern  
Environmental Associates  
1380 112th Avenue NE, Suite 300  
Bellevue, WA 98004

Dear Mr. Zuern:

Please find enclosed the analytical data report for the Kirkland Nissan Project in Kirkland, Washington. Probe services were conducted on February 13, 2020. Soil and water samples were analyzed for Gasoline by NWTPH-Gx and BTEX by Method 8260 on February 14 – 21, 2020.

The results of these analyses are summarized in the attached tables. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. A copy of the invoice for this work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to Environmental Associates for this project. If you have any further questions about the data report, please give us a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,



Michael A. Korosec  
President

ESN NORTHWEST CHEMISTRY LABORATORY

Environmental Associates, Inc  
PROJECT KIRKLAND NISSAN  
PROJECT #22175-1  
Kirkland, Washington

ESN Northwest  
1210 Eastside Street SE Suite 200  
Olympia, WA 98501  
(360) 459-4670 (360) 459-3432 Fax  
lab@esnnw.com

Analysis of Gasoline Range Organics & BTEX in Soil by Method NWTPH-Gx/8260

Sample Number	Date Prepared	Date Analyzed	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Gasoline Range Organics (mg/kg)	Surrogate Recovery (%)
Method Blank	2/14/2020	2/14/2020	nd	nd	nd	nd	nd	101
LCS	2/14/2020	2/14/2020	113%	103%	104%	105%	135%	104
LCSD	2/14/2020	2/14/2020	112%	98%	101%	99%	—	105
B1-3	2/13/2020	2/14/2020	nd	nd	nd	nd	nd	102
B1-7	2/13/2020	2/14/2020	nd	nd	nd	nd	nd	105
B1-7 Duplicate	2/13/2020	2/14/2020	nd	nd	nd	nd	nd	98
B2-3	2/13/2020	2/14/2020	nd	nd	nd	nd	nd	98
B2-7	2/13/2020	2/14/2020	nd	nd	nd	nd	12	108
B3-1.5	2/13/2020	2/14/2020	nd	nd	nd	nd	nd	101
B3-3	2/13/2020	2/14/2020	nd	nd	nd	nd	nd	100
B3-5	2/13/2020	2/14/2020	nd	nd	nd	nd	nd	96
B4-3	2/13/2020	2/18/2020	nd	nd	nd	nd	nd	103
B4-7	2/13/2020	2/18/2020	nd	nd	nd	nd	nd	100
B4-7 Duplicate	2/13/2020	2/18/2020	nd	nd	nd	nd	nd	103
B5-2	2/13/2020	2/18/2020	nd	nd	nd	nd	nd	103
B5-3	2/13/2020	2/18/2020	nd	nd	nd	nd	nd	101
B5-7	2/13/2020	2/18/2020	nd	nd	nd	nd	nd	107
B6-2.5-3	2/13/2020	2/18/2020	nd	nd	nd	nd	nd	103
B6-7	2/13/2020	2/18/2020	nd	nd	nd	nd	nd	101
B7-2.5-3	2/13/2020	2/18/2020	nd	nd	nd	nd	nd	97
B7-7	2/13/2020	2/18/2020	nd	nd	nd	nd	nd	102
B8-2-3	2/13/2020	2/18/2020	nd	nd	nd	nd	nd	106
B8-7	2/13/2020	2/18/2020	nd	nd	nd	nd	nd	108
Reporting Limits			0.02	0.05	0.05	0.15	10	

"—" Indicates not tested for component.

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromofluorobenzene) & LCS : 65% TO 135%

**ESN NORTHWEST CHEMISTRY LABORATORY**

Environmental Associates, Inc  
PROJECT KIRKLAND NISSAN  
PROJECT #22175-1  
Kirkland, Washington

ESN Northwest  
1210 Eastside Street SE Suite 200  
Olympia, WA 98501  
(360) 459-4670 (360) 459-3432 Fax  
lab@esnnw.com

**Analysis of Gasoline Range Organics & BTEX in Water by Method NWTPH-Gx/8260**

Sample Number	Date Analyzed	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Gasoline Range Organics (ug/L)	Surrogate Recovery (%)
Method Blank	2/21/2020	nd	nd	nd	nd	nd	102
LCS	2/21/2020	89%	105%	98%	106%	128%	102
B1-Water	2/21/2020	nd	nd	nd	nd	nd	100
B2-Water	2/21/2020	nd	2.1	nd	nd	nd	107
B2-Water Duplicate	2/21/2020	nd	1.7	nd	nd	nd	106
B5-Water	2/21/2020	nd	nd	nd	nd	nd	103
B6-Water	2/21/2020	nd	nd	nd	nd	nd	103
B7-Water	2/21/2020	nd	nd	nd	nd	nd	107
B8-Water	2/21/2020	nd	nd	nd	nd	nd	103
Reporting Limits		1.0	1.0	1.0	3.0	100	

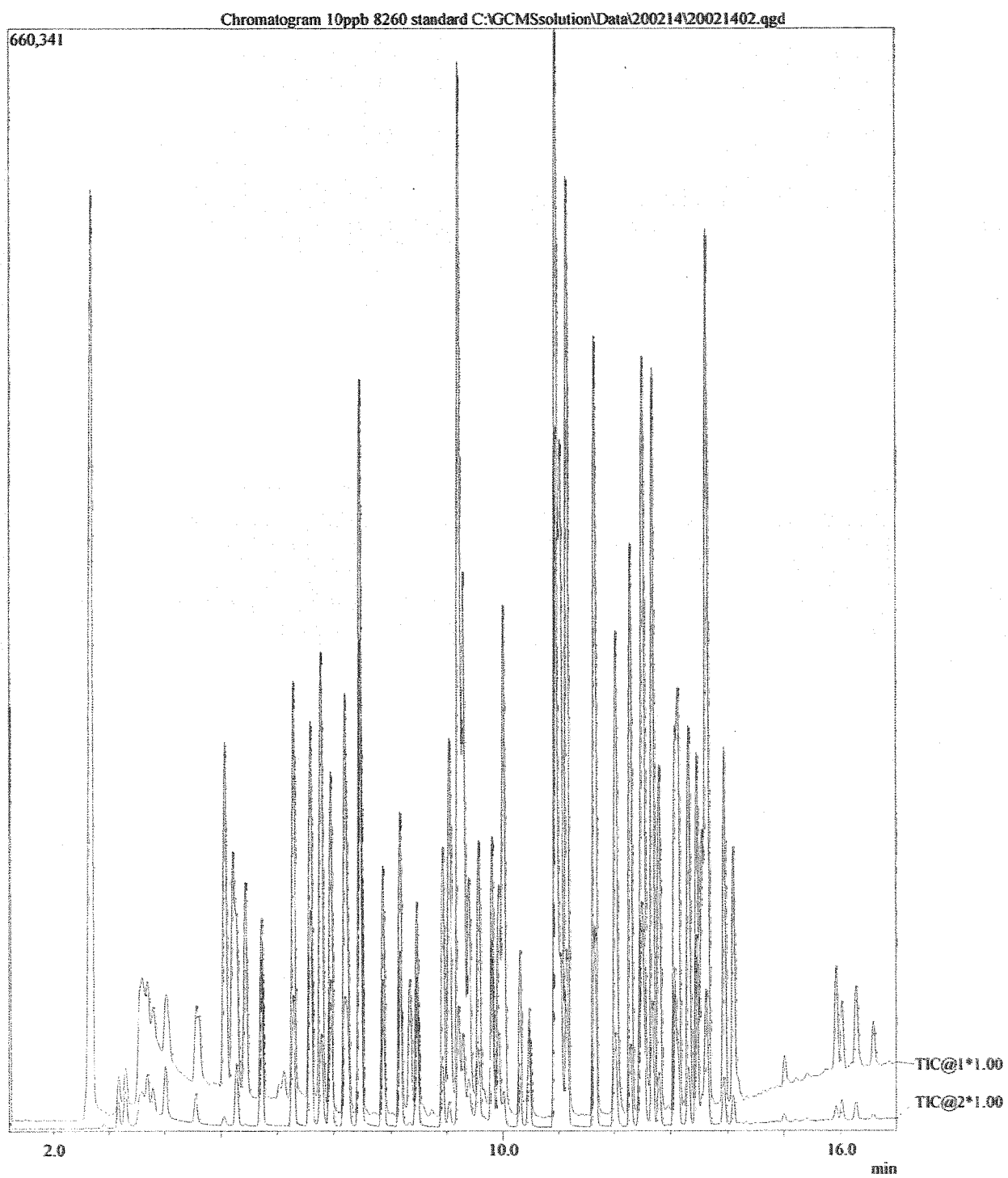
"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromofluorobenzene) & LCS: 65% TO 135%

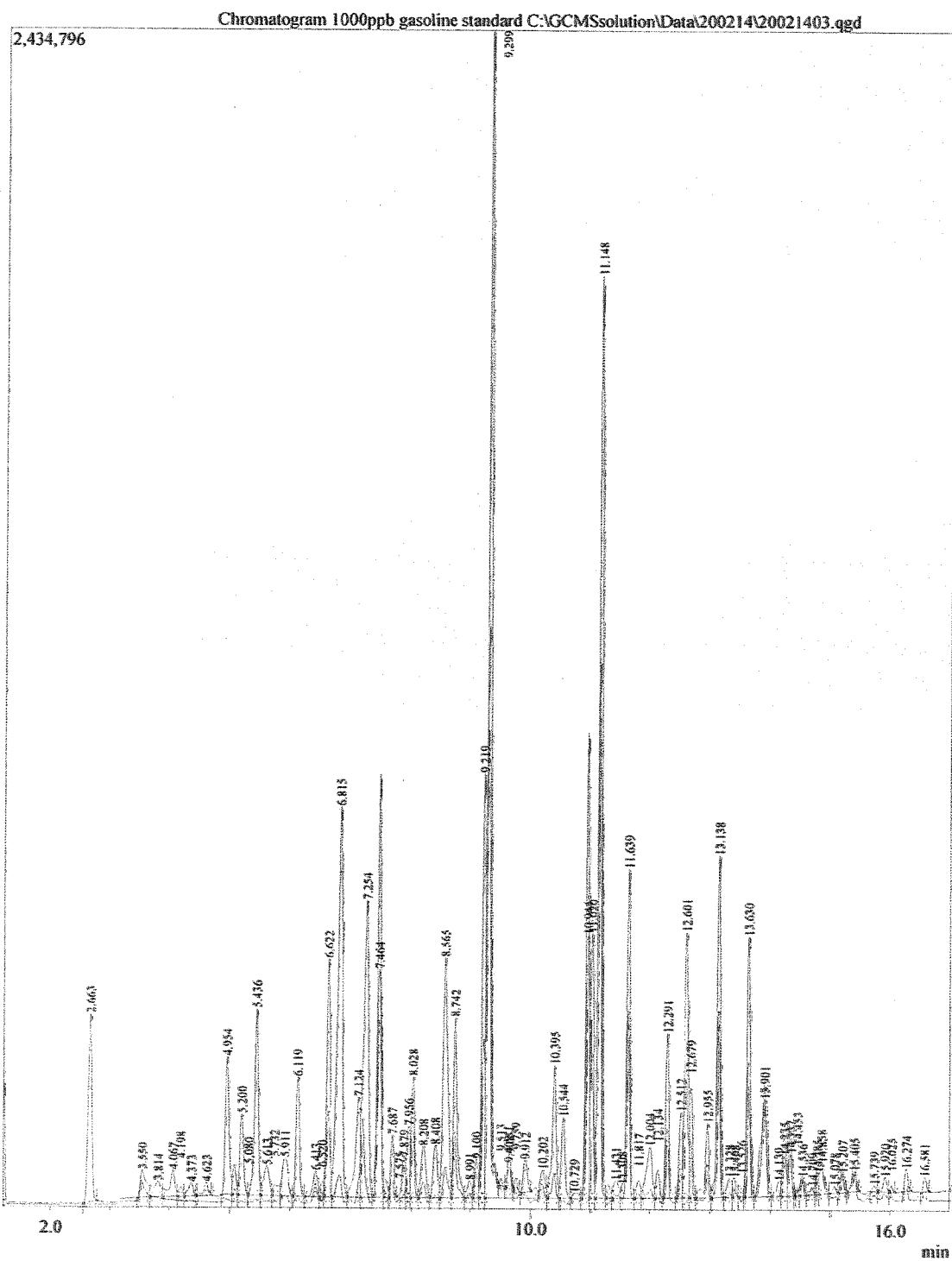
Sample Information

Sample Name : 10ppb 8260 standard



# Sample Information

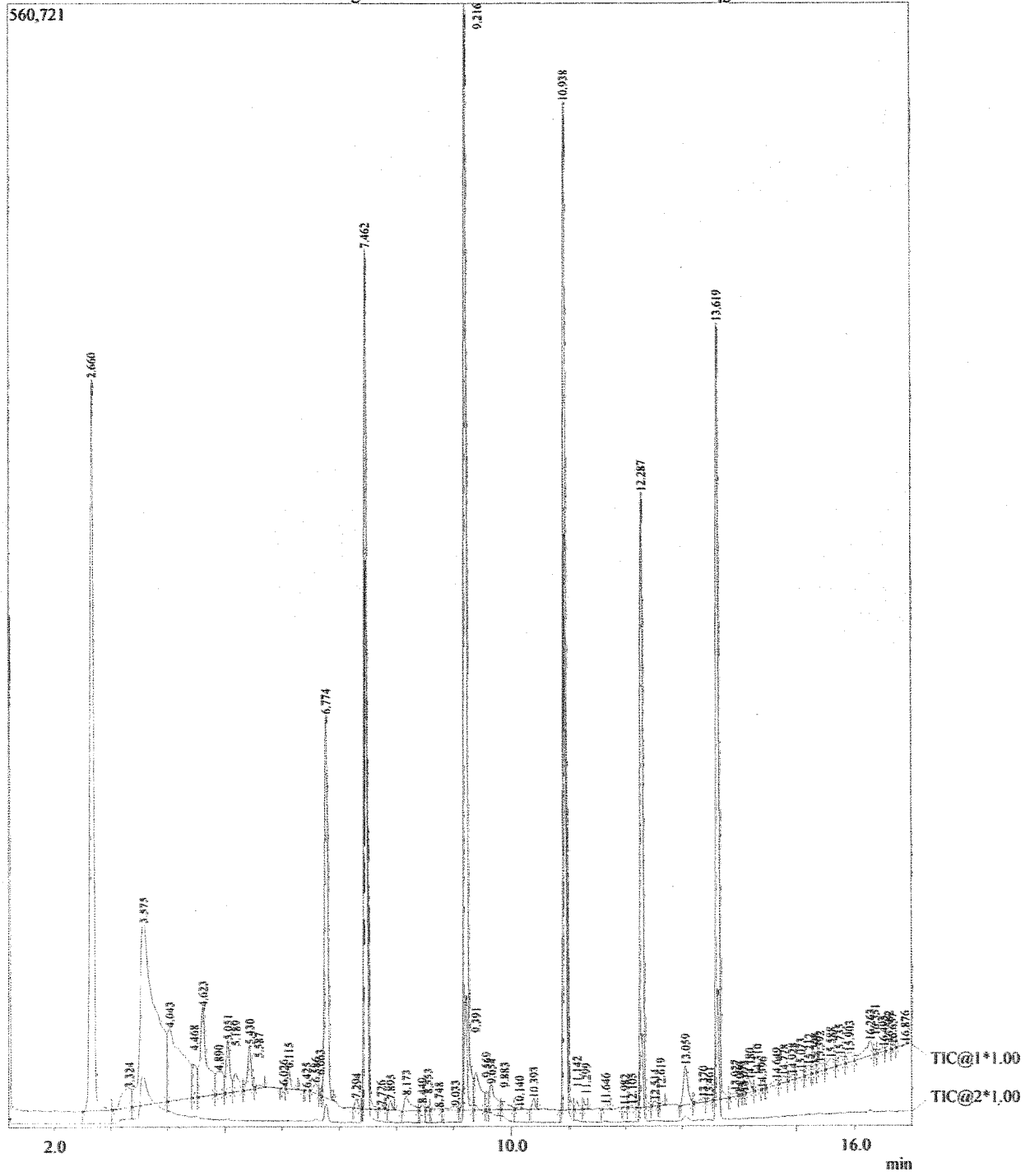
Sample Name : 1000ppb gasoline standard



Sample Information

Sample Name : mb

Chromatogram mb C:\GCMSsolution\Data\200214\20021405.qgd



Sample Name : eai bl-3 (7.92g)

Chromatogram of 115 (7.72g) C-13

470,079

2.0 10.0 16.0

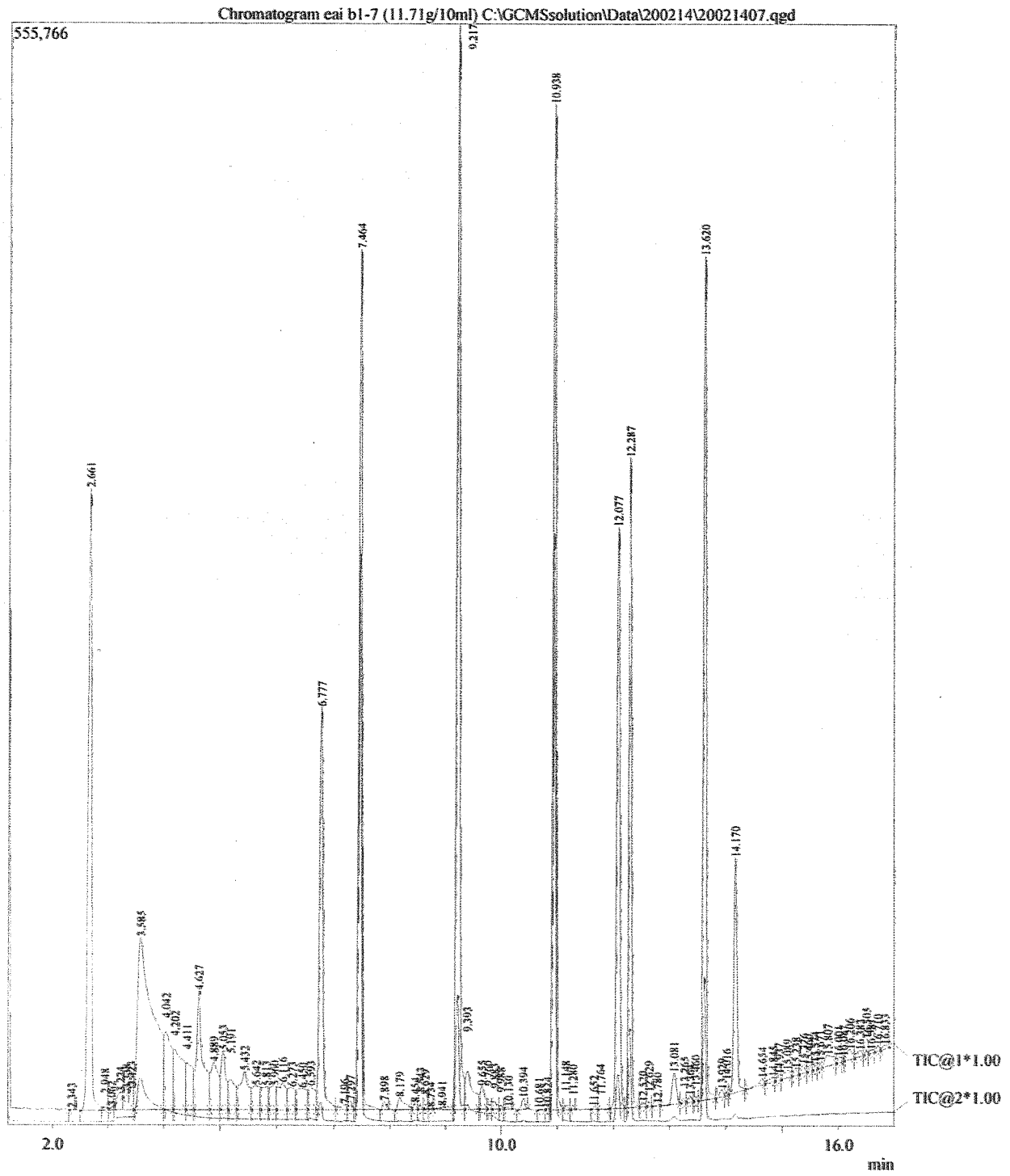
2.348 2.661 2.920 3.333 3.560 4.026 4.411 4.624 4.883 5.071 5.181 5.436 5.588 5.732 5.822 6.033 6.255 6.580 6.774 7.042 7.281 7.463 7.708 7.807 8.150 8.376 9.355 9.558 9.850 10.306 10.634 10.940 11.041 11.403 11.641 11.895 12.085 12.291 12.401 12.461 12.803 13.052 13.344 13.933 14.181 14.529 14.814 15.089 15.379 15.445 15.596 15.846 16.008 16.175 16.339 16.509 16.769

9.217 10.940 12.291 13.624

TIC@2\*1.00

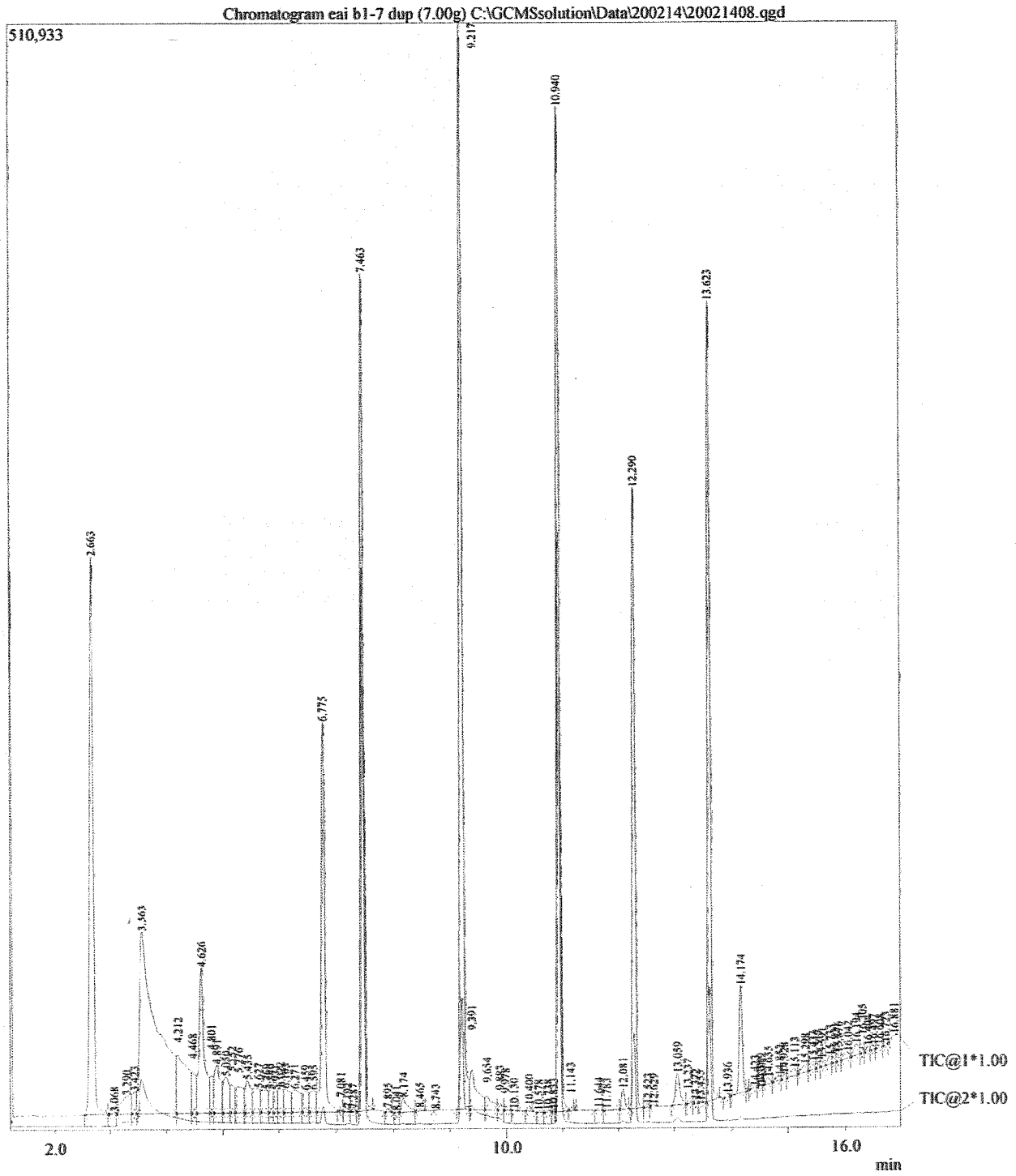
# Sample Information

Sample Name : cai b1-7 (11.71g/10ml)



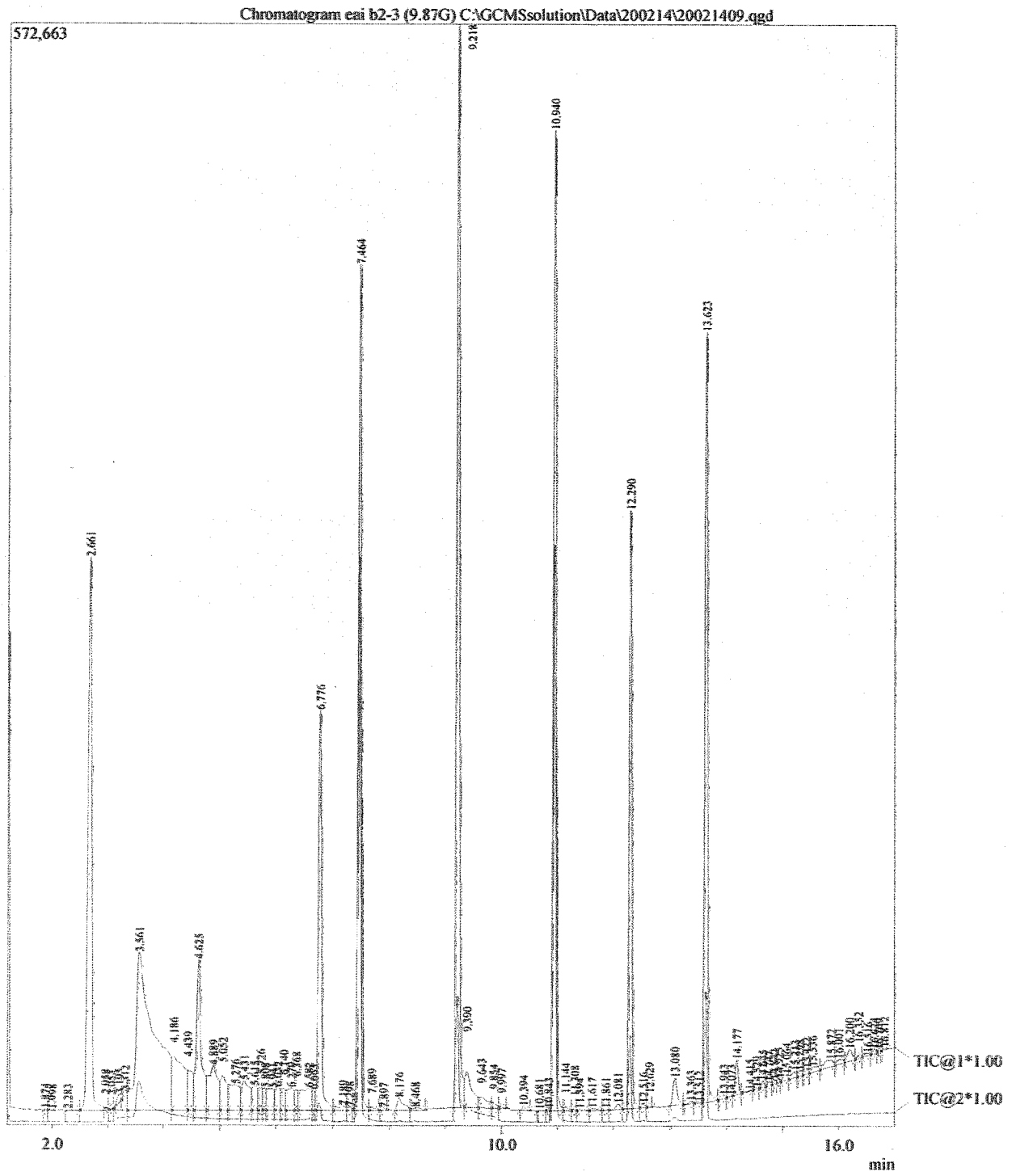
Sample Information

Sample Name : cai b1-7 dup (7.00g)



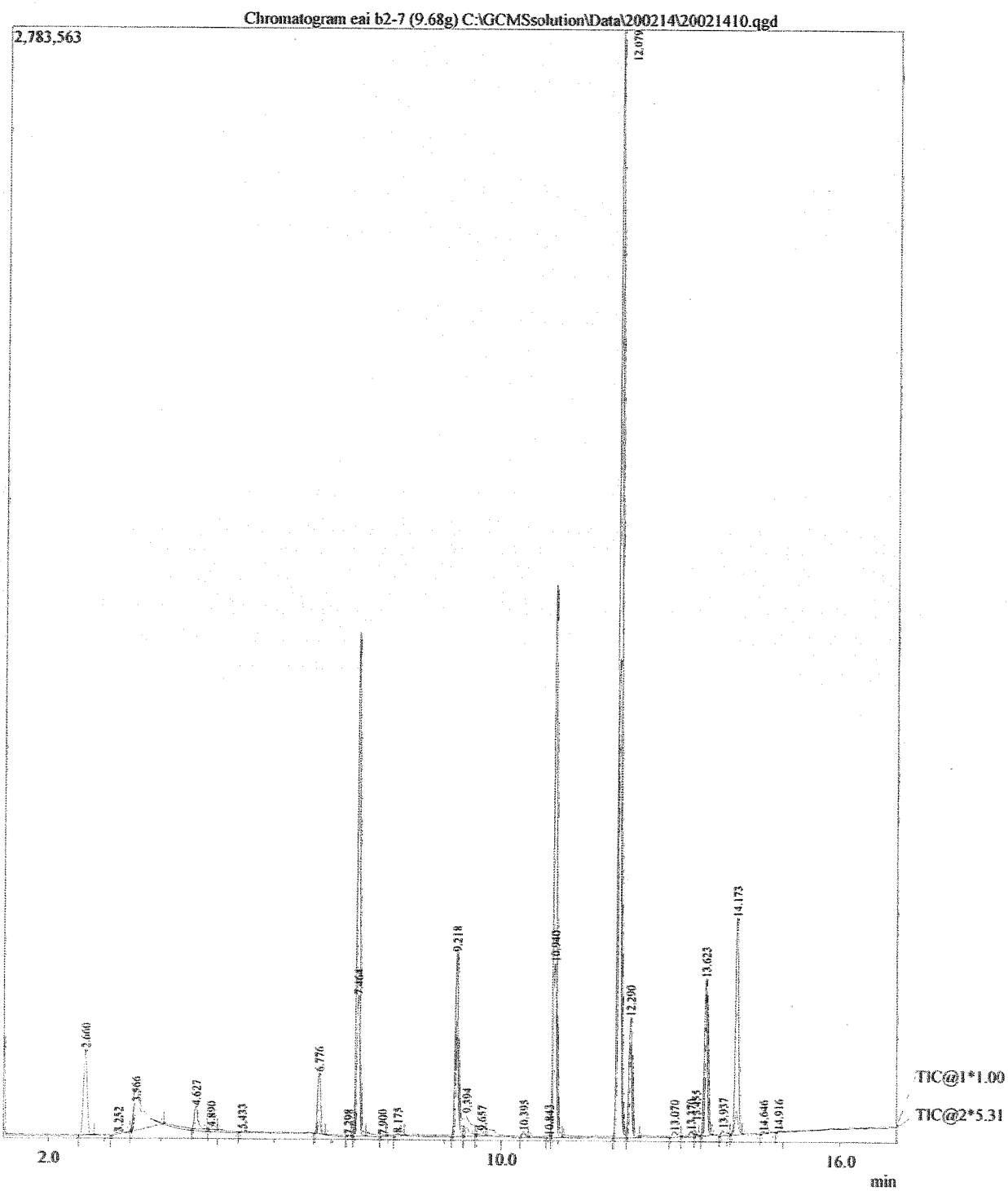
Sample information

Sample Name : eai b2-3 (9.87G)



# Sample Information

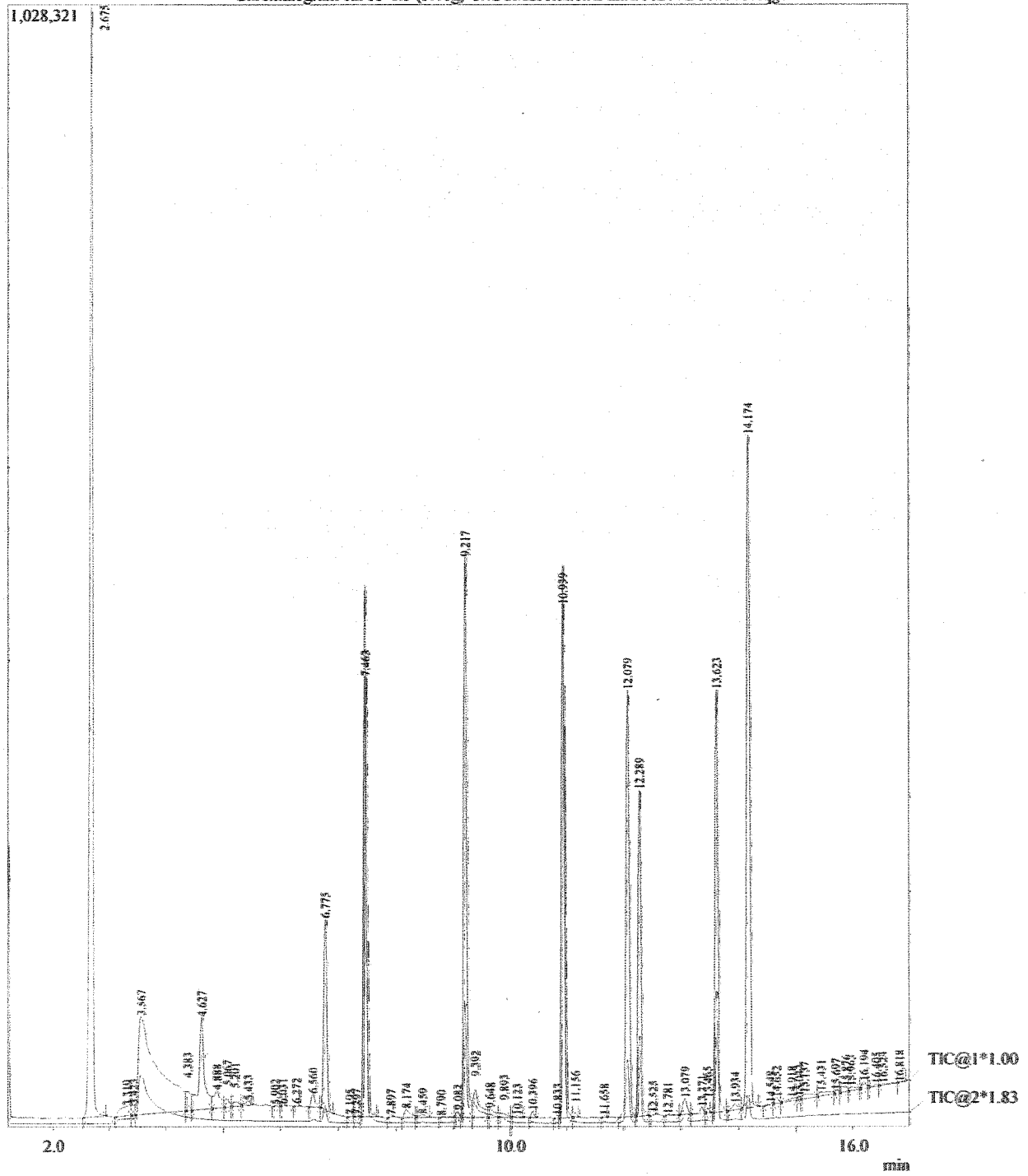
Sample Name : eai b2-7 (9.68g)



Sample Information

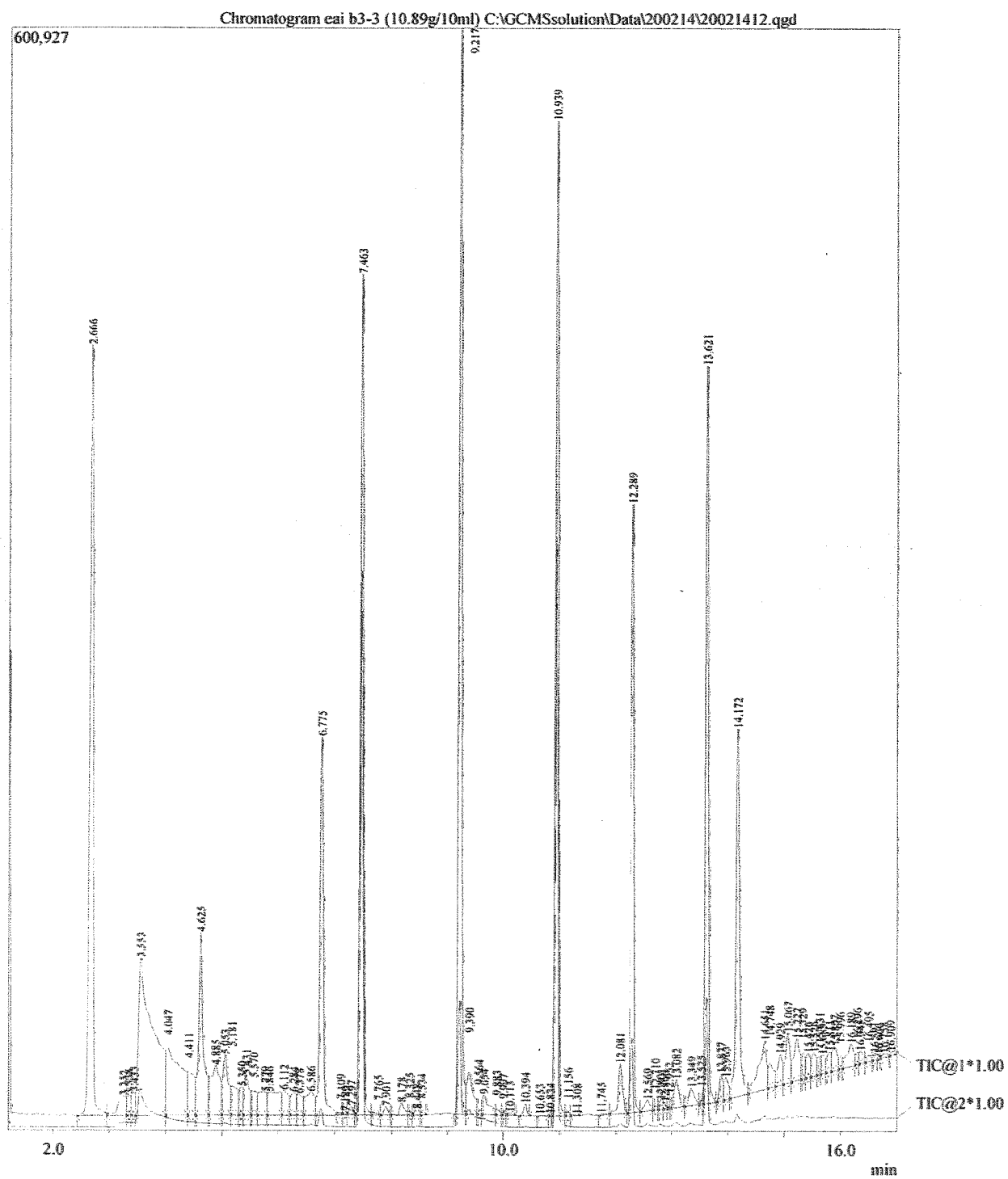
Sample Name : cai b3-1.5 (5.48g)

Chromatogram cai b3-1.5 (5.48g) C:\GCMSSolution\Data\200214\20021411.qgd



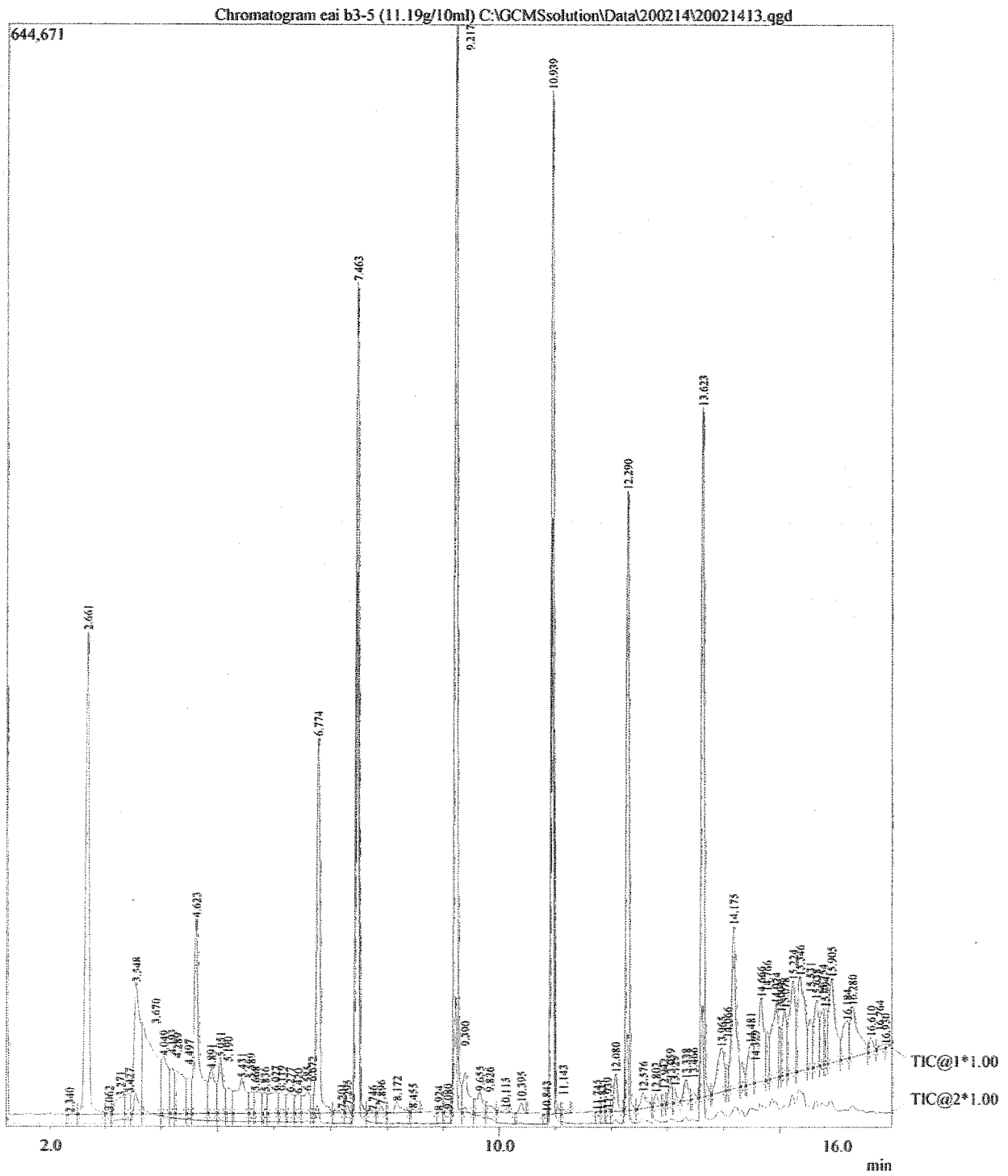
# Sample Information

Sample Name : cai b3-3 (10.89g/10ml)



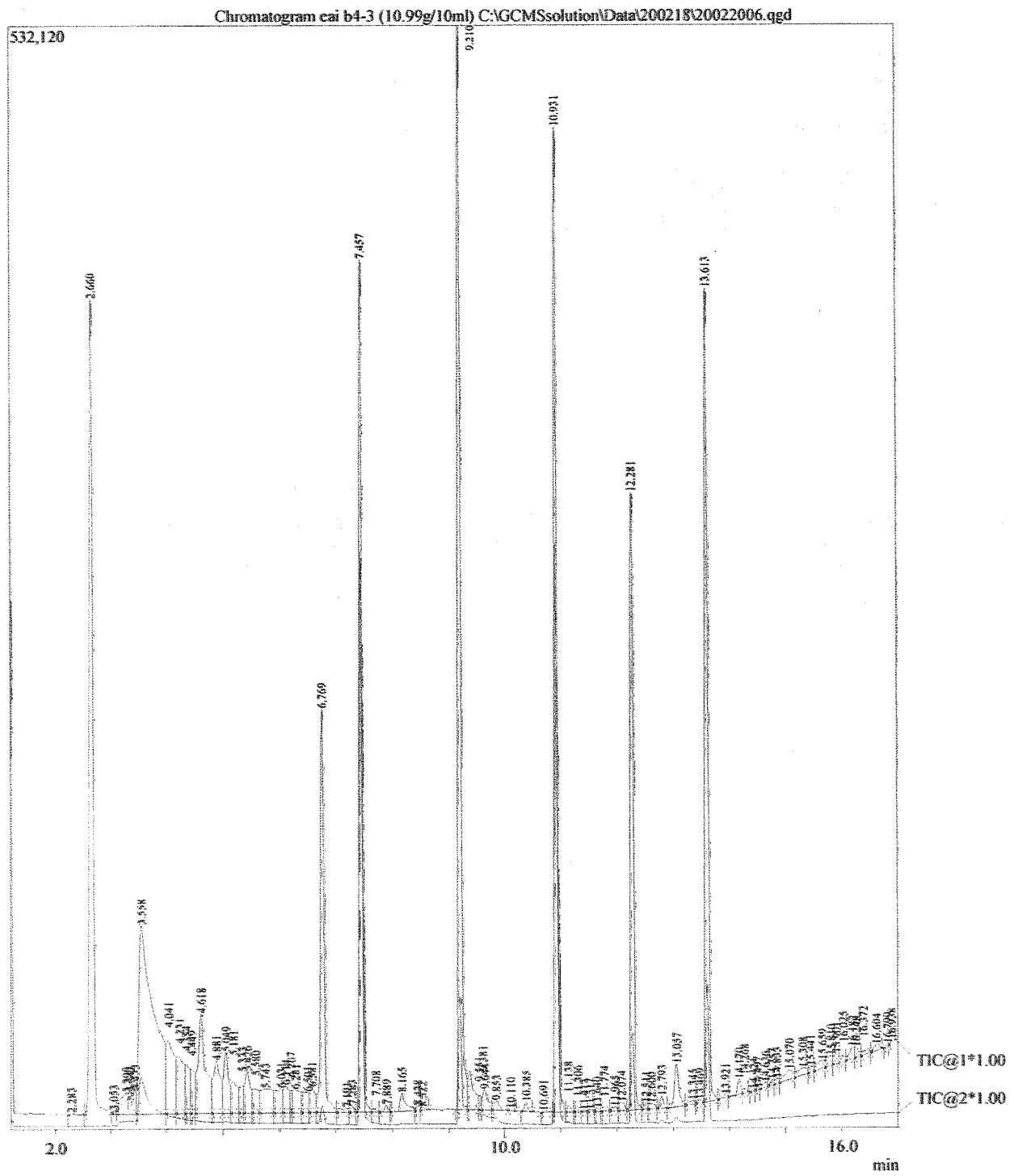
Sample information

Sample Name : cai b3-5 (11.19g/10ml)



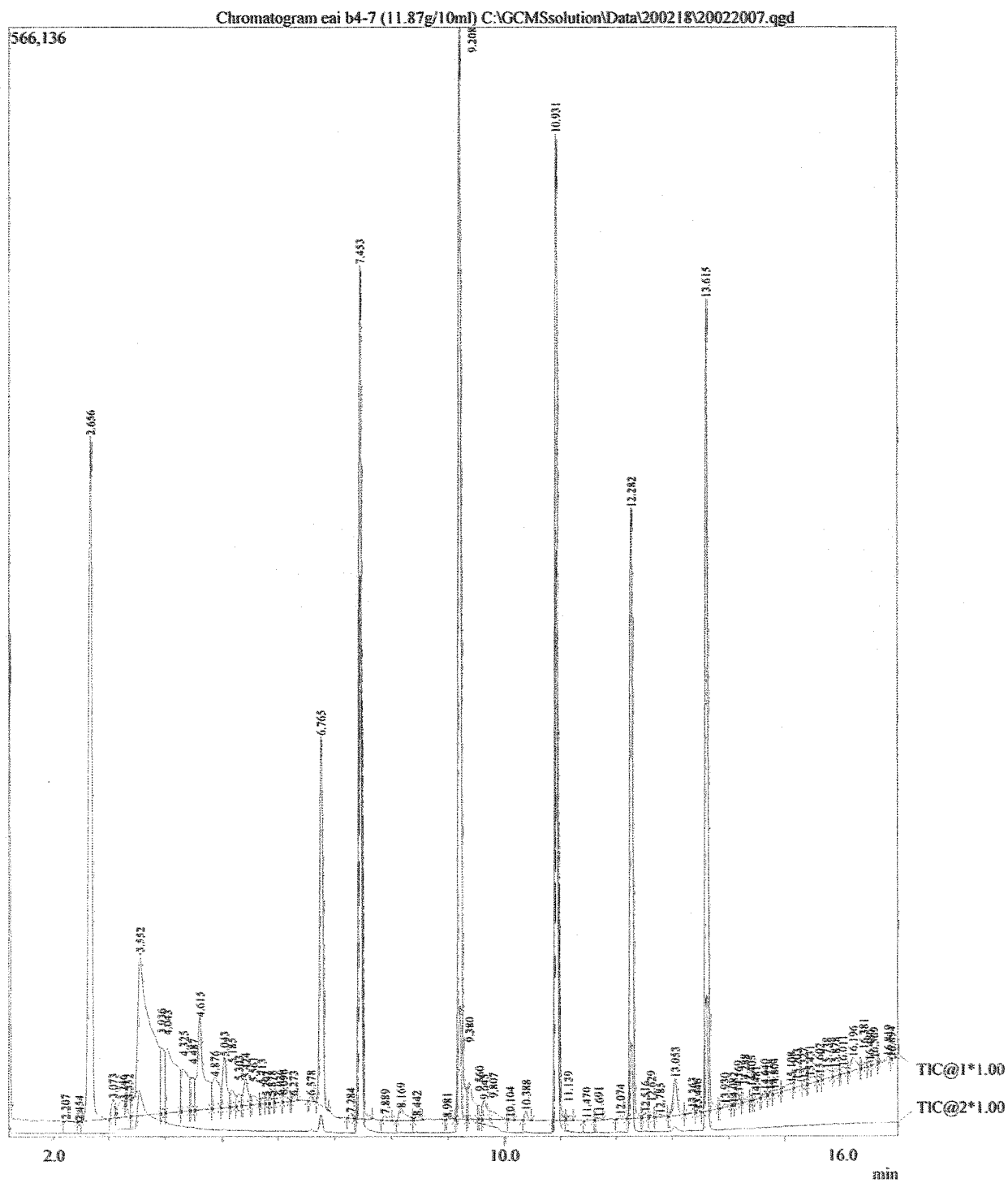
Sample Information

Sample Name : cai b4-3 (10.99g/10ml)



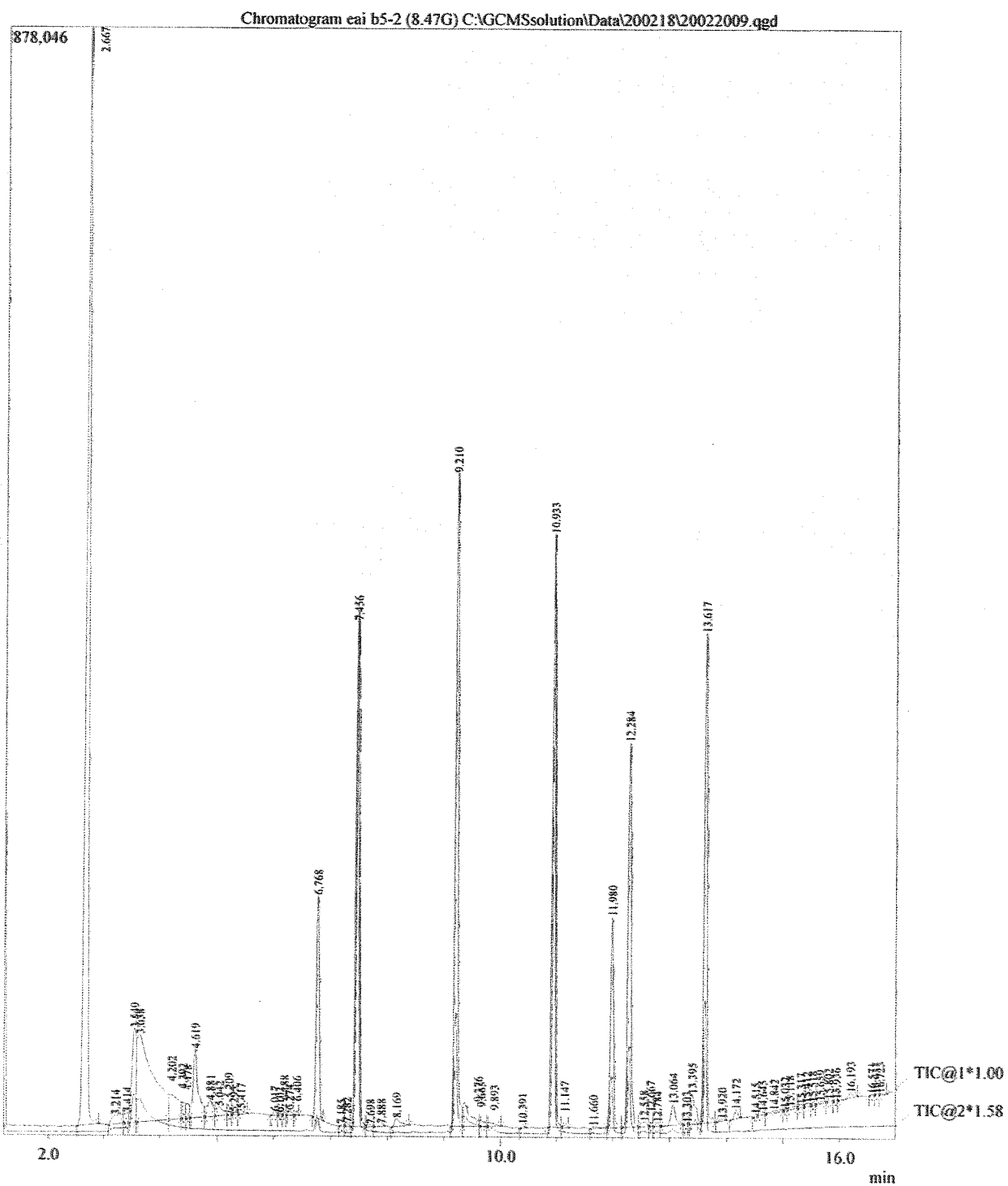
# Sample Information

Sample Name : cai b4-7 (11.87g/10ml)



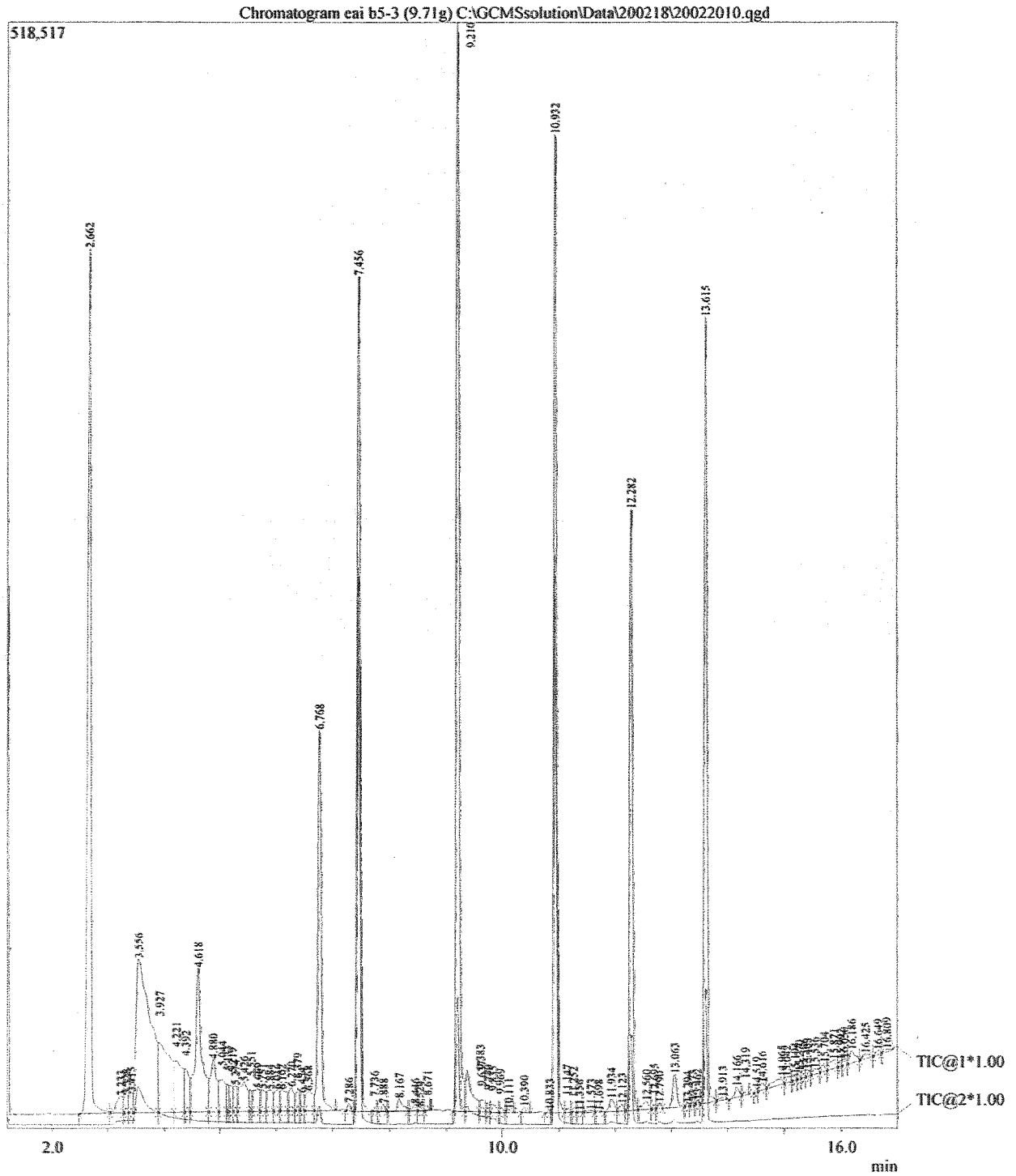
# Sample information

Sample Name : eai b5-2 (8.47G)



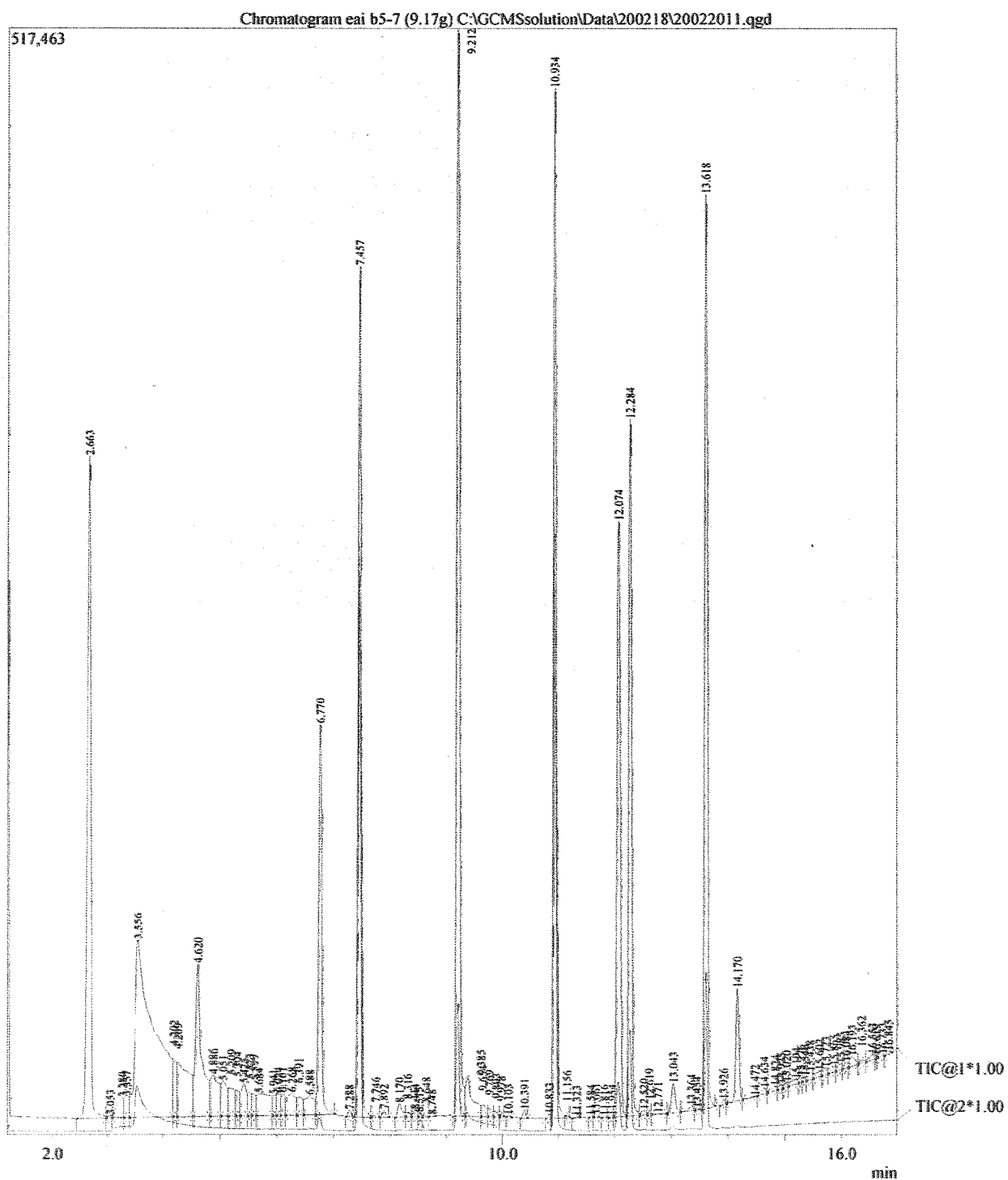
# Sample Information

Sample Name : cai b5-3 (9.71g)



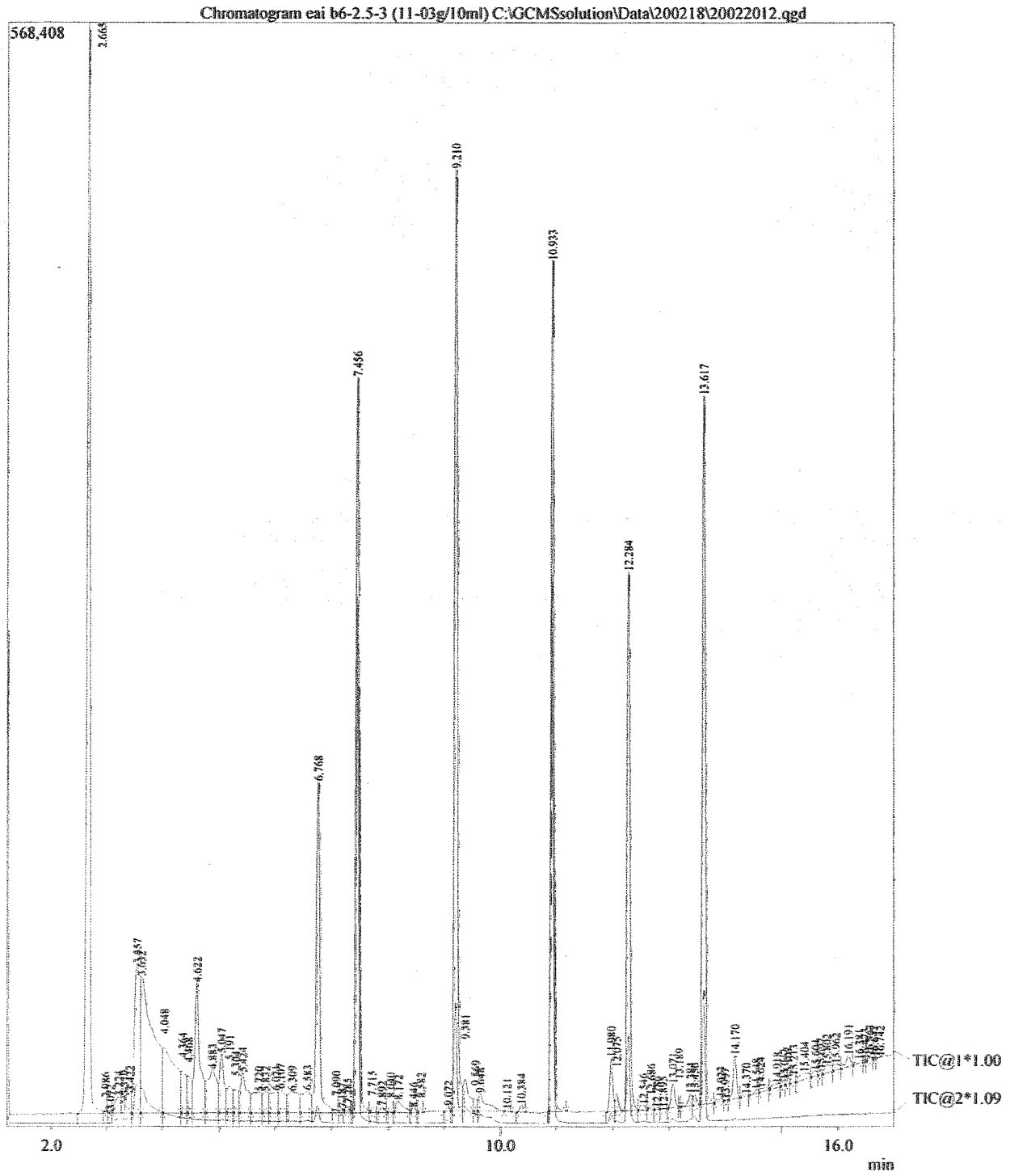
# Sample Information

Sample Name : eai b5-7 (9.17g)



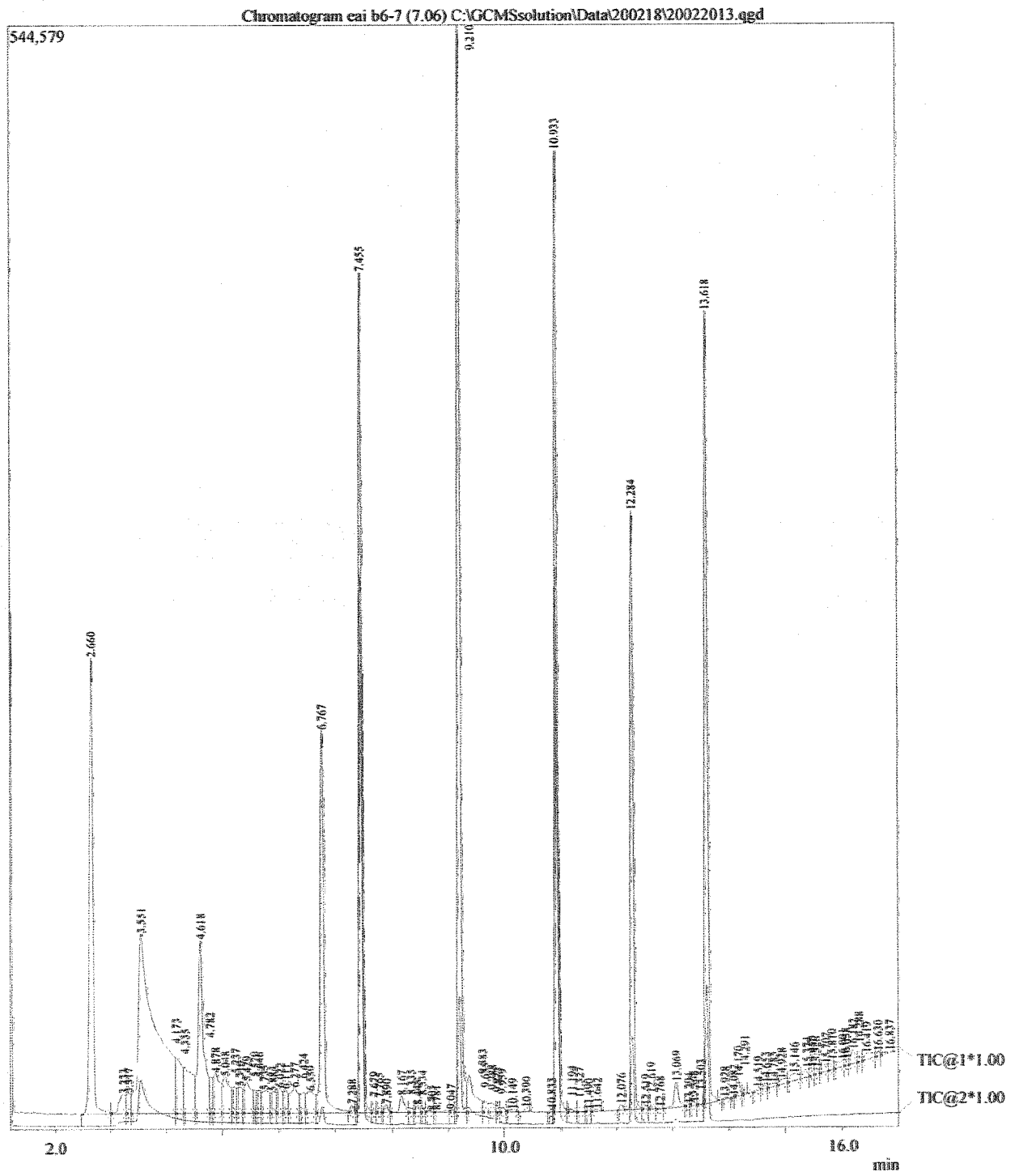
Sample information

Sample Name : eai b6-2.5-3 (11-03g/10ml)



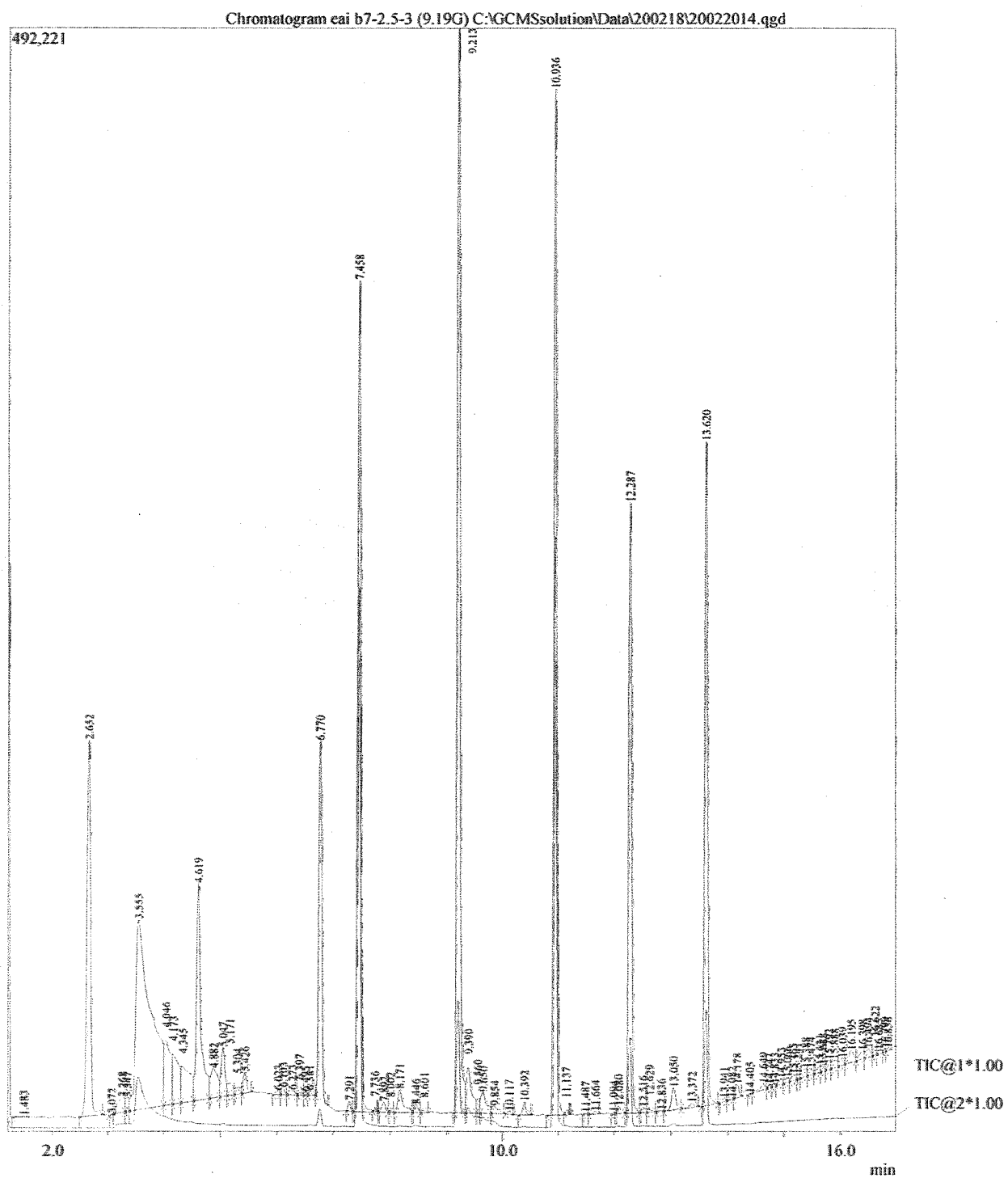
Sample Information

Sample Name : cai b6-7 (7.06)



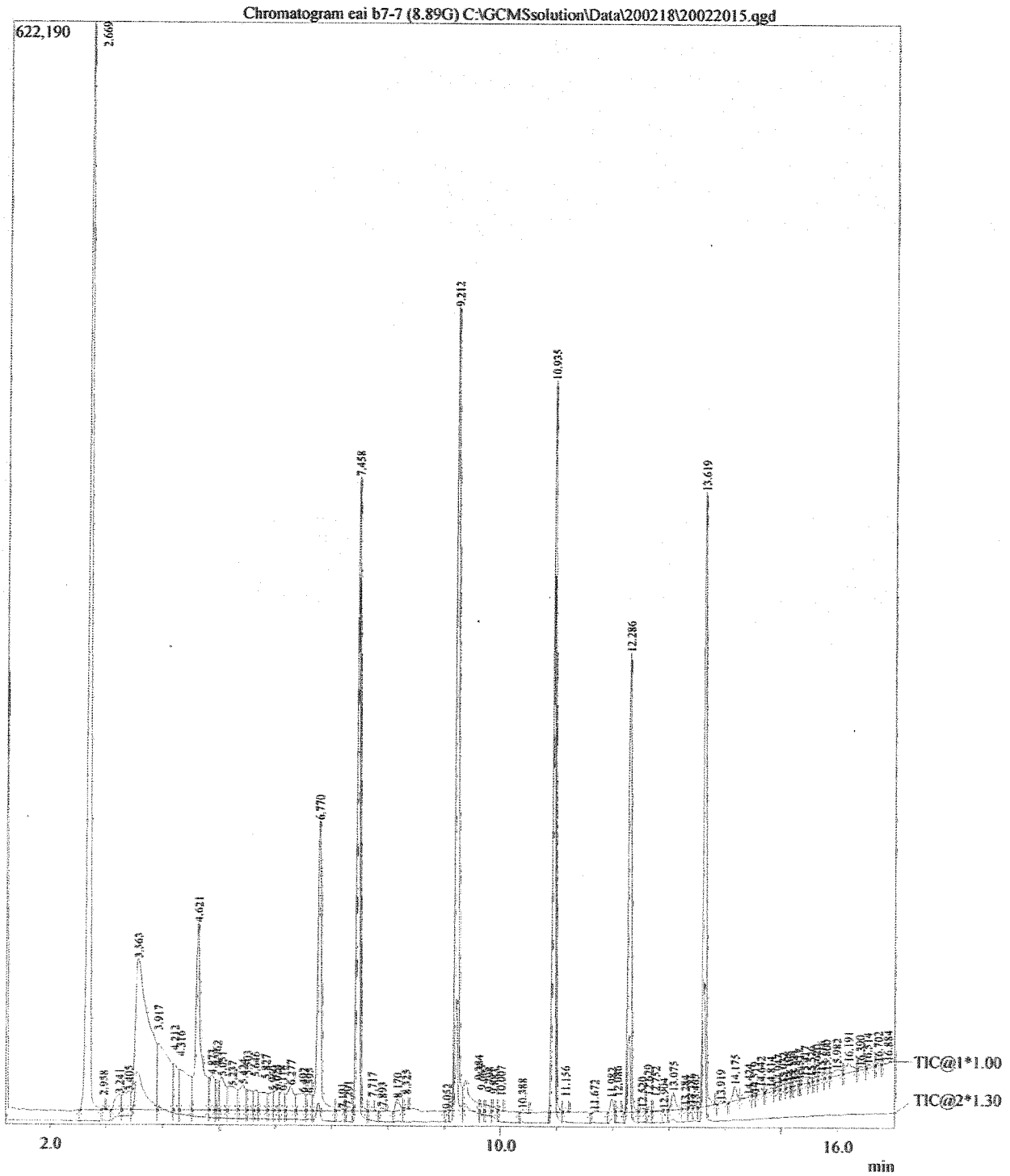
# Sample Information

Sample Name : eai b7-2.5-3 (9.19G)



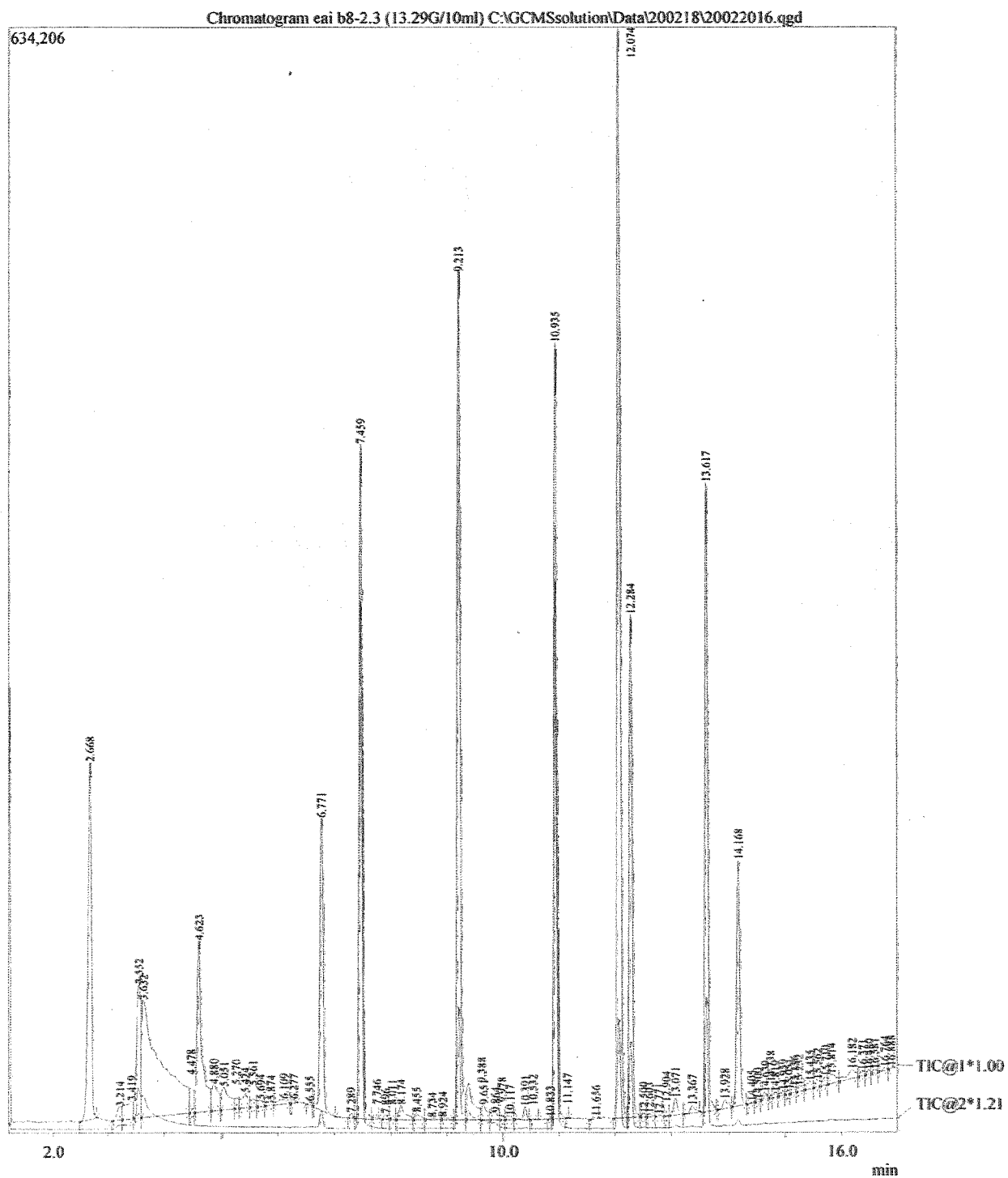
Sample Information

Sample Name : cai b7-7 (8.89G)



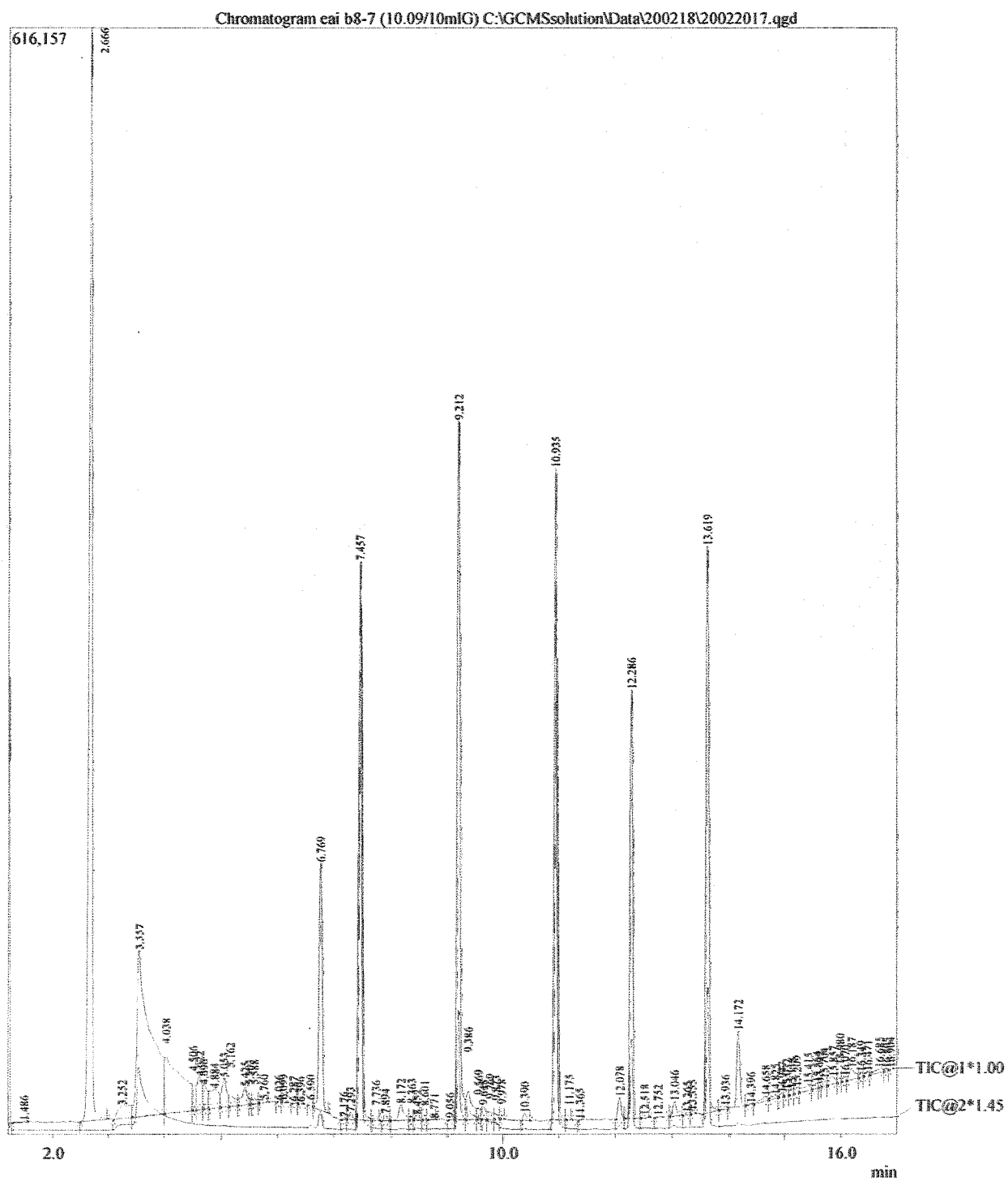
Sample Information

Sample Name : eai b8-2.3 (13.29G/10ml)



# Sample Information

Sample Name : cai b8-7 (10.09/10mlG)



Sample Name : cai bl-water

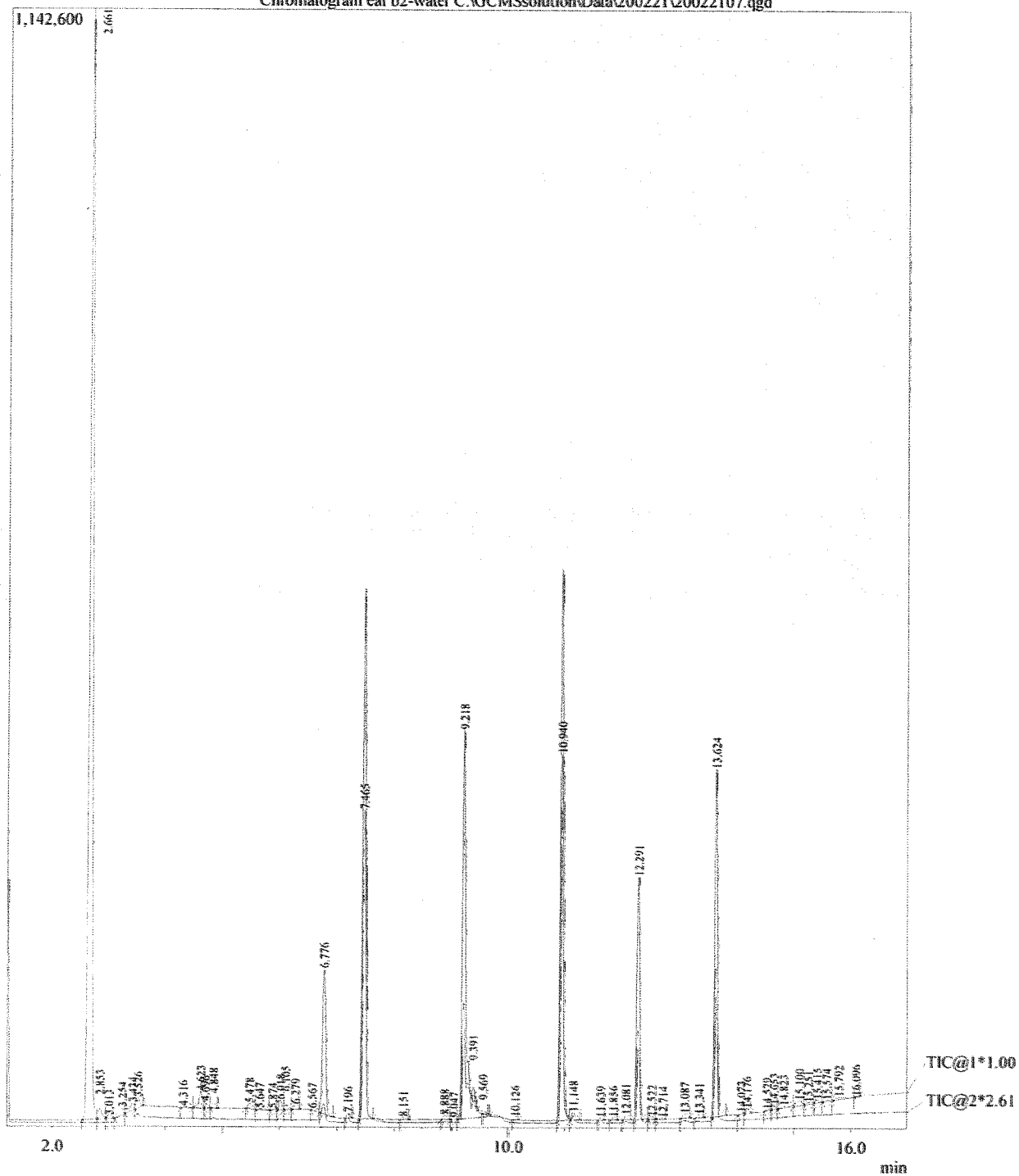
Chromatogram showing two traces, TIC@1\*1.00 and TIC@2\*1.00, plotted against time in minutes. The x-axis ranges from 2.0 to 16.0 minutes. The y-axis represents intensity. Numerous peaks are labeled with their retention times. The top trace (TIC@1\*1.00) shows a very large peak at 9.216 minutes. The bottom trace (TIC@2\*1.00) shows a very large peak at 6.776 minutes. Other significant peaks are labeled at 2.657, 7.465, 10.940, and 13.624 minutes.

Retention Time (min)	Trace
2.657	TIC@1*1.00
2.857	TIC@1*1.00
3.057	TIC@1*1.00
3.257	TIC@1*1.00
3.457	TIC@1*1.00
3.657	TIC@1*1.00
3.857	TIC@1*1.00
4.057	TIC@1*1.00
4.257	TIC@1*1.00
4.457	TIC@1*1.00
4.657	TIC@1*1.00
4.857	TIC@1*1.00
5.057	TIC@1*1.00
5.257	TIC@1*1.00
5.457	TIC@1*1.00
5.657	TIC@1*1.00
5.857	TIC@1*1.00
6.057	TIC@1*1.00
6.257	TIC@1*1.00
6.457	TIC@1*1.00
6.657	TIC@1*1.00
6.776	TIC@2*1.00
6.957	TIC@1*1.00
7.157	TIC@1*1.00
7.357	TIC@1*1.00
7.465	TIC@1*1.00
7.657	TIC@1*1.00
7.857	TIC@1*1.00
8.057	TIC@1*1.00
8.257	TIC@1*1.00
8.457	TIC@1*1.00
8.657	TIC@1*1.00
8.857	TIC@1*1.00
9.057	TIC@1*1.00
9.216	TIC@1*1.00
9.416	TIC@1*1.00
9.616	TIC@1*1.00
9.816	TIC@1*1.00
10.016	TIC@1*1.00
10.216	TIC@1*1.00
10.416	TIC@1*1.00
10.616	TIC@1*1.00
10.816	TIC@1*1.00
11.016	TIC@1*1.00
11.216	TIC@1*1.00
11.416	TIC@1*1.00
11.616	TIC@1*1.00
11.816	TIC@1*1.00
12.016	TIC@1*1.00
12.216	TIC@1*1.00
12.416	TIC@1*1.00
12.616	TIC@1*1.00
12.816	TIC@1*1.00
13.016	TIC@1*1.00
13.216	TIC@1*1.00
13.416	TIC@1*1.00
13.624	TIC@1*1.00
13.816	TIC@1*1.00
14.016	TIC@1*1.00
14.216	TIC@1*1.00
14.416	TIC@1*1.00
14.616	TIC@1*1.00
14.816	TIC@1*1.00
15.016	TIC@1*1.00
15.216	TIC@1*1.00
15.416	TIC@1*1.00
15.616	TIC@1*1.00
15.816	TIC@1*1.00
16.016	TIC@1*1.00

# Sample Information

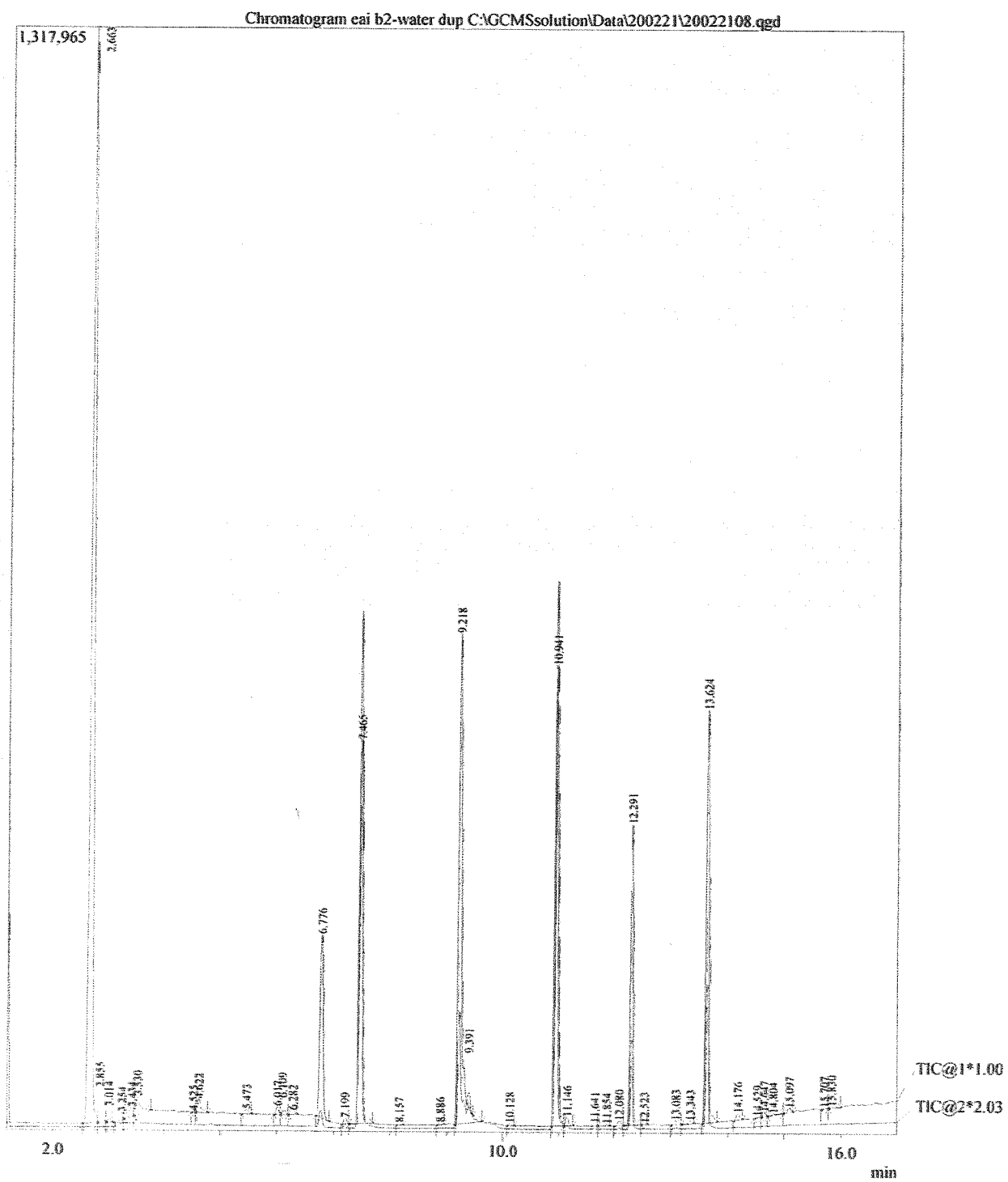
Sample Name : eai b2-water

Chromatogram eai b2-water C:\GCMSsolution\Data\200221\20022107.qgd



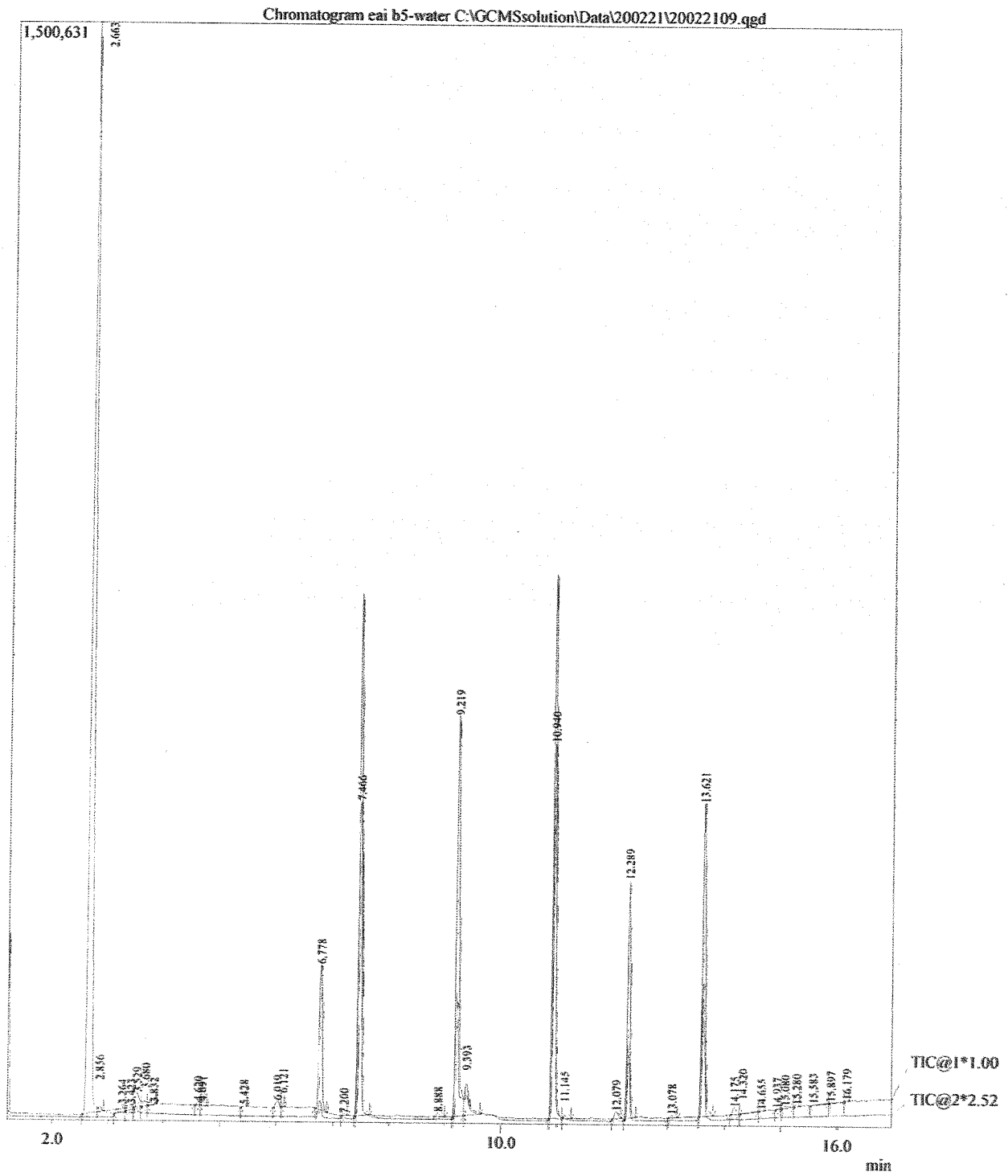
Sample Information

Sample Name : cai b2-water dup



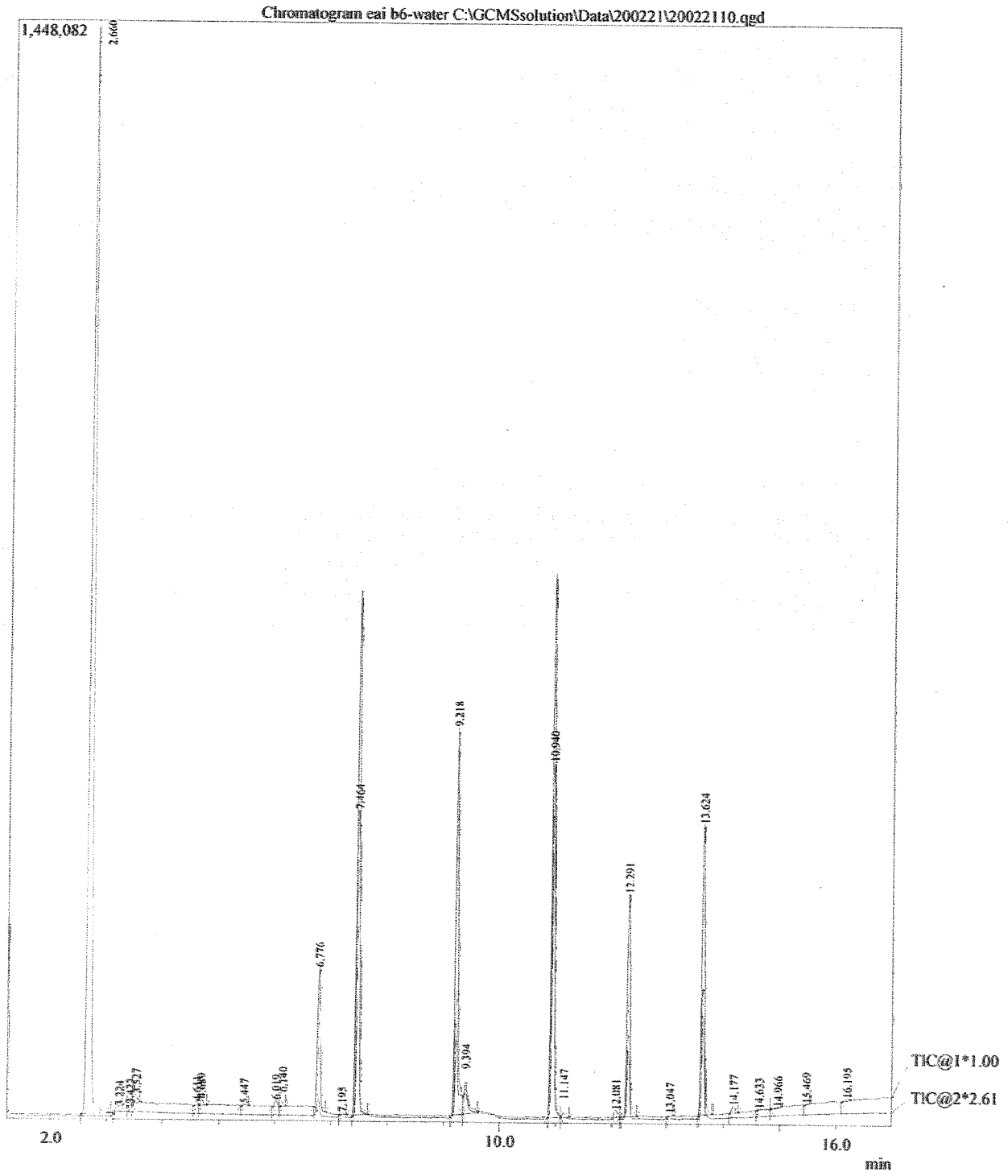
Sample Information

Sample Name : cai b5-water



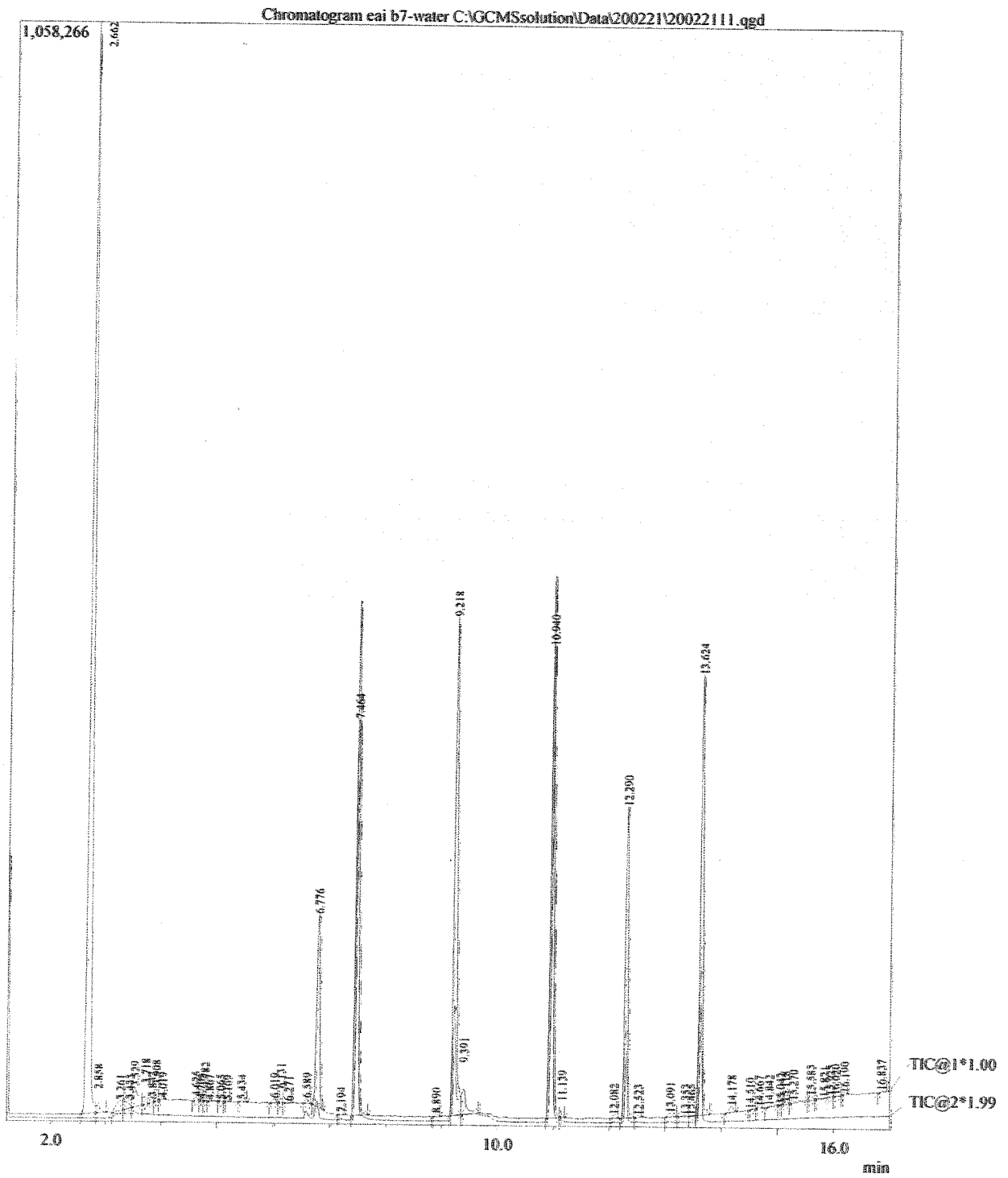
Sample Information

Sample Name : cai b6-water



Sample Information

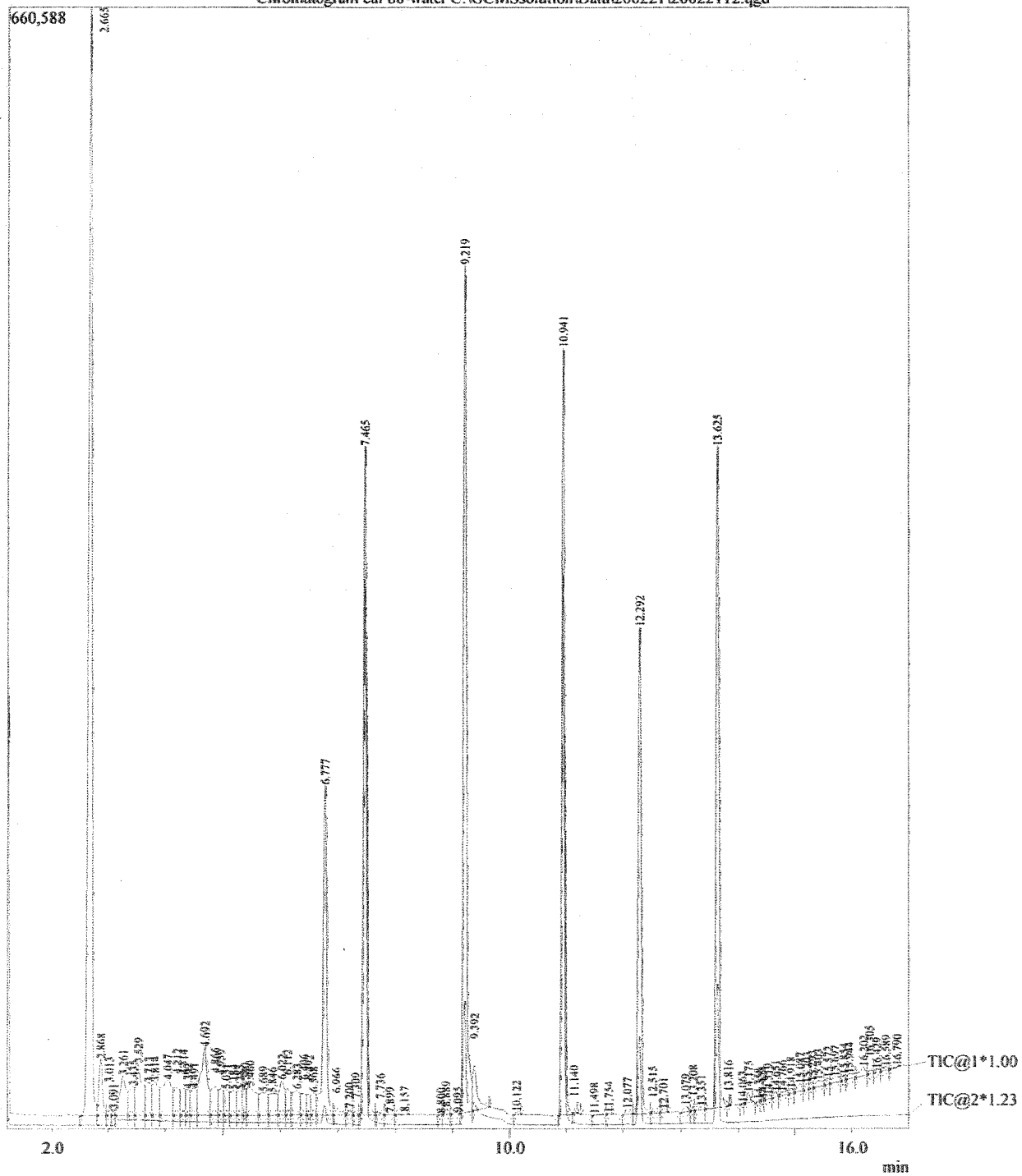
Sample Name : eai b7-water



# Sample Information

Sample Name : cai b8-water

Chromatogram cai b8-water C:\GCMSsolution\Data\200221\20022112.qgd



# CHAIN-OF-CUSTODY RECORD

CLIENT: Environmental Associates Inc.

ADDRESS: 1885 112th Ave NE #300 Bellevue WA 98004

PHONE: 425-455-9825 EMAIL: info@environmentalassociatesinc.com

CLIENT PROJECT #: 22175-1 PROJECT MANAGER: Eric Zvern

DATE: 2-13-20 PAGE 1 OF 2

PROJECT NAME: Kirkland Nissan

LOCATION: Kirkland

COLLECTOR: Eric Zvern DATE OF COLLECTION: 2-13-20

Sample Number	Depth	Time	Sample Type	Container Type	TPH-HCID	TPH-DIESEL AND OIL	TPH-GASOLINE	BTEX 8260	VOC 8260CL	VOC 8260	SEMI-VOC 8270	PAH's 8270	PCB's 8082	CL PESTICIDES 8081	RCRA 8 Metals	MTCA 5 Metals	Pb	ASBESTOS PLM	GRO Suite 830-1	DRO Suite 830-1	WO Suite 830-1								
1. <del>B3-3</del> B1-3	3'	8:16	Soil			X	X																						
2. <del>B3-7</del> B1-7	7'	8:22				X	X																						
3. <del>B3-10</del> B1-10	10'	8:26	↓																										
4. B1-water	6-10'	8:34	Water																										
5. B2-3	3'	8:45	Soil			X	X																						
6. B2-7	7'	8:50				X	X																						
7. B2-10	10'	8:53	↓																										
8. B2-water	6-10'	9:06	Water																										
9. B3-1.5	1.5'	9:25	Soil			X	X																						
10. B3-3	3'	9:17				X	X																						
11. B3-5	5'	9:22				X	X																						
12. B3-7	7'	9:31																											
13. B3-10	10'	9:35																											
14. B4-3	3'	9:45				X	X																						
15. B4-7	7'	9:50				X	X																						
16. B4-10	10'	9:55																											
17. B5-2	2'	10:04				X	X																						
18. B5-3	3'	10:02	↓			X	X																						
RELINQUISHED BY (Signature)					DATE/TIME					RECEIVED BY (Signature)					DATE/TIME					SAMPLE RECEIPT					LABORATORY NOTES:				
					2-13-20 12:35										2-13-2020 12:35					TOTAL NUMBER OF CONTAINERS					99				
RELINQUISHED BY (Signature)					DATE/TIME					RECEIVED BY (Signature)					DATE/TIME					CHAIN OF CUSTODY SEALS Y/N/NA									
																				SEALS INTACT? Y/N/NA									
																				RECEIVED GOOD COND./COLD									

# CHAIN-OF-CUSTODY RECORD

CLIENT: CAK

ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_ EMAIL: \_\_\_\_\_

CLIENT PROJECT #: 22-75-1 PROJECT MANAGER: Eric Zvern

DATE: 2-13-20 PAGE 2 OF 2

PROJECT NAME: Kirkland Nissan

LOCATION: Kirkland

COLLECTOR: Eric Zvern DATE OF COLLECTION: 2-13-20

Sample Number	Depth	Time	Sample Type	Container Type	TPH-HC/D	TPH-DIESEL AND OIL	TPH-GASOLINE	BTEX 8260	VOC 8260CL	VOC 8260	SEMIVOC 8270	PAH's 8270	PCB's 8082	CL PESTICIDES 8081	RCRA 8 Metals	MTCA 5 Metals	Pb	ASBESTOS PLM	GRO Suite 830-1	DRO Suite 830-1	WO Suite 830-1
1. B5-7	7'	10:10	Soil				X														
2. B5-10	10'	10:14	Water																		
3. B5-water	6-10'	10:19	Water																		
4. B6-2.5-3	2.5-3'	10:28	Soil				X														
5. B6-7	7'	10:35	Soil				X														
6. B6-10	10'	10:38	Soil																		
7. B6-water	6-10'	10:42	Water																		
8. B7-2.5-3	2.5-3'	10:52	Soil				X														
9. B7-7	7'	10:58	Water				X														
10. B7-10	10'	11:02	Water																		
11. B7-water	6-10'	11:00	Water																		
12. B8-2-3	2-3'	11:17	Soil				X														
13. B8-7	7'	11:26	Water				X														
14. B8-10	10'	11:28	Water																		
15. B8-water	6-10'	11:25	Water																		
16.																					
17.																					
18.																					

RELINQUISHED BY (Signature) \_\_\_\_\_ DATE/TIME 2-13-20 12:30 RECEIVED BY (Signature) Eric Zvern DATE/TIME 2-13-20 12:30

RELINQUISHED BY (Signature) \_\_\_\_\_ DATE/TIME \_\_\_\_\_ RECEIVED BY (Signature) \_\_\_\_\_ DATE/TIME \_\_\_\_\_

1210 Eastside Street SE, Suite 200 Olympia, Washington 98501 Phone: 360-459-4670 Fax: 360-459-3432

Turn Around Time: 24 HR 48 HR 5 DAY Laboratory Notes: Call Eric for billing

**donspencer@environmentalassociatesinc.com**

---

**From:** Lab <lab@esnnw.com>  
**Sent:** Thursday, February 20, 2020 8:12 AM  
**To:** Eric Zuern  
**Subject:** Kirkland Nissan

The chromatograms of the soil samples from the Kirkland Nissan project do not suggest any additional contamination in the soil samples presented. No additional analysis is suggested.

Thank you,  
Jennifer

ESN Northwest, Inc  
1210 Eastside St SE, Suite 200  
Olympia, WA 98501  
P: 360-459-4670  
F: 360-459-3432